Perceptions of Gender Wealth Inequalities within the Family

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Preface

My strong interest in studying how economic inequality shapes the lives of individuals was my main motivation to apply for a position as a doctoral researcher in the research group "Accumulation of Personal Wealth in Couples: Individual Resources and Gender Inequalities in Intimate Relationships (MyWealth)". The importance of studying wealth inequality was obvious to me. I found it intuitive that wealth and wealth inequality affects individuals' lives and I have long been interested in studying how wealth inequality emerges, evolves, and affects society. However, when I started this dissertation, taking a couple perspective and looking at individuals instead of households was new to me. After reading a few articles, I soon realized that I and many other scholars have been assuming away gender inequality by looking only at households. I became more and more interested in two questions: 1) Does wealth inequality within the household matter for affected individuals? 2) Why do affected individuals not oppose these inequalities? I therefore turned to the question how gender wealth inequalities within the family are perceived by individuals. Only if inequalities are perceived as unjust and affect individuals' well-being, individuals will oppose these inequalities. In contrast, if individuals perceive inequalities as just or do not mind them, it is no surprise that they persist.

Whereas many scholars argue that the labour market is the central institution (re)producing gender wealth inequalities, I think that the role of the family has been widely neglected or belittled. To examine the role of the family in producing gender wealth inequalities, I consequently extended the couple perspective of the "MyWealth" project to a family perspective including also inequalities in parental transfers to children. Inspired by great qualitative research on the meaning of money in *couples*, broadening the perspective enabled me to study quantitatively the gendered meaning of wealth in the *family*.

I am convinced that the social sciences live from discussions. I am grateful that I had plenty of sharp and clever researchers and friends around me, with whom I could discuss my thoughts. First of all, I would like to thank my supervisor Philipp Lersch for our regular meetings, which were packed with fruitful discussions and insightful comments on my work. Philipp, your supervision was the perfect mixture of freedom and guidance. Thanks also to my second supervisor Thomas Leopold, who coincidentally joined the University of Cologne at the right time to provide his expertise on intergenerational transfers. Thanks, Thomas, for being a great mentor and for your contagious positivity. Many thanks to my colleagues, friends, and family, who have listened to me talking about my research again and again, discussed it with me, served as participants in my qualitative pilot studies, and made my life as a PhD student awesome: André, Anika, Anita, Anna, Anuschka, Carsten, Chris, Clara, Daniela, Dina, Elsa,

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My essential motivation for being a social scientist is my endeavour to understand how the social structure affects individuals' lives and well-being. Consequently, I think that one purpose of the social sciences is to provide a scientific foundation for a societal discussion about what can be done to improve individuals' well-being. With this dissertation, I aim to provide insights into the perceptions of wealth inequalities within the family. I firmly believe that analysing the social meaning of wealth within the family and perceptions of wealth inequality will help to understand how gender inequality in economic resources persists. Providing more evidence for beliefs in gendered entitlements to wealth and that not all family members benefit equally from family's financial resources, will hopefully keep the important societal discussions about how we can ensure equal life chances for women and men running.

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Chapter 1

Introduction

Although prior literature has documented wealth inequality within heterosexual couples and gender differences in intergenerational financial transfers, less is known about their consequences for individuals' well-being and the social acceptance of these gender inequalities in wealth. Contributing to this gap, this dissertation asks: How do individuals perceive gender wealth inequalities within the family? In particular, this dissertation studies on the one hand how individuals perceive inequalities in their own families by examining the relationship between changes in relative wealth within-couples and changes in partners' life satisfaction. On the other hand, this dissertation studies how the public perceives gender wealth inequalities in general by examining fairness perceptions of within-couple wealth inequality and gender inequalities in inter vivos transfers from parents to children (i.e., wealth transfers during the parents' lifetime). Examining how individuals and the society perceive gender wealth inequalities within the family helps to assess the relevance but also to understand the persistence of these inequalities.

In the following, I first provide background information on the gender wealth gap in general and elaborate on the importance of studying gender wealth inequalities within families. Next, I summarize prior evidence for these inequalities and identify personal and societal perceptions of these inequalities as important research gaps. This is followed by a presentation of the theoretical approaches to study perceptions of wealth inequalities within the family. Then, I derive the research questions of this dissertation, followed by an explanation of the logic of my empirical approach. Afterwards, I summarize the three empirical studies of this dissertation. Chapter 1 concludes by highlighting the overall contributions of these three studies and discussing limitations and future research opportunities. Chapters 2, 3, and 4 present the three empirical studies.

1.1   The Gender Wealth Gap

Economic inequalities between women and men have received wide attention both in the public debate and in the literature. Gender differences in labour market participation have decreased in the last decades. However, women still have substantially lower lifetime earnings and hold less financial, housing, and pension wealth than men on average in many countries around the world (Anglade, Useche, & Deere, 2017; Bessière, 2019; Chang, 2010; D'Alessio, 2018; Meriküll, Kukk, & Rõõm, 2020; Ruel & Hauser, 2013; Schneebaum,

Rehm, Mader, & Hollan, 2018; Sierminska, Frick, & Grabka, 2010; Warren, 2006; Warren, Rowlingson, & Whyley, 2001). For example, in the Euro-zone, women' median wealth is 62% of men's median wealth and 73% at the mean (Sierminska & Girshina, 2017). Especially in the upper tail of the wealth distribution women are underrepresented. In the annual American Forbes 400 ranking of the richest Americans, less than 15% are female on average over the years 1982 to 2013 (Deere & Doss, 2006; Korom, Lutter, & Beckert, 2017). In developing countries, in which land still constitutes an important component of wealth, women are much less likely to own farms than men and female-owned farms are smaller than male-owned on average (Deere & Leon, 2003). For example, whereas in Kenya only 5% of registered landholders are female, in some Latin American countries up to 27 percent (in Paraguay) of farms are owned by women (Deere & Doss, 2006).

But where does this gender wealth gap come from? Although not comprehensively tested yet, the literature proposes four factors contributing to the gender wealth gap: legal regulations, the labour market, the family, and social norms (Deere & Doss, 2006). First, the law may contribute directly to the gender wealth gap by defining property rights. Whereas centuries ago, (married) women's ownership of wealth was restricted by law, in most Western countries today women generally enjoy the same legal rights to own, control, and inherit property as men. However, today legal regulations still affect gender wealth inequality indirectly by forming the statutory framework and setting incentives for gendered wealth accumulation. One example is the enforcement of marital property regimes, which specify how wealth is owned within the couple and divided after separation (Deere & León, 2001, p. 54). Although in most countries, marrying couples are free to choose their system of marital property, there is always one default option. While under the system of separation of property wives and husbands legally own their wealth separately, under the system of community property all wealth is owned jointly by the spouses. Additionally, legal professionals may contribute to the gender wealth gap by a gendered process of dividing the wealth between siblings or spouses in the event of estate planning or divorce (Bessière, 2019).

Second, the labour market may contribute to the gender wealth gap. Because wealth can be accumulated by saving labour income, women's lower wages due to women's and men's unequal participation in the labour market in terms of working hours, interruptions, and occupational sector contribute to the gender wealth gap (Frémeaux & Leturcq, 2020; Sierminska et al., 2010). Lower wages and less weekly hours in the labour market restrict not only the saving potential but also access to government and occupational pensions.

Furthermore, participation on the labour market might be associated with financial literacy and financial opportunities resulting in gender-specific investment patterns (Chang, 2010; Nutz & Lersch, 2020; Ruel & Hauser, 2013). Although prior literature showed evidence for gender differences in financial risk taking, it has been argued that these differences arise because of differences in male and female opportunity sets, which are shaped by the labour market (Schubert, Brown, Gysler, & Brachinger, 1999; Sierminska et al., 2010).

Third, the family can be seen as another central arena for producing gender wealth inequalities (Chafetz, 1991). The family may affect the gender wealth gap by transferring wealth between family members or investing in children's human capital in a gendered way. Both, the relationship between different sex partners and the relationship between parents and different sex children may play an important role in (re)producing the gender wealth gap. By choosing their system of marital property, negotiating their labour division, and sharing money, partners influence their personal wealth accumulation, which in turn may contribute to the gender wealth gap (Nutz & Lersch, 2020). Parents of different sex children, on the other hand, may contribute to the gender wealth gap by favouring sons over daughter in educational investments or direct financial transfers (Behrman, Pollak, & Taubman, 1986; Wong, 2013). Thus, the family plays an important role in determining the life chances of individuals by distributing financial resources. Moreover, demographical marriage patterns, family formations, and family structures may yield gendered wealth accumulation. For example, women are more likely to marry and have children at a younger age than men, and they are also more likely to be single parents (Gibson, Le, & Scobie, 2006; Ruel & Hauser, 2013; Sierminska et al., 2010). These gender differences are likely to result in different wealth accumulation potentials for women and men.

Finally, social norms and shared beliefs about gendered approaches to wealth management may contribute to the gender wealth gap by shaping the behaviour of individuals and families and their perceptions of inequality. Gender ideology and social norms may influence how couples negotiate the division of labour and their finances, individuals' feelings of entitlement to own or control wealth, how parents treat their daughters and sons, and how gender inequalities are perceived in general (Chang, 2010; de Henau & Himmelweit, 2013; Zelizer, 1994). Furthermore, women's and men's assets may have different symbolic and social meanings which shape how wealth is invested (Deere & Doss, 2006). Social norms and gendered role expectations may also affect how women and men are advised by investment brokers and legal professionals (Bessière, 2019; Schubert et al., 1999). For example, investment intermediaries might advise women, but not men, to

invest in products with lower risks but also lower expected returns because they believe in gender differences in financial risk-taking (Schubert et al., 1999). Additionally, there might also be a discrepancy between legal regulations and actual practice due to social norms (Deere & Doss, 2006). For example, although legally only one partner holds assets, the couple might perceive these assets as joint due to social norms of marital sharing (Joseph & Rowlingson, 2012).

Whereas most prior research has studied gender wealth inequality within the broader society, this dissertation examines gender wealth inequalities *within the family* with a focus on the last two mentioned exploratory factors for gender wealth inequality (i.e., the family and social norms). In this dissertation, gender wealth inequalities within the family are defined as both the within-couple gender wealth gap and gender differences in parental financial transfers. In the following, I elaborate on my motivation for looking at gender wealth inequalities within the family.

1.2   Gender Wealth Inequalities within Families

Motivation for Studying Gender Wealth Inequalities within the Family

Why should we study wealth inequalities within the family? The short answer is: Because we are interested in the individual life chances of women and men. Many policies in different countries follow the assumption of the unitary household model (Becker, 1981), which postulates that all economic resources of a household are pooled to maximize a single utility function of this household. For instance, social transfers are often targeted at the household head assuming that the household response and the household members' welfare are independent of which household member receives the transfer (Joseph & Rowlingson, 2012; Ponthieux, 2013). Similarly, often means-tested unemployment benefits include means of other household members. Beside policy, also research on economic inequality and poverty within society implicitly assumes equal sharing of economic resources by using variables measured at the household level (Jenkins, 1991). Again, it is assumed that each household member holds the exact same preferences and acts according to these. Under this assumption, any redistribution of financial resources within the household, holding the household's total financial resources constant, cannot result in behavioural changes such as consumption expenditures or changes in (financial) well-being (Himmelweit, Santos, Sevilla, & Sofer, 2013).

However, nascent studies challenge this assumption and caution that the commonly applied approach of looking only at households "assumes away significant inequalities"

(Jenkins, 1991) between men and women. Prior research studying economic inequalities within the family has dominantly focused on how the *income* of various sources is distributed, shared, and managed within the family (for an overview, see Bennett, 2013). This stream of research showed that access to household income and control over it is not equal in all couples, which in turn might have consequences for individuals' welfare if family members act according to different preferences (e.g., Burgoyne & Lewis, 1994; de Henau & Himmelweit, 2013; Elizabeth, 2001; Kenney, 2006; Pahl, 1983, 1989; Vogler, 1989). Lundberg, Pollak, and Wales (1997) showed that transferring the child allowance to mothers instead of fathers increased expenditures for women's and children's clothing relative to men's clothing, suggesting different preferences of women and men. Furthermore, prior research showed that the different household members' incomes (wives', husbands', children's) have distinct social meanings (Zelizer, 1989, 1994), established a typology of couples' financial management and control (Pahl, 1989, 1990), examined perceptions of income sharing as well as financial autonomy and beliefs about financial organization within families (Burgoyne & Routh, 2001; Pepin, 2019), and investigated how within-couple relative income is related to subjective well-being (e.g., Hajdu & Hajdu, 2018), all highlighting the relevance of within-family *income* inequality.

Only recently, scholars have started to look at wealth as another dimension of economic inequality within the family. Recent studies on wealth indicated that wealth, too, is not always shared equally within couples (Joseph & Rowlingson, 2012; Lersch, 2017; Pugliese & Belleau, 2020). Studying wealth inequality within the family in addition to income inequality is important because wealth is a distinct measure of economic inequality. Wealth has various specific function beyond income, which is why wealth is at least as important as income for individuals' (financial) well-being (Headey, 2019; Phipps & Woolley, 2008): Wealth is less volatile than income and may provide a safety net insuring individuals against future hardship affecting in turn feelings of financial security; Wealth can stabilize consumption in times of unemployment, emergencies, old age, or other economic hardships; Tangible wealth has current use value and potentially increases personal freedoms, for instance by owning a car or being a homeowner; Wealth may be converted into power affecting bargaining processes within the family but also one's position in the broader society; Finally, wealth can be transferred within the family to altruistically help family members or to receive a service in return (Brulé & Suter, 2019; Deere & Doss, 2006; Frick & Grabka, 2009; Lersch, 2017; Phipps & Woolley, 2008). Because these different functions of wealth highlight that wealth clearly affects individual outcomes,

opening the black box of family wealth is vital to understand the distribution of individual life chances of women and men. In particular, both wealth inequality within couples and wealth inequality between siblings might shape differences in women's and men's welfare in the broader society.

First, wealth inequality within couples might shape gender differences in individuals' life chances depending on how wealth is shared and distributed. In lights of a general trend towards individualisation in family finances, historically high divorce rates as well as relationship instability, and increasing family complexity, studying how wealth is shared, transferred, and perceived within the couple appears more urgent than ever to understand individuals' welfare (Frémeaux & Leturcq, 2020; Pahl, 2005, 2008; Stevenson & Wolfers, 2007; Thomson, 2014). How wealth is shared within couples may affect both the individual wealth accumulation potential in intact relationships and in the event of separation or divorce (Kapelle & Baxter, 2021). Having unequal ownership rights to couple's total wealth likely affects individuals' welfare at the very moment but might also translate into cumulative (dis)advantage due to different returns of investments. Within-couple wealth inequality may shape the bargaining power of partners as well as personal freedom, dependence, consumption, and saving as well as investment potential, affecting in turn individuals' welfare (Blood & Wolfe, 1960).

Second, how wealth is transferred from parents to male and female children affects the wealth accumulation potential of children and might thereby reduce or reproduce gender wealth inequality in the broader society (Deere & Doss, 2006). Intergenerational transfers constitute a central component of wealth accumulation (Hansen & Wiborg, 2019; Korom, 2018). In Western countries such as Germany, France, UK, Sweden, and USA, financial transfers are estimated to constitute about 27% to 60% of private wealth but this share varies by individuals' position in the wealth distribution (Alvaredo, Garbinti, & Piketty, 2017; Corneo, Bönke, & Westermeier, 2016; Killewald, Pfeffer, & Schachner, 2017). Prior literature suggests that financial transfers are more important for women's than for men's wealth accumulation (for an overview, see Deere & Doss, 2006). It is heavily debated if and how much intergenerational financial transfers contribute to wealth inequality or if transfers are wealth-equalising (e.g., Boserup, Kopczuk, & Kreiner, 2016; Nolan, Palomino, Van Kerm, & Morelli, 2021; Szydlik, 2004). It seems that financial transfers increase absolute wealth inequality (e.g., Baresel et al., 2021). However, they seem to decrease relative wealth inequality, for example, by decreasing the wealth share held by the top 1% and increasing the wealth share of the bottom half of the distribution because transfers are relatively less

important for the wealth of richer individuals compared to poorer individuals (Boserup et al., 2016; Elinder, Erixson, & Waldenström, 2018). This indicates an equalising effect. The role of gender in this relationship remains unclear.

Unequal but also equal financial transfers to children might reproduce gender inequality in wealth. Not only the amount but also the timing and kind of wealth transfers might affect gender wealth inequality (Bessière, 2019). Imagine that a son and a daughter are equal in all relevant characteristics for wealth accumulation such as income, job, saving and investment behaviour, marital and parental status. If parents transfer the same amount to both children but in different kinds of wealth or at different time points, wealth inequality between children might accumulate over time. For example, if the son receives cash transfers during parents' life-time (inter vivos transfers) and the daughter receives the same amount of cash transfer as inheritance after the parents' deaths, the son has more time to invest these transfers. The circumstance that inter vivos transfers are received in younger ages compared to inheritances (e.g., Baresel et al., 2021) adds to the importance to study the allocation of inter vivos transfers.

The study of within-family gender wealth inequalities is an important component of the broader literature on the consequences of monetary and non-monetary transfers within the family for social stratification and social inequality. The family constitutes a major institution of solidarity, which is socially desired but also involves the risk of weaking intergenerational mobility and increasing family dependence of individual life chances (Tölke, Hank, & Berger, 2011). Individuals clearly benefit from other family members' social capital. For example, individuals can draw on the social network, education, financial resources, and social status from their parents, siblings, children, or partners (e.g., Albertini, Kohli, & Vogel, 2007; Ravanera & Rajulton, 2010; Schneider, 2004; Voorpostel & Blieszner, 2008). Especially crucial life transitions such as entry into professional life, marriage or divorce, childbirth, unemployment, severe illness, and retirement are shaped by monetary and non-monetary family support or the lack of it. If family solidarity in these transitions is gendered, the family contributes to overall gender inequality. To understand if the monetary dimension of family solidarity is gendered, it is important to examine how wealth is shared within heterosexual couples but also to examine how parents allocate financial transfers between daughters and sons. In the following, I summarize what we already know about within-couple gender wealth inequality and gender inequalities in intergenerational transfers.

Gender Wealth Inequality within Couples

Qualitative research showed that within couples individual ownership rights and feelings of entitlements to individually accumulated or inherited money are in conflict with the notion of marital sharing (Burgoyne, 1990; Elizabeth, 2001). Therefore, couples are heterogenous in how they share and manage their wealth depending on the couple's characteristics such as their gender ideology, whether one partner has been divorced, or whether they are married or cohabiting (Joseph & Rowlingson, 2012). Importantly, qualitative research showed that legal ownership does not always match with partners' perceived ownership of wealth. For example, a wife might own some shares or savings in her name but both husband and wife regard these savings as joint. Other partners, however, do not disclose to their partner how much savings they individually have (Joseph & Rowlingson, 2012).

With recent developments in the collection of wealth data, that is, surveying wealth not only on the household but also on the individual level, quantitative insights into the within-couple wealth gap have been gained. For example, looking both at married and cohabiting couples, Grabka et al. (2015) identified an average net wealth gap of 33,000 Euro in favour of the male partner in Germany. For marriages, Kapelle & Lersch (2020) showed that couples tend to start marriages already with an initial wealth gap between the spouses in Germany. Frémeaux & Leturcq (2020) found that the within-couple wealth gap differs by the chosen marital property regime in France. Gender wealth inequality is smaller in couples with community property regime compared to couples with a separate property regime.

Recently, quantitative research has started examining the equal sharing assumption of wealth within couples. Pugliese & Belleau (2020) provided evidence against equal sharing of retirement savings in Canada, by showing that in the majority of couples partners save individually and only less than one-third of couples balance retirement savings across partners. Interestingly, cohabiting couples are not significantly less likely to balance retirement savings compared to married couples. Lersch (2017) showed that although spouses benefit from their partners' wealth which indicates some kind of sharing, personal wealth still matters. He linked both spouses' personal wealth to individual financial well-being, showing that men's well-being is stronger associated with their own wealth than with their spouses' wealth. For women born after 1965 this is also the case, but not for women born before 1965. Their financial well-being seems to be equally associated with their personal and their spouses' wealth.

To sum up, prior research showed evidence for gender wealth inequalities within couples in different Western countries but highlighted that these differences are heterogenous across couple types. In the following, I elaborate on prior research regarding gender differences in intergenerational transfers as these differences are a second explanatory factor of how the family might contribute to the gender wealth gap.

Gender Inequalities in Intergenerational Transfers

Research has extensively examined, theoretically and empirically, how parental transfers are motivated and how unequal financial transfers increase or reduce consumption inequality between children (e.g., Barro, 1974; Becker, 1974; Bernheim, Shleifer, & Summers, 1985; Tomes, 1981). Most of this literature and theoretical arguments are formulated in a gender-neutral way, though. Less attention has been paid to how parents allocate transfers between different sex children and if the motivation for transfers differs by children's sex. In the following, I summarize the limited findings regarding gender differences in intergenerational financial transfers.

There seem to be differences between countries regarding gender inequality in intergenerational transfers, that is, inter vivos transfers and inheritances. Inheritances seem to be quite equally distributed between daughters and sons in Germany and the US (Bernheim & Severinov, 2003; Cox, 2003; Künemund, Lüdicke, & Vogel, 2006; Ruel & Hauser, 2013; Szydlik, 2004). However, in Germany there are small differences in the inheritance of property and estates in favor of sons (Leopold & Schneider, 2011b). This is in line with findings of an ethnographic study by Bessière (2019) who provided insights into practices of notaries in matters of estate planning. She argues that families together with legal professionals "reversely account" the allocation of bequests, that is, first decide the results (who should get which component of the parent's wealth) and afterwards determine the values of the assets and compute compensations instead of first determining the inventory and valuation of assets. Hereby, although sons and daughters formally receive an equal share, daughters are often disadvantaged in terms of the wealth component (daughter are more likely to receive a compensation in cash instead of real estate and businesses) and the timing of the transfer (daughters are more likely to receive transfers later in life). Daughters are disadvantaged, for example, because it seems that legal professionals tend to underestimate the value of physical assets because they aim to preserve family assets for their clients (Bessière, 2019).

Sons also receive gifts more frequently and values of gifts are higher on average in Germany. Men's advantage compared to women lies in particular in their higher probability to receive housing and real estates (Leopold & Schneider, 2011b). Another study showed with a pooled analysis of 13 European countries that parents provide gifts of more than 250 Euro more frequently to sons than to daughters (Deindl & Isengard, 2011). Wong (2013) showed that also in Korea sons receive larger inter vivos transfers than daughters. In contrast, daughters receive higher amounts of inter vivos in the US (Wong, 2013). Although McGarry (2016) and Loxton (2019) did not find gender differences in the amount of transfers, they both showed that daughters receive inter vivos at higher rates.

Regarding gender differences in the timing of and triggers for inter vivos transfers, Loxton (2019) highlighted that the association between marital status and inter vivos might be gendered. US married daughters are less likely than unmarried daughters to receive inter vivos, but for sons, marriage is not significantly related to receiving inter vivos. Another study found that the probability to receive inter vivos after a divorce is higher for daughters compared to sons in the US (McGarry, 2016). In contrast, Leopold & Schneider (2011a) did not find significant gender differences in the chances of receiving inter vivos after divorce in Germany. Despite the growing research on gender wealth inequalities within the family, there are still some research gaps.

Research Gaps

Although prior research has documented gender wealth inequalities within couples and in intergenerational financial transfers, a comprehensive contextualization of these inequalities is still missing. In particular, there is a lack of knowledge about perceptions of these inequalities. One the individual level, much uncertainty exists about how individuals subjectively perceive wealth inequalities within the family. For example, are spouses aware of the wealth differences between each another? Do spouses regard these differences as problematic? Do wealth inequalities matter for the subjective well-being of affected individuals? One the societal level, there has been little quantitative analysis of how the public perceives and accepts gender wealth inequalities within the family. For example, are beliefs in entitlements to wealth gendered, which in turn justify gender wealth inequalities within the family? Studying perceptions of gender wealth inequalities is not only important to grasp the consequences of these inequalities for individuals' well-being but also to better understand how shared beliefs contribute to the gender wealth gap. Thus, I identify two important research gaps.

First, there is very little scientific understanding of the consequences of gender wealth inequality within the family for individuals' subjective well-being. Knowing about the link between within-family gender wealth inequalities and subjective well-being, however, is important to understand if these inequalities subjectively matter for those affected. This relates to the broader literature on the question if measures of objective inequality correspond to how individuals perceive these inequalities, which is mostly concerned with inequality within society in general rather than within the family (e.g., Brunori, 2017; Knell & Stix, 2020). While prior research provides some evidence that objective measures of within couple inequality in *income* are indeed perceived as inequalities and are related to subjective well-being and relationship satisfaction (Bertrand, Kamenica, & Pan, 2015; Blom, 2020; Eirich & Robinson, 2017; Foster & Stratton, 2021; Hajdu & Hajdu, 2018; Rogers & Deboer, 2001), research on the relationship of objectives measures of within couple inequality in *wealth* and subjective perceptions is lacking. This might be due to data limitation because only a few surveys have started gathering data on individual instead of household wealth.

Second, we know only little about social norms concerning wealth within the family and beliefs in gendered entitlements to wealth. Knowing more about social norms and in particular gendered norms about wealth in the family is important to better understand the role of these norms in contributing to the gender wealth gap. Qualitative work provided valuable first insight into how social norms, such as the norms of sharing, equality, parental responsibility, and autonomy, shape how families share, transfer, and redistribute wealth (Finch & Hayes, 1996; Finch & Mason, 1993; Joseph & Rowlingson, 2012). Family members interact with each other when deciding about how wealth is shared or distributed. The processes of wealth transfers are shaped by emotions, feelings of justice, moral obligations, and different meanings of money (Bessière, 2019; Zelizer, 1994, 2009). This literature, however, did not quantitatively test if beliefs in gendered entitlements are prevalent within society and under which conditions wealth inequalities may be justified. Thus, social and cultural beliefs regarding gendered entitlements to wealth within the family have yet to be investigated quantitatively to reinforce the theoretical argument that these norms contribute to the gender wealth gap.

1.3   Theoretical Approaches

To grasp perceptions of wealth inequalities within the family, I draw on different theoretical approaches. One the hand, to understand how individuals subjectively perceive wealth inequalities within their own families, I draw on theories on intrahousehold inequality

and economic models of the household (for an overview, see Bennett, 2013; Himmelweit et al., 2013). On the other hand, to understand public's general perceptions of wealth inequalities within families, I apply the distributive justice framework (Deutsch, 1975).

Theories of Economics of the Household

Until the 1970s, the unitary household model was the dominant theory on intrahousehold distributions (Bennett, 2013). As explained above, this model proposes that each household acts as one unit with a single utility function (Becker, 1981). Financial and non-financial resources of all household members are used to maximize this function. If all household members shared preferences and acted according to them, all financial resources would be perceived as household resources and, thus, inequalities would not affect individuals' subjective well-being.

The unitary household model has been challenged in the latter half of the 20th century by resource-based theories proposing that household members do not have identical preference but have conflicting interests, which are settled on the basis of power relations (Bennett, 2013; Blood & Wolfe, 1960; Halleröd, 2005). That is, household members can use their financial and non-financial resources in bargaining processes. Economic weaker household members may feel financially dependent, have less bargaining power in financial and non-financial decisions, and have less personal consumption potential and freedom, which may affect both partners' subjective perceptions of intrahousehold wealth inequality.

Essentially, resource-based theories are gender-neutral. However, qualitative scholars have shown that individuals attach gendered meanings to the relative financial contributions of household members (Bennett, 2013; Zelizer, 1994). Husband's financial contributions are perceived differently than wife's financial contributions due to gender-specific role expectations. For instance, individuals espousing a traditional gender ideology may perceive wealth inequality in favour of the husband appropriate because this emphasizes the provider role of the husband. In contrast, wealth inequality in favour of the wife may be perceived as a threat to husband's traditional breadwinning role (Menaghan, 1991). Thus, the ownership structure of individually owned wealth combined with gender ideologies may shape how individuals perceive gender wealth inequalities within the family.

Distributive Justice Theory

To understand the public's perception of gender wealth inequalities within the family, I draw on the concept of distributive justice, which "is concerned with the distribution of the conditions and goods which affect individual well-being" (Deutsch, 1975, p. 137).

According to distributive justice theory individuals apply different justice principles when allocating resources or rewards. Because justice principles provide moral guidance on how to distribute resources, eliciting the prevalence of different justice principles helps to understand how individuals morally perceive inequalities. Furthermore, we can learn under which conditions individuals justify inequalities.

Qualitative research showed that in married couples norms about individual ownership rights, autonomy, marital sharing, and gender ideology are competing (Bennett, 2013; Evertsson & Nyman, 2014). These norms shape which justice principles individuals apply to evaluate the fairness of within-couple wealth inequality. Whereas the principle of equality dictates gender equality in wealth, the principles of equity (i.e., allocating rewards proportional to inputs) and entitlement (i.e., allocating rewards according to status characteristics) may justify within-couple wealth inequality.

Similarly, justice principles guide individuals' perceptions of inequality in parental financial transfers between daughters and sons. Whereas according to the equality principle transfers should be allocated equally neglecting children's characteristics, the need principle (i.e., allocating rewards proportional to children's needs), the equity principle, and the entitlement principle justify unequal parental transfers.

Justice principles might be applied in a gendered way due to cultural status beliefs associated with gender (Ridgeway, 2009). Gendered status beliefs may lead to double standards in the evaluation of conditions which justify wealth inequality. For example, daughters' needs or equity inputs might weigh differently than son's.

To examine the overall research question, I thus, draw on the two streams of social theory. In the following, I use this theoretical framework to derive the specific research questions of the single studies. I further elaborate on how my empirical approach is well-suited to contribute to the research gaps identified above.

1.4   Research Design

Research Questions

The central question in this dissertation asks how individuals perceive gender wealth inequalities within the family. To thoroughly study this research question, this dissertation examines individuals' perceptions of gender wealth inequality within the family from different perspectives. Perceptions of gender wealth inequality within the family comprise both perceptions of affected individuals (i.e., personal perceptions) and the public's perception. That is, this dissertation examines both how individuals perceive their own

situation and how individuals perceive other families' hypothetical situations. Moreover, in this dissertation within-family gender wealth inequalities are defined as inequality in wealth between heterosexual partners and inequality in parental transfers between daughters and sons.

To better understand how affected individuals subjectively perceive within-couple wealth inequalities, I study how changes in within-couple relative wealth are related to changes in partners' subjective well-being. Subjective well-being is defined as the personal perception of satisfaction with life (Proctor, 2014). Instead of domain-specific measures of subjective well-being (such as financial or relationship satisfaction), I use subjective life satisfaction because this concept covers the quality of an individual's life as a whole (Keizer & Komter, 2015). Subjective life satisfaction best reflects the various consequences of within-couple wealth inequality for individuals' well-being, such as partners' power balance or differences in consumption, freedom, and independence, and, thus, partners' overall perceptions of differences in wealth. The first empirical study of this dissertation asks:

RQ1. How are changes in within-couple relative wealth related to changes in partners' life satisfaction?

To understand how the public perceives gender wealth inequality and under which condition inequality might be justified, the second empirical study examines the prevalence of different justice principles regarding married couples' saving arrangements and asks:

RQ2. How do individuals evaluate the fairness of married couples' unequal savings arrangements? Which justice principles do individuals apply when rating the fairness of different savings arrangements of couples?

Finally, to assess how individuals perceive gender inequalities in parental transfers, the third empirical study asks:

RQ3. What are individuals' beliefs about a fair allocation of inter vivos transfers from parents to their sons and daughters? Under which conditions are unequal allocations of parental inter vivos transfers between different sex siblings regarded as fair?

Logic of the Empirical Approach

To examine the overall research question of how individuals perceive gender wealth inequalities within the family, I combine two different methodological approaches. First, I use observational secondary data to examine how the actual distribution of wealth within couples is related to partners' life satisfaction (RQ1). Second, together with my co-authors Philipp M. Lersch and Tamara Gutfleisch, I designed two survey experiments to examine how individuals evaluate the fairness of gender wealth inequalities within the couple (RQ2)

and the fairness of unequal allocations of parental inter vivos transfers between sons and daughters (RQ3). By complementing traditional analyses of observational data with survey experiments in my dissertation, I study both actual gender wealth inequality and general attitudes towards gender wealth inequalities within the family. Combining both approaches, I asses both the perspective of persons affected and of the public opinion. Therefore, the two methodological approaches promise thorough insights into the perceptions of gender wealth inequalities within the family.

In particular, the two methodological approaches are conducive to fill the two research gaps identified above. First, the two approaches enable studying directly and indirectly consequences of gender wealth inequality for individuals' well-being. An analysis of observational data allows to examine directly how wealth inequality within couples is related to individuals' subjective well-being. Moreover, survey experiments provide the possibility to gain insights into cultural beliefs about a fair allocation of wealth, which likely shape individuals' assessment of their own situation and their feelings of being fairly treated, and, thus, their subjective well-being. Second, survey experiments allow to quantitatively examine beliefs in gendered entitlements to wealth, which were examined only by means of qualitative interviews until now. Studying fairness perceptions with survey experiments enables to gain insights into individuals' general moral reasoning behind gender wealth inequalities within the family and cultural beliefs regarding entitlements to wealth.

The observational approach is especially suited for examining personal perceptions of gender wealth inequalities and, thus, for answering my first research question because wealth ownership and subjective well-being can be easily gathered in population surveys. For the first study, I therefore use the German Socio-economic Panel (SOEP; 2002, 2007, 2012, and 2017) (Goebel et al., 2019). The SOEP has the advantage of being a nationally representative household survey, i.e., each adult household member is asked to participate in the yearly questionnaire. Until now, the SOEP asks in four waves about individuals' personal assets and debts. If (some) wealth is owned together with a partner, respondents are also asked to indicate their share. Hence, the SOEP provides an adequate data basis to study how gender wealth inequality of real-life partners is associated with partners' life satisfaction. By estimating individual fixed effects least square regressions with cluster-robust standard errors, I circumvent omitted variable bias due to confounding of time-constant unobserved heterogeneity.

An experimental approach is beneficial to examine under which conditions individuals would justify gender wealth inequalities because these conditions can be experimentally

manipulated, that is, randomly assigned to participants of the experiment. Thus, the effect of various conditions (e.g., children characteristics such as being unemployed) on fairness perceptions of wealth inequality can be estimated without confounding of other conditions. Justice research has a long tradition in studying fairness perceptions by means of multifactorial survey experiments because this approach is superior to other approaches (Auspurg, Hinz, & Sauer, 2017; Jasso, 2012; Jasso & Rossi, 1977). First, fairness perceptions are multidimensional and depend on the specific situation. When evaluating the fairness of a situation, individuals tend to weigh different criteria (Liebig, Sauer, & Friedhoff, 2015). Therefore, multifactorial survey experiments are advantageous over single-item questions because different dimensions of a situation can be presented, and their effects disentangled. Second, asking respondents about the fairness of hypothetical situations instead of asking them directly about the fairness of the wealth distribution within their family is beneficial because in the latter case there is a plethora of confounding personal characteristics conceivable making it hardly possible to draw conclusions on the prevalence of specific justice principles. Last, studying fairness perceptions by means of a multifactorial vignette experiment is particularly advantageous because responses are less susceptible to social desirability bias compared to asking directly about individuals' justice principles (Auspurg & Hinz, 2015).

To gain high quality data and to ensure valid experimental designs, my co-authors and I applied for data collections provided by well-established institutions. This included a peer-review process before data collection. For Study 2, we successfully applied for a module in the German GESIS Panel, a nationally representative survey, to field our multifactorial survey experiment. For Study 3, we successfully applied for data collection within the German SoSci Panel.

The German Context

All three studies focus on Germany, a country which constitutes a relevant country context to study perceptions of gender wealth inequalities. First, wealth inequalities within the family in Germany are pronounced. As highlighted in Section 1.2, prior research provided evidence for a substantial within-couple gender wealth gap and, to a lesser extent, evidence for gender differences in parental inter vivos transfers. Therefore, it is meaningful to contextualize gender wealth inequalities in Germany by studying personal and the public's perceptions of these inequalities.

Second, Germany is an interesting context to study perceptions of gender wealth inequality because it is classified as a modified male breadwinner society (Trappe, Pollmann-Schult, & Schmitt, 2015). That is, in comparison to other Western countries, in Germany traditional gender ideology is still prevalent, although the male-breadwinner model made way for a 1.5 earner model or a "male-breadwinner/female part-time carer" model (Rosenfeld, Trappe, & Gornick, 2004), in which men are typically the primary earner and women the secondary earner. Although recent German policies aim at incentivizing men to participate in childcare, other policies such as the tax system still encourage a gendered division of work in the labour market and domestic work (Daly, 2011; Trappe et al., 2015). In societies in which the male breadwinner model is widespread and socially accepted, gender wealth inequalities should be less opposed than in egalitarian societies. Thus, examining perceptions of gender wealth inequalities in Germany constitutes a stricter test on gender egalitarian perceptions of wealth inequality.

Finally, for Germany unique wealth data on the individual level exist, which enables to study the nexus between within-couple wealth inequality and subjective well-being. Furthermore, the possibility to apply for data collection of the self-designed survey experiments to different German institutions (GESIS Panel, SoSci Panel), offers the opportunity to gain high quality data on perceptions of gender wealth inequalities within the family.

1.5   Summarizing the Three Studies

In the following, I summarize each of the three empirical studies by focusing on the main findings. Table 1-1 displays an overview of the three studies, presenting the respective research questions, dependent and independent variables, data sources, statistical methods, co-authors, and current publication status.

Summary of the First Study: My Gain or Your Loss?

In the second chapter, I present my first empirical study, which aims at understanding personal perceptions of within-couple wealth inequality by looking at individuals' subjective life satisfaction. I examine how changes in the actual wealth share within couples is related to changes in partners' life satisfaction and study this relationship under different conditions, such as whether the female partner's relative wealth increases due to an increase in her absolute wealth or a decrease in her partner's absolute wealth.

The results of fixed effects least squares regressions show that changes in women's relative wealth and women's life satisfaction are positively related on average. Further

analyses reveal that this association is driven by changes in women's own rather than in their partners' absolute wealth. For men, the association between changes in relative wealth and life satisfaction is not statistically significant.

My findings suggest that a combination of resource-based theories (Blood & Wolfe, 1960) and the autonomy perspective (Gupta, 2007) best explains the relationship between relative wealth and life satisfaction. That is, with increasing relative wealth due to increases in women's absolute wealth, women gain independence, bargaining power, or personal consumption potential, all affecting their life satisfaction positively. I conclude that, at least for women, wealth inequality within couples seems to matter.

Summary of the Second Study: Distributive Justice in Marriage

In the second empirical study, Philipp M. Lersch and I examine the public's perception of within-couple gender wealth inequality by studying individuals' fairness perceptions regarding (unequal) savings arrangements in heterosexual married couples. With this study we aim to identify distributive justice principles in savings arrangements within marriage.

In the multifactorial survey experiment we randomized inequality in the control and ownership of savings within a hypothetical married couple. It was the task of the respondents to carefully read different vignettes (i.e., descriptions of a hypothetical situation) and then decide how fair the described situation is. We test if respondents apply the equality, equity, and entitlement principles.

First, we find support for the equality principle. In particular, respondents rated equal control over savings as more important than equal ownership of savings to establish fairness in marriage. The results indicate that the ideal of marital sharing is widespread but is rather accomplished by equal control than by equal ownership. We further show that unequal ownership is rated fairer if both partners control the savings than if only one partner controls the savings. Respondents seem to believe that unequal ownership can be compensated by equal control. Although the norms of autonomy and sharing are in conflict, respondents seem to think that they can be reconciled by having separate savings accounts but equal control.

Second, we examine the prevalence of the equity principle by testing if individuals judge situations fairer in which the partner who owns more savings also controls the savings than situations in which the other partner controls. Although we find evidence for the equity principle in some subgroups, we do not find convincing evidence for the equity principle at the mean. Thus, on average the ownership of savings does not seem to be directly linked to control over a couple's total savings.

Finally, we provide evidence for beliefs in gendered entitlements to wealth. We find that inequality in ownership is rated fairer if it is in favour of the husband, whereas inequality in control is rated fairer if it is in favour of the wife. At least in Germany, it seems that beliefs in men's entitlement to own and beliefs in wives' entitlement to control savings are widespread.

Summary of the Third Study: Unequal but Just?

In the third empirical study, Tamara Gutfleisch and I examine individuals' perceptions of gender wealth inequality by studying beliefs about a fair allocation of inter vivos transfers from parents to their sons and daughters. Our main aim of this study was to identify (gendered) distributive justice principles in parental inter vivos transfers. We test if respondents apply the equality (both children receive equal inter vivos transfers), need (the child in need receives higher share of inter vivos), equity (the child who provides services receives higher share), and entitlement principle (the child who is firstborn receives higher share) in our multifactorial survey experiment.

Respondents were asked to read three different vignettes describing a couple with an adult son and an adult daughter. The children's characteristics (i.e., unemployment, help in parent's household, and primogeniture) randomly varied between the vignettes. Need was operationalised with one child (daughter or son) being unemployed, equity was operationalised with one child (daughter or son) helping in parents' household, and entitlement was operationalised with one child (daughter or son) being firstborn. It was the task of the respondents to fairly allocate 10,000 Euro between the hypothetical children.

We find that respondents were heterogeneous in their individual fairness perceptions. Our findings support the prevalence of the equality, the equity, and the need principle. However, in the overall sample, we did not find support for the entitlement principle, that is, for beliefs in firstborns to be entitled to more inter vivos. If only one child helped or was unemployed, this child would receive more inter vivos compared to both helping in the household or being employed. The estimated effect sizes are relatively small. This indicates that respondents reconciled the equality principle with other principles. Thus, they did not want to give one child everything and compensate children with specific characteristics only to a certain extent. Interestingly, we found that the equity and the need principle were applied in a gendered way. While daughters helping in the household received less inter vivos transfers than sons helping, unemployed daughters received more inter vivos transfers than unemployed sons. These findings provide evidence for beliefs in gendered entitlements.

Table 1-1 Overview of the three studies

	Chapter 2 (Study 1)	**Chapter 3 (Study 2)**	**Chapter 4 (Study 3)**
Title	My Gain or Your Loss? Changes in within-Couple Relative Wealth and Partners' Life Satisfaction	Distributive Justice in Marriage: Experimental Evidence on Beliefs about Fair Savings Arrangements	Unequal but Just? Experimental Evidence on Distributive Justice Principles in Parental Inter Vivos Transfers
Research Question(s)	How are changes in within-couple relative wealth related to changes in partners' life satisfaction?	How do individuals evaluate the fairness of married couples' savings arrangements? Which justice principles do individuals apply when rating the fairness of different savings arrangements of couples?	Under which conditions are unequal allocations of parental inter vivos transfers between different sex siblings regarded as fair? What are individuals' beliefs about a fair allocation of inter vivos transfers from parents to their sons and daughters?
Dependent Variables	Subjective life satisfaction [0;10]	Fairness ratings [0;10]	Amount allocated to the children [0;10,000]
Core Predictor Variables / Experimental Conditions	Partners' wealth share	1. Inequality in ownership of savings 2. Inequality in control over savings	1. Children's employment status 2. Children's help in parents' household 3. Children's relative age
Data	SOEP 2002, 2007, 2012, 2017	Own module in GESIS Panel, Wave fd 2018	Own data collection (May 2020), SoSci Panel
Statistical Units	Timepoints nested within respondents	Vignette ratings nested in respondents	Vignette ratings nested in respondents
(Statistical) Method	Individual fixed effects least square regressions	Multifactorial survey experiment, least square regressions	Multifactorial survey experiment, least square regressions
Co-authors	Single authored	Philipp M. Lersch	Tamara Gutfleisch
Current Status	Published in *European Sociological Review* (DOI:10.1093/esr/jcaa052)	Published in *Journal of Marriage and Family* (DOI:10.1111/jomf.12694)	Revised and resubmitted

1.6   Conclusion

Each of the three empirical chapters of this dissertation individually extends the literature in several ways (see the section Discussion in each study) but in particular they jointly contribute to a thorough contextualization of gender wealth inequalities within the family. In what follows, I focus on the overall contributions of my dissertation. I present five overall findings. My dissertation shows 1) that the norm of equality within the family is widespread. However, this finding conflicts with prior research's evidence for unequal distributions of wealth within the family. This contradiction may be explained by my findings that 2) the multidimensional notion of equality as well as 3) with the equality norm competing norms justify inequality in wealth. More importantly for this dissertation, 4) I find that these justifications of inequality are gendered. Finally, 5) I find evidence challenging the equal sharing of wealth assumption. In the following, I elaborate on these five main findings, on the implication of my findings on research and society, discuss limitations, and show avenues for future research.

The Norm of Equality within the Family is Widespread

My first overall finding is that equality is an important norm within the family. Based on survey experiments, both the second and the third empirical study provide evidence that the norm of equality within the family is widespread. Whereas the second empirical study (Distributive Justice in Marriage) shows that equal ownership of savings and equal control over savings within couples were rated significantly fairer than unequal ownership and unequal control, the third empirical study (Unequal but Just?) shows that the majority of respondents allocated parental inter vivos transfers equally between the hypothetical daughter and son. Even respondents who did not allocate parental inter vivos transfers equally, seem to reconcile equality with other allocating principles by not allocating the full amount to only one child. Although my first study does not focus on norms, the descriptive findings of this study are in line with the norm of equality. I found that individuals in couples with large wealth differences indicated lower life satisfaction than individuals in couples with less pronounced wealth differences. Thus, both equality in couples and treating children equally seem to be important principles for the sharing and allocation of wealth within the family in Germany.

This finding is in line with a hypothesis in distributive justice theory stating that equality is the dominant principle in relationships "in which the fostering or maintenance of

enjoyable social relations is the common goal" (Deutsch, 1975, p. 146). By providing evidence for individuals' endorsement of the equality principle both in parental transfers and in savings arrangements within couples, this dissertation complements prior empirical research on the equality norm within families, which has focused on income management (Burgoyne & Routh, 2001; Pepin, 2019), division of labour (Gerson, 2010; Pedulla & Thébaud, 2015), and division of housework (Auspurg, Iacovou, & Nicoletti, 2017) within couples. My dissertation, thus, extends prior evidence for the equality norm in couples' income management to wealth management. Individuals seem to endorse financial equality in married couples not only in daily financial matters (i.e., income management) but also in long-term and greater financial matters (i.e., wealth management). This indicates that the ideal of marital sharing of financial resources is not only created by beliefs that income pooling provides short-term efficiency (Pepin, 2019), but also by notions of long-term financial togetherness of married couples, which can be, for example, realised by sharing control over wealth.

However, the finding is striking having in mind the stream of research providing evidence that money within couples is not always shared equally and that children do not benefit equally from parental transfers (e.g., Bennett, 2013; Bessière, 2019; Deere & Doss, 2006; Elizabeth, 2001; Kenney, 2006). The discrepancy between beliefs and lived reality may be explained by the following two findings.

The Notion of Equality is Multidimensional

One explanation for the discrepancy between the prevalence of the norm of equality and de facto unequal wealth outcomes, is that individuals have different beliefs about what equality comprises and how to implement equality. This connects with my second finding that the notion of equality covers different dimensions. By showing that individuals perceive equality in broader terms and do not restrict it to financial resources, this dissertation adds nuance to the notion of equality. Therefore, this dissertation extends prior qualitative research on the different dimensions of equality in income management practises (e.g., Elizabeth, 2001) to a quantitative analysis of different dimensions of inequality.

The second empirical study (Distributive Justice in Marriage) identified two different dimensions of equality, namely equality in ownership of wealth and equality in control over wealth. Individuals seem to believe that to establish equality in marriage, sharing control over wealth is more important than sharing ownership of wealth. This study underlined that

scholars should distinguish theoretically and empirically between different dimensions of equality. Equality in ownership of savings is perceived differently than equality in control, which again is likely to be perceived differently than equality in access to financial resources.

In the third empirical study (Unequal but Just?) we found that respondents allocated parental inter vivos transfers based on children's recent unemployment. It might be that respondents tried to establish equality in later outcomes for both children by applying the need principle and transferring more to the unemployed child. Equality in life chances might be perceived as a more important dimension of equality than equality in parental transfers. That is, individuals might not strive for equality in parental inter vivos transfers among siblings not necessarily because they value other justice principles more but because they value other dimensions of equality more.

Individuals Justify Wealth Inequalities within the Family

My third overall finding is that individuals justify deviations from the norm of equal sharing of wealth within the family under specific conditions. On the one hand, respondents justified inequality in the ownership of savings within couples by hypothetical couples sharing equal control (Study 1). On the other hand, unequal parental transfers were justified by children's needs and child-provided help (Study 3).

The evidence for beliefs that wealth inequalities can be justified represents another explanation for the discrepancy between the prevalence of the equality norm but unequal wealth allocations within the family. More specifically, the norm of equality clashes with other norms, which justify wealth inequalities, necessitating individuals to reconcile these norms. Distributive justice theory proposes that beside equality, need, equity, and entitlement are important principles according to which rewards should be allocated within the family (Hülle, Liebig, & May, 2018). These principles are often conflicting because, for example, the one who needs most (need principle) might not be the one who gives the most inputs (equity principle). My dissertation indicates that individuals try to reconcile different norms and that the equality norm limits the extent to which other principles are implemented. For example, if parents strictly follow the need principle, they will give financial transfers only to the child in need. But if parents espouse both the need and the equality principle, they will give more transfers to the child in need but still give some transfers also to the other child. Thus, individuals may reconcile the equality norm with other norms by sharing only

some parts of wealth or by allocating wealth neither completely unequal nor completely equal.

By looking at different factors, which might justify wealth inequality within the family, I complement the literature on wealth inequalities within the family with a new perspective. The distributive justice perspective is not completely unknown in family sociology, but prior research has mainly studied the division of labour or housework under this perspective (e.g., Braun, Lewin-Epstein, Stier, & Baumgärtner, 2008; Major, 1993). With the exception of Burgoyne & Lewis (1994), who used a distributive justice framework for their qualitative study on financial management within couples, no research has focused on fairness perceptions of wealth inequality within the family to my knowledge. Taking a distributive justice perspective, this dissertation unveiled that wealth inequalities within the family were perceived as just under certain conditions. This could be one explanation for the persistence of wealth inequalities within the family and that individuals, the society, and governments do less to oppose these inequalities.

Perceptions of Wealth Inequality within the Family are Gendered

My fourth – and for my dissertation the most important – finding is that perceptions of wealth inequalities within the family are gendered. Whereas the first study shows descriptively that men's and women's life satisfaction is highest on average if the female partner owns a bit less wealth than the male partner, the second and third empirical studies emphasise that fairness perceptions of within-family wealth inequality are gendered. In the second study, we show that inequalities in ownership are perceived less unfair if the husband owns more compared to the wife owning more. In contrast, inequalities in control are perceived less unfair if the wife controls the savings than the husband controlling. In the third study, we provide experimental evidence that daughters' and sons' need and services are compensated or rewarded differently. Thus, this dissertation provides evidence for beliefs in gendered entitlements to wealth.

Prior literature has documented gender inequality in the ownership, control, management, and access to financial resources and has speculated that shared beliefs contribute to the intrahousehold distribution of financial resources (for an overview, see Bennett, 2013). This dissertation contributes to this literature by providing novel quantitative evidence for beliefs in gendered entitlements to money. Money still does not seem to be gender-neutral as Zelizer (1994) has already argued decades ago. The finding that

individuals evaluated wealth inequality within the family in a gendered way might be one mechanism how the family contributes to gender wealth inequalities. Wealth can be redistributed within the family to reduce gender inequalities produced, for example, at the labour market. However, (the lack of) redistributing wealth within the family may also contribute to gender inequalities if inequalities in wealth are justified by beliefs in gendered entitlements. To put it differently, due to beliefs in gendered entitlements to wealth the family may refrain from redistributing wealth, which in turn contributes to the persistence of gender wealth inequality in the wider society.

The distributive justice perspective in this dissertation augments the literature on the gender wealth gap both theoretically and empirically. The literature has proposed that legal regulations, the labour market, the family, and social norms are important factors explaining the gender wealth gap (Deere & Doss, 2006). Theoretically, this dissertation complements this literature by proposing that gendered fairness perceptions are a crucial branch of social norms, which may help to explain the gender wealth gap. Empirically, this dissertation provided quantitative evidence for beliefs in gendered entitlements to wealth.

Wealth is Not Always Shared Equally within Couples

My last overall finding is that wealth is not always shared equally within couples. The first empirical study showed that changes in relative wealth within couples were related to changes in subjective life satisfaction at least for women. This indicates that it matters who owns more in the couples. In addition, the second study showed that individuals justify unequal ownership in savings if control is shared. Sharing control, however, does not mean that an equal access to wealth is guaranteed (Bennett, 2013; Elizabeth, 2001). Thus, the equal sharing assumption is only partially reflected in individuals' beliefs. It seems that individuals deem it right to share wealth within couples to some extent, but sharing does not mean equal sharing.

By showing that personal wealth within couples matters, that the notion of equality comprises different dimensions, and that the equal sharing norm is only partially reflected in individuals' beliefs, my dissertation suggests that the equal sharing of wealth assumption has to be rejected at the mean. My dissertation complements the limited but growing literature challenging the equal sharing of wealth assumption (Joseph & Rowlingson, 2012; Lersch, 2017; Pugliese & Belleau, 2020).

Implications

The findings have implications for social policies, society, and research. My dissertation challenges all social policies that explicitly or implicitly rely on the equal sharing assumption by showing that the assumption that both partners benefit equally from the couple's total financial wealth does neither fully reflect societal beliefs nor the reality of all couples. For example, the German "Ehegattensplitting" (joint taxation with splitting) is based on the assumptions that married couples fully integrate and equally share their financial resources. If two unequal earning spouses are jointly taxed but financial resources are not fully integrated and the tax benefits are not balanced within the couple, the "Ehegattensplitting" de facto results in a redistribution of money from the lower earner (mostly the wife) to the higher earner (mostly the husband). Therefore, politicians should reexamine social policies like these. Moreover, this dissertation provided evidence for beliefs in gendered entitlements to wealth. These societal beliefs are inconsistent with Article 3 of the German constitution, according to which "Men and women shall have equal rights. The state shall promote the actual implementation of equal rights for women and men and take steps to eliminate disadvantages that now exist". Consequently, both society and policy should focus on contesting and modifying these gendered beliefs and gendered double-standards. Social policies such as egalitarian parental leave systems are needed for promoting gender equality and an egalitarian gender ideology.

Scholars should acknowledge that couples are heterogenous in their sharing of financial resources. Whereas some couples are likely to equally share the ownership of wealth, others may only share control over wealth, still others may grant their partners some access or do not share their wealth at all. Scholars should consider the ownership and control structure of wealth keeping in mind that some but not all financial resources are shared within couples. Looking only at individually held financial resources is equally fallacious as looking only at household's financial resources. Therefore, in future surveys we need to gather more information on how couples share ownership of and control over wealth to draw conclusions about individuals' life chances and well-being.

Limitations

In the following, I elaborate on some limitations of this dissertation. Whereas I only discuss limitations, which have a potential impact on the ability to comprehensively answer

the research questions and to fill the research gaps identified in this dissertation here, I present limitations of each study in the discussion sections of the respective chapters.

The first potential problem is that I did not look at consequences of unequal parental wealth transfers for children. My dissertation aimed to examine the perceptions of within-family gender wealth inequalities by looking at individual consequences of and public's attitudes towards these inequalities. However, I studied only how within-couple relative wealth is related to individuals' life satisfaction but not at how unequal parental transfers are related to siblings' subjective well-being. We still do not know how affected children perceive inequalities in parental transfers. To comprehensively understand how wealth inequalities within the family affect family members well-being, we would have to examine how inequality in parental transfers between different sex siblings are related with their life satisfaction. For this purpose, data including information on siblings' relative wealth transfers would be needed, which are not collected in standard surveys yet.

Second, the generalisability of my conclusions is limited. On the one hand, traditional gender ideology is more prevalent in Germany compared to other Western countries. Therefore, beliefs in gendered entitlements to financial resources may not be generalizable to other contexts. Similarly, because younger cohorts are more egalitarian than older cohorts, the results might not reflect beliefs of future cohorts. On the other hand, only two of the three empirical studies were based on national representative data. The study on parental transfers used a non-representative convenience sample. Thus, it is not possible to draw conclusions about the precise distribution of justice principles in parental inter vivos transfers in the German population. Regarding the two experiments, generalisability is also limited to the factors, which are experimentally manipulated. Of course, there are other factors conceivable, which justify wealth inequality but have not been manipulated in our survey experiments.

Third, this dissertation is limited in proposing that perceptions of gender wealth inequality contribute to the gender wealth gap without testing the effect of fairness perceptions on behaviour. I presented gendered fairness perceptions as one mechanism how the family contributes to gender wealth inequalities. My dissertation unveiled beliefs in gendered entitlements to wealth within the family. However, I did not link these beliefs with actual behaviour. Presenting evidence for beliefs in gendered entitlements to wealth is an

important first step to understand gender wealth inequalities but has to be further expanded along to streams of research.

Future Research

This dissertation hopefully acts as a steppingstone for quantitative investigations of justice principles in financial matters within the family. There are promising avenues for future research. Scholars could, for example, conduct country-comparative experiments to examine how fairness perceptions vary between countries and how institutional factors shape these fairness perceptions. Furthermore, scholars could experimentally vary other factors, which might justify within-couple wealth inequality such as spouses' consumption, employment effort, or risk behaviour. They could also experimentally vary other factors, which might justify inequality in parental transfers such as children's emotional relationship to the parents, marital status, or parental status. Moreover, applying the distributive justice perspective might be fruitful to understand the public's beliefs according to which wealth should be allocated after divorce or separation. Additionally, because this dissertation indicated heterogeneity of justice principles, scholars could examine how fairness perceptions vary across social groups. Examining these research ideas would contribute to a comprehensive understanding of beliefs about a fair allocation of wealth within the family.

Family sociology has long been interested in studying how family behaviour and in particular family solidarity affect social stratification and social inequality (Tölke et al., 2011). The evidence for beliefs in gendered entitlements to wealth presented in this dissertation indicates that financial family solidarity is gendered. Future research could push the literature on family solidarity and its consequences on gender inequality forward by examining if not only direct financial but also non-financial (e.g., emotional support) and indirect financial (e.g., paying for children's education) solidarity within the family is gendered and how gendered solidarity relates to individuals' well-being and life chances. As I showed in this dissertation, to thoroughly understand gendered solidarity it seems promising to apply both observational and experimental approaches, which offer the possibility to look at behaviour and attitudes towards solidarity.

This dissertation helps to better understand and contextualize the substantial gender wealth gap found in prior research. Although wealth inequality seems to matter for women's life satisfaction and in general most individuals endorse equality, gender wealth inequalities within the family are to a certain extent accepted in societal beliefs. Even though gender

wealth inequalities seem to be subjectively relevant, individuals think that these inequalities can be justified under certain conditions.

1.7   Status of the Studies and Contributions of Co-authors

Chapter 2 "My Gain or Your Loss? Changes in within-Couple Relative Wealth and Partners' Life Satisfaction" is single-authored and published in the *European Sociological Review* (Volume 37, Issue 2, April 2021, Pages 271–286, DOI:10.1093/esr/jcaa052).

Chapter 3 "Distributive Justice in Marriage: Experimental Evidence on Beliefs about Fair Savings Arrangements", is published in *Journal of Marriage and Family* (Volume 83, Issue 2, April 2021, Pages 516-533, DOI:10.1111/jomf.12694). As the lead author, I developed the research question, the theoretical framework, and the experimental design. I conducted the qualitative as well as the quantitative pretests. I prepared the data for analyses, conducted the analyses and drafted the manuscript. My co-author Prof. Dr. Philipp Lersch assisted in conducting the qualitative pretests, he gave feedback on the experimental design, and we jointly applied for a module in the GESIS Panel. After my data analyses, we jointly discussed the results. He contributed to the writing of the manuscript by drafting the section "The German Context" and commenting on different versions of the manuscript.

Chapter 4 "Unequal but just? Experimental evidence on distributive justice principles in parental inter vivos transfers" is currently prepared for resubmission (revise and resubmit). Although both authors were involved in all parts of this study, the contributions to this study can be specified as follows. As the lead author, I had the initial idea, developed the research question and the theoretical framework, and was responsible for programming the survey experiment and conducting the experiment within the SoSci Panel. Further, I prepared the data for analyses, conducted the analyses, prepared the manuscript, and presented the manuscript at various conferences. Tamara Gutfleisch and I jointly reviewed the literature, developed the experimental design, applied for data collecting within the SoSci Panel, and discussed the results. Tamara Gutfleisch was responsible for the questionnaire attached to the survey experiment, assisted in conducting the qualitative pretests, drafted the section "German Context" and commented and revised all parts of the paper. I thank Hakan Yücetas for his insightful comments in the conceptualization of this study at an early stage of this project and his help in conducting the qualitative pretests.

1.8 References

Albertini, M., Kohli, M., & Vogel, C. (2007). Intergenerational transfers of time and money in European families: Common patterns - Different regimes? *Journal of European Social Policy*, *17*, 319–334.

Alvaredo, F., Garbinti, B., & Piketty, T. (2017). On the Share of Inheritance in Aggregate Wealth: Europe and the USA, 1900–2010. *Economica*, *84*, 239–260.

Anglade, B., Useche, P., & Deere, C. D. (2017). Decomposing the Gender Wealth Gap in Ecuador. *World Development*, *96*, 19–31.

Auspurg, K., & Hinz, T. (2015). *Factorial Survey Experiments*. Los Angeles: SAGE.

Auspurg, K., Hinz, T., & Sauer, C. (2017). Why Should Women Get Less? Evidence on the Gender Pay Gap from Multifactorial Survey Experiments. *American Sociological Review*, *82*, 179–210.

Auspurg, K., Iacovou, M., & Nicoletti, C. (2017). Housework share between partners: Experimental evidence on gender-specific preferences. *Social Science Research*, 1–22.

Baresel, K., Eulitz, H., Fachinger, U., Grabka, M. M., Halbmeier, C., Künemund, H., … Vogel, C. (2021). Hälfte aller Erbschaften und Schenkungen geht an die reichsten zehn Prozent aller Begünstigten. *DIW Wochenbericht*, *88*.

Barro, R. J. (1974). Are Government Bonds Net Wealth? *Journal of Political Economy*, *82*, 1095–1117.

Becker, G. (1974). A Theory of Social Interactions. *Journal of Political Economy*, *82*, 1063–1093.

Becker, G. (1981). *A Treatise on the Family*. Cambridge, MA: Harvard University Press.

Behrman, J. R., Pollak, R. A., & Taubman, P. (1986). Do Parents Favor Boys? *International Economic Review*, *27*, 33–54.

Bennett, F. (2013). Researching Within-Household Distribution: Overview, Developments, Debates, and Methodological Challenges. *Journal of Marriage and Family*, *75*, 582–597.

Bernheim, B. D., & Severinov, S. (2003). Bequests as Signals: An Explanation for the Equal Division Puzzle. *Journal of Political Economy*, *111*, 733–764.

Bernheim, B. D., Shleifer, A., & Summers, L. H. (1985). The Strategic Bequest Motive. *Journal of Political Economy*, *93*, 1045–1076.

Bertrand, M., Kamenica, E., & Pan, J. (2015). Gender identity and relative income within households. *The Quarterly Journal of Economics*, *130*, 571–614.

Bessière, C. (2019). Reversed accounting: legal professionals, families and the gender wealth gap in France. *Socio-Economic Review*, 1-24 (online first).

Blom, N. (2020). Becoming a Female-Breadwinner Household in Australia : Changes in Relationship Satisfaction. *Journal of Marriage and Family*, *82*, 1340–1357.

Blood, R. O., & Wolfe, D. M. (1960). *Husbands and wives: The dynamics of married living*. New York: Free Press.

Boserup, S. H., Kopczuk, W., & Kreiner, C. T. (2016). The role of bequests in shaping wealth inequality: Evidence from Danish wealth records. *American Economic Review*, *106*, 656–661.

Braun, M., Lewin-Epstein, N., Stier, H., & Baumgärtner, M. K. (2008). Perceived equity in the gendered division of household labor. *Journal of Marriage and Family*, *70*, 1145–1156.

Brulé, G., & Suter, C. (2019). Why Wealth Matters More Than Income for Subjective Well-being? In G. Brulé & C. Suter (Eds.), *Wealth(s) and Subjective Well-Being* (pp. 1–13). Cham: Springer.

Brunori, P. (2017). The Perception of Inequality of Opportunity in Europe. *Review of Income and Wealth*, *63*, 464–491.

Burgoyne, C. B. (1990). Money in marriage: how patterns of allocation both reflect and conceal power. *The Sociological Review*, *38*, 634–665.

Burgoyne, C. B., & Lewis, A. (1994). Distributive justice in marriage: Equality or equity? *Journal of Community & Applied Social Psychology*, *4*, 101–114.

Burgoyne, C. B., & Routh, D. A. (2001). Beliefs about Financial Organization in Marriage: The "Equality Rules OK" Norm? *Zeitschrift Für Sozialpsychologie*, *32*, 162–170.

Chafetz, J. S. (1991). The gender division of labour and the reproduction of female disadvantage. *Journal of Family Issues*, *9*, 108–131.

Chang, M. L. (2010). *Shortchanged: Why Women Have Less Wealth and What Can Be Done About It*. New York: Oxford University Press.

Corneo, G., Bönke, T., & Westermeier, C. (2016). Erbschaft und Eigenleistung im Vermögen der Deutschen: Eine Verteilungsanalyse. *Perspektiven Der Wirtschaftspolitik*, *17*, 35–53.

Cox, D. (2003). Private Transfers within the Family: Mothers, Fathers, Sons and Daughters. In A. H. Munnell & A. Sundén (Eds.), *Death and dollars: The role of gifts and bequests in America* (pp. 168–216). Washington, D.C.: Brookings Institution Press.

D'Alessio, G. (2018). Gender wealth gap in Italy. In *Questioni di Economia e Finanza (Occasional Papers)* (Vol. 433).

Daly, M. (2011). What adult worker model? A critical look at recent social policy reform in europe from a gender and family perspective. *Social Politics*, *18*, 1–23.

de Henau, J., & Himmelweit, S. (2013). Unpacking Within-Household Gender Differences in Partners' Subjective Benefits From Household Income. *Journal of Marriage and Family*, *75*, 611–624.

Deere, C. D., & Doss, C. R. (2006). The gender asset gap: What do we know and why does it matter? *Feminist Economics*, *12*, 1–50.

Deere, C. D., & Leon, M. (2003). The gender asset gap: Land in Latin America. *World Development*, *31*, 925–947.

Deere, C. D., & León, M. (2001). *Empowering Women: Land and Property Rights in Latin America*. Pittsburgh, Pa: University of Pittsburgh Press.

Deindl, C., & Isengard, B. (2011). Familiale Unterstützung und soziale Ungleichheit in Europa. In P. A. Berger, K. Hank, & A. Tölke (Eds.), *Reproduktion von Ungleichheit durch Arbeit und Familie* (pp. 23–47). Wiesbaden: VS Verlag fur Sozialwissenschaften.

Deutsch, M. (1975). Equity, Equality, and Need: What Determines Which Value Will Be Used as the Basis of Distributive Justice? *Journal of Social Issues*, *31*, 137–149.

Eirich, G. M., & Robinson, J. H. (2017). Does Earning More Than Your Spouse Increase Your Financial Satisfaction? A Comparison of Men and Women in the United States, 1982 to 2012. *Journal of Family Issues*, *38*, 2371–2399.

Elinder, M., Erixson, O., & Waldenström, D. (2018). Inheritance and wealth inequality: Evidence from population registers. *Journal of Public Economics*, *165*, 17–30.

Elizabeth, V. (2001). Managing money, managing coupledom: A critical examination of cohabitants' money management practices. *The Sociological Review*, *49*, 389–411.

Evertsson, L., & Nyman, C. (2014). Perceptions and Practices in Independent Management: Blurring the Boundaries Between "Mine," "Yours" and "Ours." *Journal of Family and Economic Issues*, *35*, 65–80.

Finch, J., & Hayes, L. (1996). Gender, Inheritance and Women as Testators. In L. Morris &

E. S. Lyon (Eds.), *Gender Relations in Public and Private.* (pp. 121–137). London: Palgrave Macmillan.

Finch, J., & Mason, J. (1993). *Negotiating family responsibilities*. London: Tavistock.

Foster, G., & Stratton, L. S. (2021). Does female breadwinning make partnerships less healthy or less stable? *Journal of Population Economics*, *34*, 63–96.

Frémeaux, N., & Leturcq, M. (2020). Inequalities and the individualization of wealth. *Journal of Public Economics*, *184*, 2–19.

Frick, J. R., & Grabka, M. M. (2009). Zur Entwicklung der Vermögensungleichheit in Deutschland. *Berliner Journal Für Soziologie*, *19*, 577–600.

Gerson, K. (2010). *The Unfinished Revolution: Coming of Age in a New Era of Gender, Work, and Family*. Oxford: Oxford University Press.

Gibson, J., Le, T., & Scobie, G. (2006). Household bargaining over wealth and the adequacy of women's retirement incomes in New Zealand. *Feminist Economics*, *12*, 221–246.

Goebel, J., Grabka, M., Stefan, L., Martin, K., David, R., Carsten, S., & Jürgen, S. (2019). The German Socio-Economic Panel (SOEP). *Journal of Economics and Statistics*, *239*, 345–360.

Grabka, M., Marcus, J., & Sierminska, E. (2015). Wealth Distribution within Couples. *Review of Economics of the Household*, *13*, 459–486.

Gupta, S. (2007). Autonomy, dependence, or display? The relationship between married women's earnings and housework. *Journal of Marriage and Family*, *69*, 399–417.

Hajdu, G., & Hajdu, T. (2018). Intra-Couple Income Distribution and Subjective Well-Being: The Moderating Effect of Gender Norms. *European Sociological Review*, *34*, 138–156.

Halleröd, B. (2005). Sharing of housework and money among swedish couples: Do they behave rationally? *European Sociological Review*, *21*, 273–288.

Hansen, M. N., & Wiborg, Ø. N. (2019). The Accumulation and Transfers of Wealth: Variations by Social Class. *European Sociological Review*, *35*, 874–893.

Headey, B. (2019). Wealth Influences Life Satisfaction More Than Income: A Supplement to The Easterlin Paradox. In G. Brulé & C. Suter (Eds.), *Wealth(s) and Subjective Well-Being* (pp. 167–182). Cham: Springer.

Himmelweit, S., Santos, C., Sevilla, A., & Sofer, C. (2013). Sharing of Resources Within the Family and the Economics of Household Decision Making. *Journal of Marriage and Family*, *75*, 625–639.

Hülle, S., Liebig, S., & May, M. J. (2018). Measuring Attitudes Toward Distributive Justice: The Basic Social Justice Orientations Scale. *Social Indicators Research*, *136*, 663–692.

Jasso, G. (2012). Safeguarding Justice Research. *Sociological Methods & Research*, *41*, 217–239.

Jasso, G., & Rossi, P. H. (1977). Distributive Justice and Earned Income. *American Sociological Review*, *42*, 639–651.

Jenkins, S. P. (1991). Poverty Measurement and the Within-Household Distribution: Agenda for Action. *Journal of Social Policy*, *20*, 457–483.

Joseph, R., & Rowlingson, K. (2012). Her House, His Pension? The Division of Assets Among (Ex-) Couples and the Role of Policy. *Social Policy and Society*, *11*, 69–80.

Kapelle, N., & Baxter, J. (2021). Marital Dissolution and Personal Wealth: Examining Gendered Trends across the Dissolution Process. *Journal of Marriage and Family*, *83*, 243–259.

Kapelle, N., & Lersch, P. M. (2020). The Accumulation of Wealth in Marriage: Over-Time Change and Within-Couple Inequalities. *European Sociological Review*, 1-14 (online

first).

Keizer, R., & Komter, A. (2015). Are "Equals" Happier Than "Less Equals"? A Couple Analysis of Similarity and Well-being. *Journal of Marriage and Family*, *77*, 954–967.

Kenney, C. T. (2006). The Power of the Purse: Allocative Systems and Inequality in Couple Households. *Gender & Society*, *20*, 354–381.

Killewald, A., Pfeffer, F. T., & Schachner, J. N. (2017). Wealth Inequality and Accumulation. *Annual Review of Sociology*, *43*.

Knell, M., & Stix, H. (2020). Perceptions of inequality. *European Journal of Political Economy*, *65*, 101927.

Korom, P. (2018). Inherited Advantage: Comparing Households that Receive Gifts and Bequests with Non-receiving Households across the Distribution of Household Wealth in 11 European Countries. *European Sociological Review*, *34*, 79–91.

Korom, P., Lutter, M., & Beckert, J. (2017). The enduring importance of family wealth: Evidence from the Forbes 400, 1982 to 2013. *Social Science Research*, *65*, 75–95.

Künemund, H., Lüdicke, J., & Vogel, C. (2006). Gießkanne oder Matthäus? Muster des Erbens und ihre Konsequenzen für die soziale Ungleichheit. In K.-S. Rehberg (Ed.), *Soziale Ungleichheit, Kulturelle Unterschiede. Verhandlungen des 32. Kongresses der Deutschen Gesellschaft für Soziologie* (pp. 3819–3830). Frankfurt am Main: Campus Verl.

Leopold, T., & Schneider, T. (2011a). Family Events and the Timing of Intergenerational Transfers. *Social Forces*, *90*, 595–616.

Leopold, T., & Schneider, T. (2011b). Intergenerationale Vermögenstransfers und soziale Ungleichheit. In P. A. Berger, K. Hank, & A. Tölke (Eds.), *Reproduktion von Ungleichheit durch Arbeit und Familie* (pp. 49–72). Wiesbaden: VS Verlag für Sozialwissenschaften.

Lersch, P. M. (2017). Individual Wealth and Subjective Financial Well-Being in Marriage: Resource Integration or Separation? *Journal of Marriage and Family*, *79*, 1211–1223.

Liebig, S., Sauer, C., & Friedhoff, S. (2015). Using Factorial Surveys to Study Justice Perceptions: Five Methodological Problems of Attitudinal Justice Research. *Social Justice Research*, *28*, 415–434.

Loxton, A. (2019). Gender Differences in Inter Vivos Transfers. *CAEPR Working Paper*, *2*, 1–24.

Lundberg, S. J., Pollak, R. A., & Wales, T. J. (1997). Do Husbands and Wives Pool Their Resources? Evidence from the United Kingdom Child Benefit. *The Journal of Human Resources*, *32*, 463–480.

Major, B. (1993). Gender, Entitlement, and the Distribution of Family Labor. *Journal of Social Issues*, *49*, 141–150.

McGarry, K. (2016). Dynamic aspects of family transfers. *Journal of Public Economics*, *137*, 1–13.

Menaghan, E. (1991). Work experiences and family interaction processes: the long reach of the job? *Annual Review of Sociology*, *17*, 419–444.

Meriküll, J., Kukk, M., & Rõõm, T. (2020). What explains the gender gap in wealth? Evidence from administrative data. *Review of Economics of the Household*. https://doi.org/10.1007/s11150-020-09522-x

Nolan, B., Palomino, J. C., Van Kerm, P., & Morelli, S. (2021). Intergenerational wealth transfers and wealth inequality in rich countries: What do we learn from Gini decomposition? *Economics Letters*, *199*, 1–3.

Nutz, T., & Lersch, P. M. (2020). Gendered employment trajectories and individual wealth

at older ages in Eastern and Western Germany. *Advances in Life Course Research*. https://doi.org/10.1016/j.alcr.2020.100374

Pahl, J. (1983). The allocation of money and the structuring of inequality within marriage. *The Sociological Review*, *31*, 237–262.

Pahl, J. (1989). *Money and marriage*. New York: St. Martin's Press.

Pahl, J. (1990). Household Spending, Personal Spending and the Control of Money in Marriage. *Sociology*, *24*, 119–138.

Pahl, J. (2005). Individualisation in Couple Finances: Who Pays for the Children? *Social Policy and Society*, *4*, 381–391.

Pahl, J. (2008). Family finances, individualisation, spending patterns and access to credit. *The Journal of Socio-Economics*, *37*, 577–591.

Pedulla, D. S., & Thébaud, S. (2015). Can We Finish the Revolution? Gender, Work-Family Ideals, and Institutional Constraint. *American Sociological Review*, *39*, 116–139.

Pepin, J. (2019). Beliefs about Money in Families: Balancing Unity, Autonomy, and Gender Equality. *Journal of Marriage and Family*. https://doi.org/10.31235/osf.io/6aqse

Phipps, S., & Woolley, F. (2008). Control over money and the savings decisions of Canadian households. *Journal of Socio-Economics*, *37*, 592–611.

Ponthieux, S. (2013). Income pooling and equal sharing within the household — What can we learn from the 2010 EU-SILC module? *Eurostat Methodologies & Working Papers*.

Proctor, C. (2014). Subjective Well-Being (SWB). In A. C. Michalos (Ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 6437–6441). Dordrecht: Springer.

Pugliese, M., & Belleau, H. (2020). The Management of Retirement Savings Among Financially Heterogamous Couples. *Social Policy & Society*, 1–19.

Ravanera, Z. R., & Rajulton, F. (2010). Measuring social capital and its differentials by family structures. *Social Indicators Research*, *95*, 63–89.

Ridgeway, C. L. (2009). Framed before we know it: How gender shapes social relations. *Gender and Society*, *23*, 145–160.

Rogers, S. J., & Deboer, D. D. (2001). Changes in Wives' Income: Effects on Marital Happiness, Psychological Well-Being, and the Risk of Divorce. *Journal of Marriage and Family*, *63*, 458–472.

Rosenfeld, R. A., Trappe, H., & Gornick, J. C. (2004). Gender and work in Germany: Before and after reunification. *Annual Review of Sociology*, *30*, 103–124.

Ruel, E., & Hauser, R. M. (2013). Explaining the Gender Wealth Gap. *Demography*, *50*, 1155–1176.

Schneebaum, A., Rehm, M., Mader, K., & Hollan, K. (2018). The Gender Wealth Gap Across European Countries. *Review of Income and Wealth*, *64*, 295–331.

Schneider, T. (2004). Der Einfluss des Einkommens der Eltern auf die Schulwahl. *Zeitschrift Für Soziologie*, *33*, 471–492.

Schubert, R., Brown, M., Gysler, M., & Brachinger, H. W. (1999). Financial Decision-Making: Are Women Really More Risk-Averse? *The American Economic Review*, *89*, 381–385.

Sierminska, E., Frick, J. R., & Grabka, M. M. (2010). Examining the gender wealth gap. In *Oxford Economic Papers* (Vol. 62). https://doi.org/10.1093/oep/gpq007

Sierminska, E., & Girshina, A. (2017). *Wealth and Gender in Europe*. Luxembourg: Publication Office of the European Union.

Stevenson, B., & Wolfers, J. (2007). Marriage and divorce: Changes and their driving forces. *Journal of Economic Perspectives*, *21*, 27–52.

Szydlik, M. (2004). Inheritance and Inequality: Theoretical Reasoning and Empirical

Evidence. *European Sociological Review*, *20*, 31–45.

Thomson, E. (2014). Family Complexity in Europe. *Annals of the American Academy of Political and Social Science*, *654*, 245–258.

Tölke, A., Hank, K., & Berger, P. A. (2011). Arbeit, Familie und die (Re-)Produktion sozialer Ungleichheit. In P. A. Berger, K. Hank, & A. Tölke (Eds.), *Reproduktion von Ungleichheit durch Arbeit und Familie* (pp. 7–19). Wiesbaden: VS Verlag für Sozialwissenschaften.

Tomes, N. (1981). The Family, Inheritance, and the Intergenerational Transmission of Inequality. *Journal of Political Economy*, *89*, 928–958.

Trappe, H., Pollmann-Schult, M., & Schmitt, C. (2015). The Rise and Decline of the Male Breadwinner Model: Institutional Underpinnings and Future Expectations. *European Sociological Review*, *31*, 230–242.

Vogler, C. (1989). Labour Market Change and Patterns of Allocation within Households. *The Social Change and Economic Life Initiative Working Paper*, *12*.

Voorpostel, M., & Blieszner, R. (2008). Intergenerational solidarity and support between adult siblings. *Journal of Marriage and Family*, *70*, 157–167.

Warren, T. (2006). Moving beyond the gender wealth gap. *Feminist Economics*, *12*, 195–219.

Warren, T., Rowlingson, K., & Whyley, C. (2001). Female finances. *Work, Employment & Society*, *15*, 465–488.

Wong, E. S. (2013). Gender preference and transfers from parents to children: An inter-regional comparison. *International Review of Applied Economics*, *27*, 61–80.

Zelizer, V. A. (1989). The Social Meaning of Money: "Special Monies." *American Journal of Sociology*, *95*, 342–377.

Zelizer, V. A. (1994). *The Social Meaning of Money: Pin Money, Paychecks, Poor Relief, and Other Currencies*. New York, NY: Basic Books.

Zelizer, V. A. (2009). *The Purchase of Intimacy*. Princeton: Princeton University Press.

Chapter 2

My Gain or Your Loss? Changes in within-Couple Relative Wealth and Partners' Life Satisfaction[*][†]

Abstract

This article studies the relationship between partner's wealth share and their life satisfaction in different sex couples using the German Socio-Economic Panel Study (2002, 2007, 2012, and 2017). Resource-based theories and gender ideology are two prominent approaches to explain the effects of within-couple relative resources on various outcomes. Recently, scholars have argued that not relative but absolute personal resources are the crucial factor (autonomy perspective). Testing these different approaches is challenging because relative wealth mathematically perfectly depends on both partners' absolute wealth, meaning the effects of relative and absolute wealth are hard to disentangle. To accurately test the theoretical approaches, this study analyses the relationship between relative wealth and life satisfaction under different conditions, such as whether relative wealth increases due to an increase in one's own absolute wealth or a decrease in one's partner's absolute wealth. Individual fixed effects regressions show no statistically significant relationships between relative wealth and life satisfaction for men. In contrast, for women the relationship between their relative wealth and life satisfaction is significantly positive, in line with resource-based theories and the autonomy perspective. Further analyses reveal that this relationship is driven rather by changes in women's own than in their partner's absolute wealth.

2.1 Introduction

Prior research has identified significant wealth inequalities within cohabiting and married couples. In particular, men tend to own more personal wealth (solely and proportionally owned assets less debts) than their female partners (Grabka, Marcus, & Sierminska, 2015; Kapelle & Lersch, 2020). However, little is known about the consequences of these inequalities. To understand the relevance of within-couple wealth inequality for individuals, this study examines the relationship between relative wealth and individual overall life satisfaction in different sex cohabiting and married couples.

For decades, research in the social sciences has been interested in the association between relative as well as absolute financial resources within couples and various individual and couple outcomes (Brennan, Barnett, & Gareis, 2001). For example, prior research has studied the association between relative income and life satisfaction, financial satisfaction, marital quality, personal consumption, and housework hours (e.g., Bonke & Browning, 2009; Brennan et al., 2001; Gupta, 2007; Hajdu & Hajdu, 2018). Prominent theoretical approaches explaining the effects of within-couple relative resources on different outcomes are the unitary household model, gender ideology, resource-based theories (e.g., exchange, bargaining, and dependence model), and the autonomy perspective (Eirich & Robinson, 2017; Killewald & Gough, 2010). Whereas the unitary household model and the autonomy perspective propose that only absolute resources matter for these various outcomes, the gender ideology perspective and resource-based theories propose that relative resources matter. Testing these four theoretical approaches against each other is challenging because relative resources are perfectly determined by both partners' absolute resources and therefore the effects of relative and absolute resources cannot be disentangled mathematically.

To accurately test the different approaches despite this difficulty, I differentiate between conditions of changes in relative wealth to better understand how relative wealth is associated with life satisfaction. Partners' relative wealth can change due to three different conditions: a change in 1) the female partner's absolute wealth only, 2) the male partner's absolute wealth only, and 3) both the female partner's and the male partner's absolute wealth. For example, a woman might experience an increase in relative wealth because of an increase in her own absolute wealth or a decrease in her partner's absolute wealth. I ask whether the relationship between relative wealth and life satisfaction depends on these different conditions of changes in relative wealth. Thereby, this study contributes to the broader debate about disentangling the effects of relative and absolute resources within couples on various outcomes (Gupta, 2007; Killewald & Gough, 2010).

Empirically, this study contributes to the broader literature on the relevance of within-couple *economic* inequalities and contextualises findings of prior studies about the emergence and persistence of within-couple *wealth* inequality (Kapelle & Lersch, 2020). Although the literature lacks studies on the relationship of relative wealth and life satisfaction within couples, there are some studies examining the association between relative *income* and both partners' life satisfaction (e.g., Hajdu & Hajdu, 2018; Rogers & Deboer, 2001). Compared to income, data on personal wealth are rare, impeding research on the consequences of within-couple wealth inequalities. Because wealth provides long-term economic security and is related to prestige and power, wealth is well-suited to measure a particular standard of living (Halbmeier & Grabka, 2019; Spilerman, 2000). Whereas (labour) income comprises flows of money, wealth comprises the stock of assets. Wealth is less volatile than labour income, can stabilise consumption in times of economic hardship such as unemployment, cannot only be used for current consumption but also offers a future consumption potential, and has an income-generating function (Brulé & Suter, 2019; Lersch, 2017). Within-couple relative wealth might affect life satisfaction by influencing partners' bargaining position, power, and feelings of dependence. Further, a couple's actual wealth distribution might not coincide with partners' gender ideology, affecting life satisfaction.

In Germany, absolute personal and relative wealth may play an important role both in married in cohabiting couples. The default German matrimonial property regime is community of accrued gains (Dutta, 2012). This matrimonial property regime enables personal wealth within marriage. That is, as long as a couple is married both spouses may own their personal wealth separately. In the event of divorce, wealth which has been accumulated during marriage is equally divided between both partners, except for inheritances. There are no legal regulations regarding the sharing of wealth in cohabitations in Germany. Thus, both in cohabiting and married couples, individuals may grant or refuse their partners access to their personal wealth.

In the following section, I first summarise prior literature and the theoretical approaches explaining the relationship between relative wealth and life satisfaction, followed by an elaboration on the role of absolute resources when studying the effect of relative resources. After introducing my approach to test the theoretical perspectives, I present the data and method. To study the relationship between relative wealth and partners' life satisfaction, I use longitudinal data from the German Socio-Economic Panel Study (SOEP; 2002, 2007, 2012, and 2017), which measures wealth at the individual level. I then present results of individual fixed effects regressions. The last section discusses the main findings and concludes.

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2.2   Background

Prior Research

Prior research indicates that wealth is at least as important as income for individuals' life satisfaction (for a review see Brulé & Suter, 2019). For example, a study with data from Australia, Britain, Germany, Hungary, and The Netherlands shows that wealth is stronger associated with life satisfaction than income (Headey, Muffels, & Wooden, 2008). Headey (2019) argues that wealth is a better measure of an individual's long-term economic well-being than income. Wealth may positively affect life satisfaction by providing economic security or consumption potential. Further, wealth is related to status, prestige, and power, affecting in turn life satisfaction (Halbmeier & Grabka, 2019). Because individuals tend to adapt their subjective life satisfaction to their economic situation, it is vital to study changes in wealth instead of only comparing rich versus poor individuals (Halbmeier & Grabka, 2019). Changes in wealth may reflect critical life events and an improving or deteriorating economic and social situation.

Most prior studies on life satisfaction measure wealth at the household level assuming that all household members have equal access to or benefit equally from the household's wealth (Brulé & Suter, 2019). However, there is evidence against this assumption (Joseph & Rowlingson, 2012; Lersch, 2017). If wealth is not fully pooled, partners' access to the couple's wealth might be restricted. Thus, it is vital to study not only household wealth but also personal wealth. Personal wealth provides individual economic security, status, prestige, and power beyond the potentially precarious access to couples' total wealth (Lersch, 2017).

In addition, prior research stresses that not only absolute wealth but relative wealth matter for life satisfaction (Rojas, 2019). The idea is that individuals compare their wealth levels with levels of their reference group and, thus, their relative standing affects life satisfaction. One important but often neglected reference group are intimate partners. Prior research documents intra-couple wealth inequalities (Joseph & Rowlingson, 2012; Kan & Laurie, 2014). For Germany, Grabka et al. (2015) show that in 29% of couples the female partner owns more wealth, in 52% of all couples the male partner, and in 19% they own equally. On average, men own 33,000 Euro more than their female partner in Germany. Kapelle and Lersch (2020) study the wealth gap within married couples and find that the wealth gap is already visible at the beginning of marriages and remains rather stable throughout marriage.

Although prior research studies the relationship between relative income and life satisfaction, little is known about the relationship between relative wealth and life satisfaction. For the UK, Kan and Laurie (2014) show that having any savings or investments is positively related to both men's and women's psychological well-being. It does not seem to matter

whether they are solely or jointly held. However, men seem to have poorer psychological well-being when only the female partner owns housing. Lersch (2017) studies how both spouses' personal wealth endowments are related to individuals' subjective *financial* well-being in German marriages. He finds that although wives' personal wealth is more strongly associated with their financial well-being in younger birth cohorts than their husbands' wealth, wives' and husbands' personal wealth are similarly associated with wives' financial well-being in older birth cohorts. Husbands' personal wealth is more strongly associated to husbands' subjective financial well-being than their wives' wealth. These results indicate that personal wealth matters. However, the role of relative wealth within couples remains unclear.

Regarding the relationship between relative income and life satisfaction, the literature finds mixed results. Rogers and Deboer (2001) find that both married women's absolute and relative income is positively associated with women's psychological well-being in the US. For men, they find that wives' relative income is negatively associated with men's well-being, but wives' absolute income is not significantly associated with men's well-being. A recent study with Hungarian data finds a negative association between women's income share and overall life satisfaction for both women and men (Hajdu & Hajdu, 2018). The authors interpret this result as the impact of traditional gender roles in Hungary.

Theoretical Models Explaining the Effects of Relative Resources

Why should relative wealth within couples matter for individual life satisfaction? There are four approaches to explain the effects of within-couple relative resources on life satisfaction, which are now summarised. First, the unitary household model proposes no relationship between relative resources and life satisfaction. This approach assumes that each household has one utility function and all financial and non-financial resources are used to maximise it (Becker, 1965). Life satisfaction can be perceived as a measure of utility and, thus, life satisfaction should only depend on couple's total wealth and neither on partners' personal nor relative wealth.

Second, resource-based theories propose a positive relationship between relative wealth and life satisfaction. As these theories are gender-neutral, this relationship is proposed for both women and men. According to the dependence model, the partner with relatively less wealth might depend on the other partner financially, which in turn reduces the life satisfaction of the dependent partner. Further, the partner with less wealth might feel anxious about their potential share of wealth if the couple was to separate (Joseph & Rowlingson, 2012). According to the resource theory of power, the partner with relatively more wealth may also have more bargaining power in financial and non-financial decisions, leading to higher life satisfaction

(Blood & Wolfe, 1960; Friedberg & Webb, 2006). Last, bargaining models propose that relative resources within couples determine allocation decisions such as the distribution of personal consumption potential and access to personal goods, which in turn may affect individual life satisfaction (Ahn, Ateca-Amestoy, & Ugidos, 2014; Browning, Bourguignon, Chiappori, & Lechene, 1994).

Third, traditional gender ideology predicts an inverse U-shaped association between relative wealth and life satisfaction for women and a positive relationship for men. According to this approach, tensions might arise between partners' preferred wealth distribution and a couple's actual distribution, leading to lower life satisfaction (Hajdu & Hajdu, 2018). Hereby, social meanings are attached to the relative financial contributions of both partners, affecting life satisfaction (Brennan et al., 2001). Couples following a rather traditional gender ideology might prefer the man owning more wealth than his female partner, because this emphasises the provider role of the man. If the woman owns more wealth than her partner, this might pose a threat to the male partner's traditional masculinity, and his self-esteem might decline, resulting in a decrease in his overall life satisfaction (Kan & Laurie, 2014; Menaghan, 1991). The life satisfaction of the female partner might decline, too, because she may feel uncomfortable owning more wealth than her partner due to her internalised male breadwinner ideology or her social surroundings.

Last, the autonomy perspective proposes no relationship between relative wealth and life satisfaction. This perspective has been established in the literature on housework (Gupta, 2007; Killewald & Gough, 2010) and has not reached much attention in the literature on life satisfaction yet. However, with this recently established theoretical approach an important debate about disentangling the effects of relative and absolute resources within couples on various outcomes has started. Gupta (2007) argues that an autonomous effect of women's earnings on their housework time exists as women use their own money to outsource housework, for example. Prior research posits a trend toward individualisation in intimate relationships, accompanied by a habit of keeping money separate (Hiekel, Liefbroer, & Poortman, 2014; Kan & Laurie, 2014; Lauer & Yodanis, 2011). As part of individualisation, intimate relationships are formed for the joy of love and intimacy rather than for economic advantage. Consequently, a person's life satisfaction would only depend on changes in their own wealth but not on changes in their partner's wealth. The more personal wealth a person owns, the higher their consumption potential and the bigger their safety net, which might positively affect life satisfaction. If individuals have only limited access to their partners'

wealth, it can neither provide a consumption potential nor a safety net. Therefore, the autonomy perspective posits that partners' wealth does not affect life satisfaction.

Problem of Disentangling the Effects of Relative and Absolute Wealth

To test the four approaches against each other, the effects of relative wealth and personal absolute wealth on life satisfaction need to be disentangled. However, this is challenging because relative wealth mathematically depends on both partners' absolute wealth. A change of relative wealth always goes along with a change in his and/or her absolute wealth. Thus, we do not know if the change in life satisfaction is caused by a change in absolute or relative wealth. Mathematically, the effects of relative and absolute resources cannot be disentangled.

Prior studies emphasise the need to control for absolute resources when studying the effect of relative resources because absolute resources might correlate both with relative resources and the outcome (Gupta, 2007). That is why some studies do not only include the relative earnings (share) but also the individual earnings of both partners or the individual earnings of one partner and the couple's total earnings in one regression (e.g., Gupta, 2007; Hajdu & Hajdu, 2018; Hamplov, Chaloupková, & Topinková, 2019; Hook, 2017; Killewald & Gough, 2010). The reduced regression equation states:

$$y = \beta_1 \frac{F}{F+M} + \beta_2 F + \beta_3 M \tag{1}$$

However, including two absolute measures (F = her resources; M = his resources) in addition to the relative measure ($\frac{F}{F+M}$) prohibits the interpretation of the coefficient β_1 as an independent effect of relative resources net of absolute resources. Because the measure of relative resources consists of an interaction quotient of both partners' resources, one cannot interpret the coefficients of relative and absolute resources independently. Knowing F and M already determines the share ($\frac{F}{F+M}$). To put it differently, if I hold her and his resources constant, the relative resources cannot change, and thus a ceteris paribus interpretation is no longer possible. Mathematically, the first derivative of her resources is $\frac{d}{dF} = \beta_1 \frac{M}{(F+M)^2} + \beta_2$. Thus, the coefficient belonging to relative resources (β_1) represents how the effect of her absolute resources changes due to the level of her and his resources but cannot be interpreted as an independent effect of her relative resources net of both partner's absolute resources. A non-significant coefficient belonging to the relative measure would not indicate that there is no effect of relative resources because an increase in her absolute resources might go along with an increase in her relative resources. Therefore, prior studies that include both the relative and two absolute measures might have prematurely rejected resource-based theories and gender

ideology theory. Thus, including both partner's absolute resources in addition to the relative resources in one model does not help to disentangle the effects of relative and absolute wealth.

The Present Study

To get closer to disentangling the effects of relative wealth and absolute personal wealth on life satisfaction, it is important to carefully specify the model and to correctly interpret the coefficients. In the present study, I look at different conditions of a change in relative wealth by running separate regressions for each condition (relative wealth changes due to a change in the female or the male or both partners' absolute wealth). According to the procedural utility theory (Frey, Benz, & Stutzer, 2004), individuals derive utility not only from outcomes (how much relative wealth increases) but also from processes (why relative wealth increases). The idea is that individuals may derive a higher procedural utility if relative wealth increases due to increases in their own personal wealth than due to decreases in their partners' wealth, although the amount of increase in relative wealth would be equal. This might be especially relevant for resource-based theories. Imagine, for example, that the female partner experiences an increase in relative wealth due to an increase in her own absolute wealth while her partner's absolute wealth does not change. This could increase her life satisfaction because of an increase in independence, as she will have more personal consumption potential or savings for hard times. However, an increase in the female partner's relative wealth due to a decrease in her partner's absolute wealth might not result in more independence if her absolute wealth level does not change (i.e., personal consumption potential and savings stay constant). Moreover, the couple's total absolute wealth would decline, leading to potentially lower life satisfaction if at least some wealth is shared. Additionally, the conditions of a change in relative wealth might affect the degree to which relative wealth can be converted into bargaining power. In this respect, increases in one's own wealth might be more important than decreases in the partner's wealth, as one can actively use the additional money in the bargaining process. However, for traditional gender ideology, it does not seem to matter which partner's absolute wealth causes relative wealth changes. In general, the autonomy perspective predicts no effect of relative wealth, but the coefficients for relative wealth might also capture the effect of one's own absolute wealth, leading to inconclusive expectations regarding the coefficient of relative wealth.

For the reasons above, I will not include all three aspects at once (relative wealth, his wealth, her wealth, or alternatively total wealth) but rather only regress life satisfaction on each two variables. Therefore, the effects of the omitted variables will be part of the coefficients belonging to the variables included in the model (see Table 2-1, last row). Table 2-1 summarises the expected relationship between relative wealth and life satisfaction under the different

conditions of changes in relative wealth for each theoretical approach. As the coefficients for relative wealth capture also the effect of one's own absolute wealth in all conditions but one, namely control for respondent's absolute wealth, it is hard to test the autonomy perspective against the dependence model.

Table 2-1 Expectations of the Relationship between Relative Wealth and Life Satisfaction under Different Conditions of Changes in Relative Wealth

	(1) No controls for absolute wealth		(2) Control for couple's absolute wealth		(3) Control for respondent's absolute wealth		(4) Control for partner's absolute wealth	
	Women	Men	Women	Men	Women	Men	Women	Men
Unitary household model	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect
Resource based theories/ Economic dependence model	positive	positive	positive	positive	positive/ no effect	positive/ no effect	positive	positive
Traditional gender ideology	inverse U-shape	positive	inverse U-shape	positive	inverse U-shape	positive	inverse U-shape	positive
Autonomy perspective	positive/ no effect	positive/ no effect	positive/ no effect	positive/ no effect	positive/ no effect	positive/ no effect	positive/ no effect	positive/ no effect
Coefficients for relative wealth capture effects of	changes in respondent's, partner's and couple's wealth		opposing changes in respondent's and partner's wealth		changes in couple's and partner's wealth		changes in couple's and respondent's wealth	

After running a regression with relative wealth only, I first hold couple's total wealth constant. Therefore, I include relative wealth and couple's total wealth in the regression (Model 2 in Table 2-1). Holding couple's total wealth constant, relative wealth changes only if her wealth increases to the same extent as his wealth decreases (and vice versa). For example, each of the partners owns €2,500, meaning the couple together owns €5,000. If the couple's wealth is held constant, a change in her relative wealth automatically implies that her increase equals his decrease. If her wealth increase by €2,500, his wealth must decrease by €2,500, while her share increases from 0.5 to 1. A positive association between relative wealth and life satisfaction might still be due to an increase in absolute personal wealth (autonomy perspective) or indeed to an increase in relative wealth (dependence model).

Then, I hold respondent's absolute wealth constant (Model 3 in Table 2-1). By doing this, respondent's relative wealth can only increase if the partner's absolute wealth decreases. If the association between relative wealth and life satisfaction survives, it would be evidence against

the autonomy perspective. However, if the association does not survive, it is no clear evidence against the dependence model. The total wealth of the couple decreases, too. A decrease in total wealth is expected to lower respondent's life satisfaction if one assumes that partners share at least some of their wealth.

Last, I hold partner's wealth constant (Model 4 in Table 2-1). For that purpose, I include relative wealth and partner's wealth in the regression. Holding partner's wealth constant, relative wealth can only increase if the respondent's wealth increases. Thus, respondent's relative wealth increases simultaneously with respondent's absolute wealth. The coefficient of relative wealth would now capture both the effect of a respondent's relative and absolute wealth. The problem persists that the relative effect cannot be disentangled from the absolute effect.

2.3   Data and Method

Data

To test the theories, I use the German Socio-Economic Panel (SOEP, v34, 2002, 2007, 2012, 2017 (Goebel et al., 2019)). The SOEP gathers longitudinal information on *personal* wealth of both partners (in four waves to date). Personal wealth comprises all assets that individuals own solely and proportionally.

The sample is restricted to different sex couples living in the same household with both partners answering a questionnaire, assuming missing completely at random for couples in which only one partner answered the questionnaire. This allows for using characteristics of the respondents and their partners. I restrict the sample to the working age group (18-64 years) to be able to control for labour income. By applying listwise deletion for all variables except wealth-related ones, I drop 1,538 observations (3% of the restricted sample). Further, I exclude 4,464 observations belonging to couples in which both partners have no gross wealth at all (10% of the restricted sample), as the theoretical mechanisms described above can only work if positive wealth exists.[i] I exclude 21,342 observations, in which at least one partner's wealth is missing (47% of the restricted sample). I apply listwise deletion instead of multiple imputation because the dependent variable (life satisfaction) has only about 0.1 percent missing values. Although missing values on the independent variables are high, regression estimates using listwise deletion will be unbiased if the probability of missing values on any of the independent variables does not depend on life satisfaction (Allison, 2001).[ii] Finally, because a within estimator is used, singletons, i.e., respondents for who relative wealth is observed only

once, were excluded from the analyses (69.14% of the respondents or 48.42% of observations excluded).[iii]

The final analytical sample comprises 10,075 observations of 4,273 respondents (2,137 women and 2,136 men). 89 respondents changed their partners (lived with different partners) over the years 2002, 2007, 2012, and 2017 (2.1% of the restricted sample). Table 2-2 shows descriptive statistics of all variables separately for women and men.[iv,v]

Table 2-2 Descriptive Statistics of the Main Sample

	Mean	SD	Min	Max
Women (N = 5040)				
Life satisfaction	7.25	1.60	0	10
Wealth share	0.43	0.24	0	1
Income share	0.30	0.27	0	1
Ranked personal wealth	0.51	0.26	0.10	1
Personal wealth	130220.13	245495.43	0.00	6580000.00
Ranked couple's wealth	0.53	0.28	0	1
Personal labor income, logged	7.83	4.06	-0.69	13.15
Age	45.17	9.29	19.00	64.00
Children below 17 in household	0.47		0	1
Currently employed	0.67		0	1
Work experience: Full time	11.71	9.57	0	46.20
Work experience: Unemployed	0.75	1.84	0	22.80
Currently married	0.90		0	1
Men (N = 5035)				
Life satisfaction	7.16	1.57	0	10
Wealth share	0.58	0.24	0	1
Income share	0.70	0.27	0	1
Ranked personal wealth	0.58	0.26	0.10	1
Personal wealth	205424.10	602302.56	0.00	23720000.00
Ranked couple's wealth	0.53	0.28	0	1
Personal labor income, logged	10.09	2.46	-0.69	13.31
Age	47.62	9.18	21.00	64.00
Children below 17 in household	0.47		0	1
Currently employed	0.90		0	1
Work experience: Full time	23.71	9.93	0.00	46.30
Work experience: Unemployed	0.54	1.50	0.00	26.90
Currently married	0.90		0	1

Measurements

The dependent variable is individual overall life satisfaction. The item *overall current life satisfaction* asks, "How satisfied are you with your life, all things considered?" and is measured on a scale from 0 (completely dissatisfied) to 10 (completely satisfied). I use this concept because life satisfaction represents an "individual's global cognitive evaluation of the quality of his or her life as a whole" (Keizer & Komter, 2015).

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To operationalise wealth, I use a measure of personal gross overall wealth that is calculated by the SOEP team and included in the data file. I use gross wealth to be able to calculate the relative measure and because, theoretically, especially positive wealth may affect the bargaining position and the violation of gender norms. The measure of gross wealth comprises the individual share of owner-occupied property, other properties, financial assets, business assets, private insurances and building loan contracts, and tangible assets. The wealth measures are inflated to 2015 price levels using a consumer price index for Germany because I use four waves spanning 15 years.

My main predictor variable is relative wealth, which is measured as the respondent's share of the couple's gross wealth $\left(\frac{Respondent's\ gross\ wealth}{Respondent's+Partner's\ gross\ wealth} \right)$. Changes in relative wealth might result from differences in partners' wealth accumulation potential (e.g., savings from income, financial transfers, and capital gains) (Kapelle & Lersch, 2020). As the share is a non-additive measure, it implies that the effect of absolute wealth of one partner on the outcome depends on the absolute wealth of the other partner. The share further implies that the effect of an increase in respondent's wealth on the measure of relative wealth depends on the level of the partner's wealth. To put it differently, if the respondent's wealth increases by one unit, the change in respondent's bargaining power, for example, depends on both the level of their partner's and their own wealth. This means that an additional euro for a respondent would not alter their bargaining power much if the difference between their own and their partner's wealth were large, whereas it would alter the bargaining power very much if their wealth was about the same.

As control variables, I include both partners' earnings (log-transformed). Earnings are correlated both with relative wealth and life satisfaction. I also control for standard demographic characteristics, which are likely to correlate both with life satisfaction and relative economic resources (Ahn et al., 2014). I control for age (dummies for age groups) and children below age 17 in household (yes-no). I also control for marital status (married or cohabiting) because married couples are more likely to pool their financial resources than cohabiting couples, and therefore marital status could correlate with relative wealth (Hiekel et al., 2014). Because employment is linked to both the accumulation of wealth and life satisfaction, I control for employment status, total years in full-time employment, and total years in unemployment. Dummies for years are used to control for all time-specific differences, which are effective for all individuals to the same extent.

I further use personal, partner's and couple's gross wealth (rank-transformed) to look at different conditions for a change in relative wealth. As a sensitivity analysis I also use measures

of net wealth (rank-transformed) to test the autonomy perspective. Wealth is rank-transformed to adjust for right-skewed wealth distributions. Theoretically, the rank transformation is reasonable because the effect of wealth on life satisfaction might be explained by processes of social comparisons. I rank observations by wealth separately for each year but jointly for women and men. Observations with equal values on the original wealth variable receive equal ranks. The rank-transformation is done for personal, partner's and couple's wealth separately. The rank measures indicate the percentage of observations having less wealth than or equal wealth to the respective observation.

Analytical Approach

After presenting results of the bivariate analyses depicting the association between relative wealth and overall life satisfaction, I will turn to the results of the multivariable analyses. To test the theories, I run individual fixed effects least square (FE) regressions with robust standard errors clustered on the respondent level, separately for men and women to account for the nonindependence between partners' characteristics and to allow regression coefficients to differ between women and men. Fixed effects regressions use only the within individual variation (within estimator) and thereby control for all time-constant unobserved heterogeneity. In contrast to random effects models (RE), omitted variable bias is reduced but at the expense of efficiency. Hausman tests indicate that the coefficients of the FE models and the RE models differ significantly (chi2(19) = 53.24, p < 0.000 for women and chi2(19) = 78.69, p < 0.000 for men). Thus, the assumption of the RE model that time-constant unobserved heterogeneity is uncorrelated with the explanatory variable is not met. Estimating the relationship between wealth share and life satisfaction with RE models would likely produce biased estimates due to unobserved omitted time-constant variables.[vi]

2.4 Results

Bivariate Results

Figure 2-1 and Figure 2-2 show the bivariate association between relative wealth and overall life satisfaction for women and men, respectively, using a locally weighted running-mean smooth (left y-axis). The distribution of relative wealth across the sample is shown in a histogram (right y-axis). In many couples, both partners own the same amount of wealth. Both men and women are on average most satisfied with their lives if the female partner owns less wealth than the male partner. As women's life satisfaction is approximately mirror-inverted to men's life satisfaction, the figures indicate that partners' life satisfaction is interdependent.

Figure 2-1 Bivariate Associations between Relative Wealth and Overall Life Satisfaction, Women
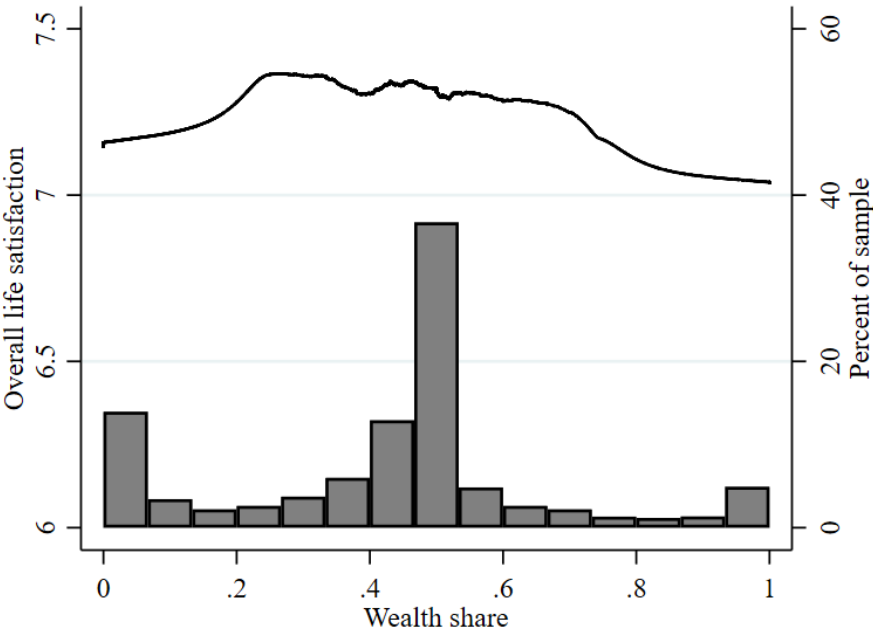
Note: Locally weighted running-mean smooth (lowess command in Stata, version 15) and histogram.
N = 5,040.

Figure 2-2 Bivariate Associations between Relative Wealth and Overall Life Satisfaction, Men
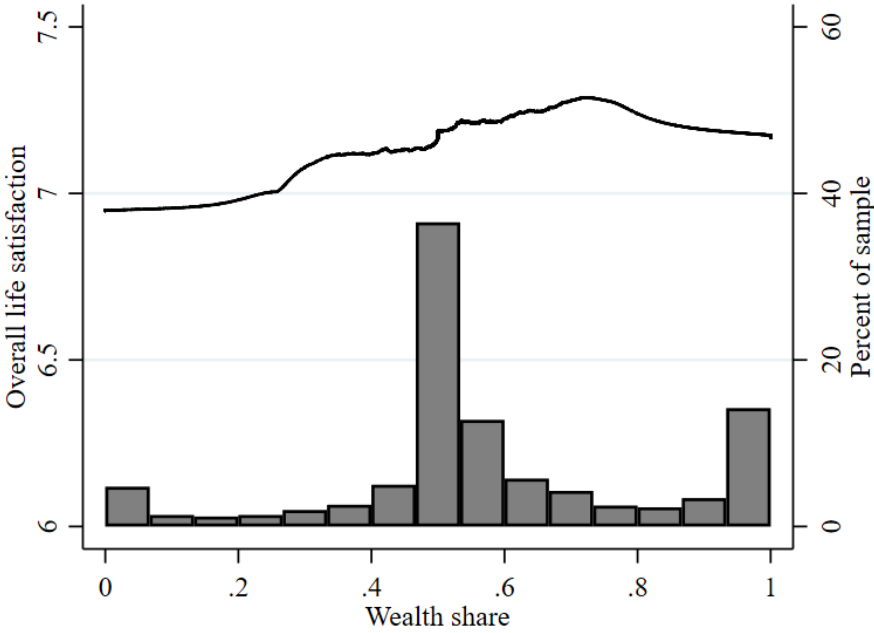
Note: Locally weighted running-mean smooth (lowess command in Stata, version 15) and histogram
N = 5,035.

Multivariable Results

Table 2-3 and Table 2-4 present the multivariable results and Figure 2-3 shows the predicted life satisfaction, separately for women and men.[vii] For women, changes in relative wealth are significantly positively associated with changes in their life satisfaction (Model 1 in Table 2-3 and Figure 2-3). However, only the linear coefficient of wealth share and not the coefficient of the squared wealth share is significant on a 5% significance level. Given that I run multiple models, p-values should be cautiously interpreted. The estimated coefficient has a value of 0.79. If a woman's wealth share increases from 1 standard deviation below women's average share to women's average share (19% to 43%), her life satisfaction is predicted to change by 0.1 points. If a woman's wealth share increases from 0 to 50 percent, her life satisfaction is predicted to increase by 0.23 points. Considering that the standard deviation of life satisfaction within women over time is 0.88, an increase of 0.23 points on the life satisfaction scale is meaningful. For comparison, having children below 17 in the household is associated with a 0.14-point increase in life satisfaction for women. The explained variance is small (within R^2=2%), but the effect size of relative wealth is comparable in size with prior findings regarding the relationships between relative income as well as absolute economic resources (income, wealth, consumption) and life satisfaction (Hajdu & Hajdu, 2018; Headey et al., 2008; Rogers & Deboer, 2001). To interpret this finding as a causal effect, one still must assume that the model includes all time-varying confounders. Thus, fixed effects regressions can be biased if time varying variables correlate with both life satisfaction and relative wealth. In particular, neglecting absolute wealth might bias the results (Gupta, 2007).

For men, fixed effects regressions show no significant association between changes in relative wealth and changes in life satisfaction over time (Table 2-4). Besides statistical significance, the effect sizes of relative wealth for men in the different model are smaller compared to the effect sizes for women. However, changes in absolute wealth (couple's, personal, and partner's) are significantly positively associated with changes in life satisfaction.

Table 2-3 Least Square Individual Fixed Effects Regression on Life Satisfaction, Female

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]	(4) B/(SE)/[p]	(5) B/(SE)/[p]	(6) B/(SE)/[p]
Wealth share	0.79	0.70	0.22	0.74	0.79	
	(0.33)	(0.33)	(0.39)	(0.33)	(0.33)	
	[0.018]	[0.038]	[0.568]	[0.027]	[0.018]	
Wealth share, squared	-0.58	-0.47	-0.18	-0.39	-0.59	
	(0.35)	(0.35)	(0.38)	(0.36)	(0.35)	
	[0.096]	[0.187]	[0.629]	[0.276]	[0.094]	
Personal labor income, logged	-0.00	-0.00	-0.00	-0.00		
	(0.01)	(0.01)	(0.01)	(0.01)		
	[0.643]	[0.635]	[0.660]	[0.659]		
Partner's labor income, logged	-0.01	-0.01	-0.01	-0.01		
	(0.02)	(0.02)	(0.02)	(0.02)		
	[0.632]	[0.577]	[0.599]	[0.606]		
Couple's gross wealth, ranked		0.47				
		(0.18)				
		[0.008]				
Personal gross wealth, ranked			0.53			
			(0.19)			
			[0.006]			
Partner's gross wealth, ranked				0.39		
				(0.20)		
				[0.050]		
Income share					-0.48	-0.25
					(0.46)	(0.23)
					[0.297]	[0.290]
Income share, squared					0.65	0.24
					(0.46)	(0.24)
					[0.161]	[0.311]
Controls	yes	yes	yes	yes	yes	yes
N Observations	5040	5040	5040	5040	5040	15252
N Individuals	2137	2137	2137	2137	2137	6257

Note: All models control for age group, children below 17 in household, currently employed, partner currently employed, work experience, partner's work experience, unemployment experience, partner's unemployment experience, currently married, and year dummies.

Table 2-4 Least Square Individual Fixed Effects Regression on Life Satisfaction, Male

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]	(4) B/(SE)/[p]	(5) B/(SE)/[p]	(6) B/(SE)/[p]
Wealth share	0.26	0.10	-0.11	0.01	0.24	
	(0.41)	(0.41)	(0.44)	(0.42)	(0.41)	
	[0.534]	[0.816]	[0.807]	[0.977]	[0.556]	
Wealth share,	-0.19	-0.05	0.03	0.22	-0.18	
squared	(0.34)	(0.34)	(0.35)	(0.36)	(0.34)	
	[0.576]	[0.883]	[0.938]	[0.541]	[0.601]	
Personal labor	0.00	0.00	0.00	0.00		
income, logged	(0.02)	(0.02)	(0.02)	(0.02)		
	[0.855]	[0.901]	[0.877]	[0.869]		
Partner's labor	-0.02	-0.02	-0.02	-0.02		
income, logged	(0.01)	(0.01)	(0.01)	(0.01)		
	[0.092]	[0.090]	[0.098]	[0.097]		
Couple's gross		0.51				
wealth, ranked		(0.16)				
		[0.002]				
Personal gross			0.43			
wealth, ranked			(0.19)			
			[0.022]			
Partner's gross				0.54		
wealth, ranked				(0.19)		
				[0.005]		
Income share					-0.51	0.46
					(0.49)	(0.30)
					[0.293]	[0.123]
Income share,					0.43	-0.16
squared					(0.41)	(0.24)
					[0.296]	[0.519]
Controls	yes	yes	yes	yes	yes	yes
N Observations	5035	5035	5035	5035	5035	15284
N Individuals	2136	2136	2136	2136	2136	6269

Note: All regressions include the same control variables as in Table 2-3.

Figure 2-3 Predicted Life Satisfaction, Women and Men
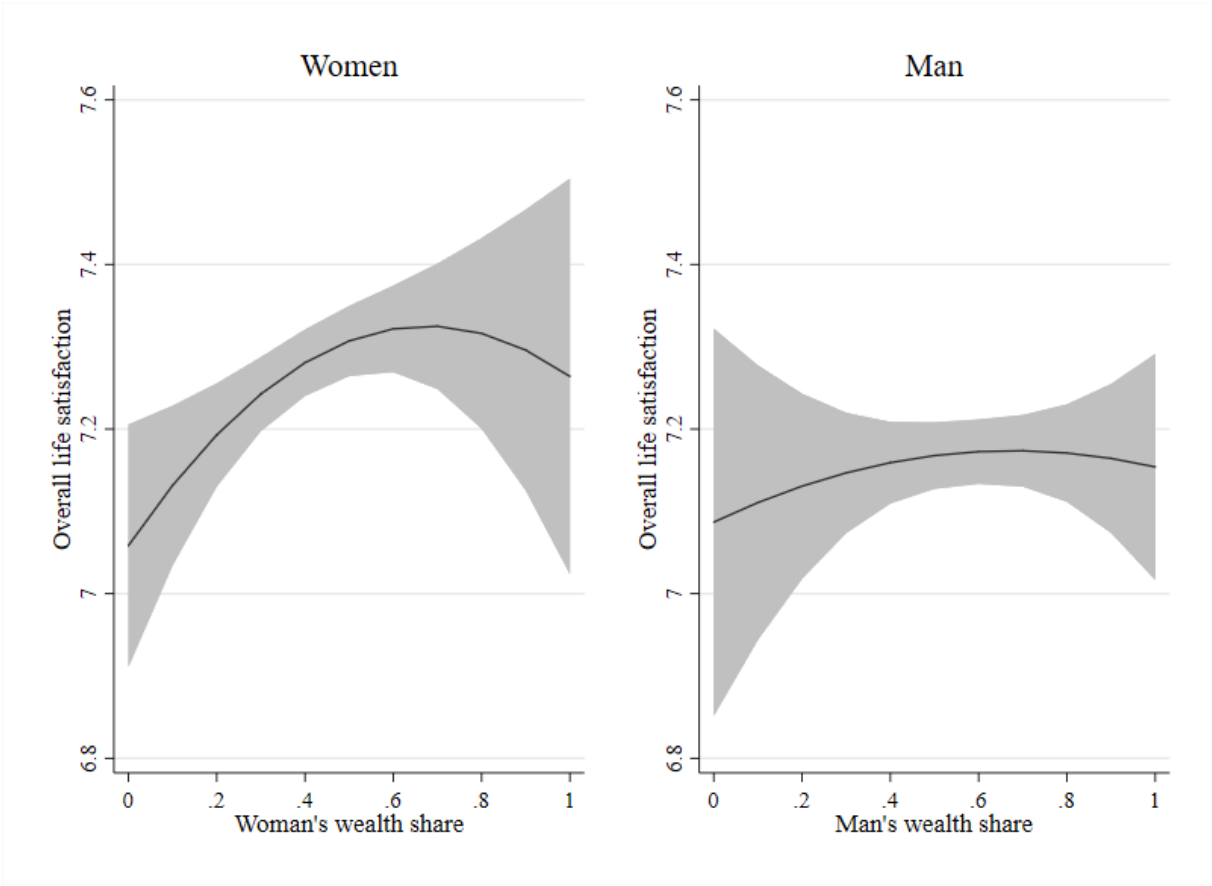
Note: Predicted life satisfaction based on Model 1 in Table 2-3 and Model 1 in Table 2-4. N = 2,137 women (5,040 observations) and N = 2,136 men (5,035 observations).

In the following, I focus on women, because changes in men's relative wealth are neither statistically significantly related nor seem to be substantially related to changes in their life satisfaction. The results indicate that an increase in women's relative wealth is accompanied by an increase in their life satisfaction. However, we do not know if this increase in life satisfaction is only due to an increase in her own absolute wealth (autonomy perspective) or due to an increase in relative wealth (dependence model). The positive coefficient of relative wealth captures not only a positive association between her relative wealth and life satisfaction but also a positive association between her absolute wealth and life satisfaction. Therefore, I successively include couple's gross wealth, personal gross wealth, and partner's gross wealth at a time.

First, I control for couple's total wealth (Model 2 in Table 2-3). Holding couple's total wealth constant, a woman's relative wealth increases only if her absolute wealth increases to the same extent as her partner's wealth decreases. Thus, the coefficients of the wealth share capture the association between an increase in relative wealth and life satisfaction due to an increase in woman's absolute wealth. The coefficient of wealth share (linear term) shrinks

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slightly but remains significant. Changes in couple's total wealth are significantly positively related to changes in life satisfaction for women.

Next, I control for woman's absolute wealth (Model 3 in Table 2-3). Holding woman's wealth constant, her relative wealth changes only due to a decrease in her partner's wealth, resulting in a decrease in couple's total wealth. The coefficients of the wealth share shrink strongly and lose statistical significance. However, woman's personal wealth is significantly positively associated with woman's life satisfaction.

Last, I control for her partner's absolute wealth (Model 4 in Table 2-3). In this case, woman's relative wealth can only increase due to an increase in her own absolute wealth, resulting in an increase in couple's total wealth. The linear coefficient of relative wealth does not change much in size and is statistically significant. The positive association between changes in woman's relative wealth and changes in life satisfaction might be due to an increase in her absolute wealth or the total household wealth or indeed to an increase in her relative wealth, and hence bargaining power and independence. The partner's wealth is significantly positively related to life satisfaction.

Supplemental Analyses

To check the robustness of the findings and to understand the substantive meaning of the results, I present results of additional analyses in the following. First, to understand the effect size of relative wealth, I include relative income instead of the logarithms of both partner's absolute income. Second, to further test the autonomy hypotheses, I use net wealth instead of gross wealth. Last, to further test the gender ideology approach, I use linear splines instead of a linear and a quadratic term of relative wealth.

Models 5 in Table 2-3 and Table 2-4 show that changes in relative income are not significantly related to changes in life satisfaction when I control for relative wealth for both women and men. Thus, relative wealth seems to be more important for life satisfaction than relative income, at least for women. In Models 6 in Table 2-3 and Table 2-4 I do not control for wealth such that I include observations with no wealth or missing wealth, too. Despite the larger sample size, changes in relative income are not significantly related to changes in life satisfaction for men and women.

To check the robustness of the autonomy perspective, I use net wealth instead of gross wealth when controlling for absolute wealth. Absolute personal net wealth is another indicator for autonomy besides absolute personal gross wealth. The measure of net wealth subtracts debts from gross wealth. This does not change the results significantly. Models 1, 2, and 3 in Table 2-5 show that the linear term of relative wealth is statistically significant only in the models in

which I control for couple's net wealth or partner's net wealth. Thus, changes in relative wealth are only associated with changes in woman's life satisfaction if relative wealth increases due to an increase in woman's absolute wealth, which is in line with both the autonomy perspective and resource-based theories. All absolute net wealth measures are significant, including partner's net wealth. This is evidence against the autonomy perspective proposing that only own resources matter.

Table 2-5 Robustness Checks I, Net Wealth Controls

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]
Wealth share	0.72	0.22	0.72
	(0.34)	(0.38)	(0.34)
	[0.035]	[0.555]	[0.036]
Wealth share, squared	-0.49	-0.20	-0.27
	(0.35)	(0.37)	(0.36)
	[0.163]	[0.578]	[0.453]
Couple's net wealth, ranked	0.68		
	(0.19)		
	[0.000]		
Personal net wealth, ranked		0.63	
		(0.20)	
		[0.001]	
Partner's net wealth, ranked			0.68
			(0.19)
			[0.000]
Controls	yes	yes	yes
N Observations	4934	4960	4951
N Individuals	2135	2136	2135

Note: All regressions include the same control variables as in Table 2-3. Least square individual fixed effects regressions with cluster robust standard errors are estimated. Only women.

Because I do not find evidence for an inverse U-shape relationship in the fixed effects models, I further test if there is evidence for an inverse U-shape relationship if I use linear splines instead of a linear and a quadratic term of relative wealth. Splines have often been used to study the traditional gender ideology perspective (Hook, 2017; Killewald & Gough, 2010). Hereby, I re-examine the functional form of the relationship between relative wealth and life satisfaction. Modelling the relationship between relative wealth and life satisfaction with linear splines allows for different slopes in each segment, meaning the relationship might differ along the wealth share distribution (Hook, 2017). I create two segments by using a knot at equal wealth (wealth share=0.5). Additionally, I generate a dummy variable indicating whether the couple has a wealth share of 0.5 or not. Table 2-6 presents the results. The results are in line

with the models of Table 2-3. Only the first spline is significant, indicating that changes in woman's relative wealth are only associated with changes in woman's life satisfaction if the wealth share is less than 0.5. Again, the first spline is significant if relative wealth changes due to a change in woman's absolute wealth (Model 2 and Model 4 in Table 2-6), but it is not significant if it changes only due to a change in her partner's absolute wealth (Model 3 in Table 2-6).

Table 2-6 Robustness Check 2: Linear Spline Regressions

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]	(4) B/(SE)/[p]
Wealth share spline				
Wealth share < 0.5	0.52	0.47	0.13	0.55
	(0.20)	(0.20)	(0.24)	(0.20)
	[0.010]	[0.020]	[0.601]	[0.007]
Wealth share > 0.5	-0.09	0.01	-0.04	0.16
	(0.28)	(0.28)	(0.28)	(0.31)
	[0.741]	[0.982]	[0.898]	[0.610]
Wealth share = 0.5	-0.07	-0.06	-0.04	-0.06
	(0.07)	(0.07)	(0.07)	(0.07)
	[0.333]	[0.446]	[0.547]	[0.442]
Couple's gross wealth, ranked		0.47 (0.18) [0.008]		
Personal gross wealth, ranked			0.54 (0.19) [0.005]	
Partner's gross wealth, ranked				0.40 (0.20) [0.049]
Controls	yes	yes	yes	yes
N Observations	5040	5040	5040	5040
N Individuals	2137	2137	2137	2137

Note: All regressions include the same control variables as in Table 2-3. Least square individual fixed effects regressions with cluster robust standard errors are estimated. Only women.

2.5 Discussion

This study looked at the relationship between within-couple relative wealth and both partners' life satisfaction. The contribution of the study is twofold. First, by showing that relative wealth is positively associated with life satisfaction over time at least within women, I contextualise significant within-couple wealth inequalities found in prior research and complement research on the association between relative income and life satisfaction. Second, by teasing apart the conditions of changes in relative wealth, this study contributes to a better

methodological and theoretical understanding of the relationship between relative resources and different outcomes within couples.

In the literature, four approaches to explain the effect of relative resources on different outcomes are debated: the unitary household model, resource-based theories, the gender ideology approach, and the autonomy perspective. To test these theories comprehensively it is important to examine different conditions of changes in relative wealth, that is, changes in the individual's or the partner's absolute wealth or a change in both. Therefore, I examined the association between relative wealth and life satisfaction by running separate regressions for each condition.

Least-square individual fixed effects regressions do not show a significant relationship between changes in relative wealth and changes in life satisfaction for men, suggesting that men's life satisfaction does not depend on their relative wealth. However, the non-significant coefficient for men might be due to the low within variation in the wealth share in the individual fixed effects models. In contrast, for women fixed effects regressions show a significant linear term of relative wealth and a non-significant quadratic term, suggesting a positive association between women's relative wealth and their life satisfaction. This association remains robust when including couple's absolute wealth or partner's absolute wealth but not when women's personal absolute wealth is controlled for.

These findings provide evidence against the unitary household model, which predicts only household wealth to matter. Further, they provide evidence against the gender ideology approach in Germany, which predicts an inverse U-shaped association between women's wealth share and life satisfaction. The findings can best be explained by a combination of resource-based theories (dependence model) and the autonomy perspective. That is, with increasing relative wealth due to increases in women's absolute wealth, women gain independence, bargaining power, and personal consumption potential affecting their life satisfaction positively.

This study has both theoretical and methodological implications for research on the consequences of relative economic resources within couples. Theoretically, the dependence model and related resource-based approaches (e.g., resource theory of power, bargaining perspective, exchange theory) should be further developed considering the procedural utility theory. For bargaining power derived from relative resources, it might not only matter how much relative resources change but also why relative resources change. This study suggests that the mechanism of the dependence model works through a change in women's absolute wealth and not through a change in her partner's absolute wealth. It seems that women derive a higher

life satisfaction when relative wealth increases due to increases in their own personal wealth than due to decreases in their partners' wealth.

Methodologically, this study highlights that it is mathematically impossible to estimate the effect of relative resources simultaneously net of absolute personal and partner's resources. A change in either personal or partner's resources automatically leads to a change in relative resources. However, one can at least distinguish how relative resources relate to the outcome of interest under different conditions. Future studies looking at the relationship of relative resources and diverse outcomes would benefit if conditions for a change in relative resources were analysed separately. By taking a dynamic perspective, studies may not only look at which partner owns relative more resources but also at which partner causes the distribution of resources to change. In addition, future studies should make sure to explain what the coefficient of relative resources captures when measures of absolute resources are included (respectively not included) in the models. In doing so, we will better understand the relevance and consequences of within-couple inequalities in economic resources.

There are some limitations to this study. The analyses are confronted with the problem of measurement error in personal wealth. Respondents might have misreported their personal wealth due to ignorance or because perceived and formal ownership of wealth may differ (Joseph & Rowlingson, 2012). In addition, if missing values on relative wealth are not random, the estimations might be biased. Further, despite the reduction in omitted variable bias due to time-constant characteristics by estimating fixed effects regressions, unobserved time-varying characteristics which correlate both with individuals' wealth share and life satisfaction might bias the results. For example, the health status of respondent's parents might affect both relative wealth and life satisfaction. This cautions to give the statistical relationship any causal interpretation.[viii]

This study showed by means of a systematic analysis that changes in within-couple relative wealth are related to changes in life satisfaction at least for women. Although we do not conclusively know if the found relationship between women's relative wealth and their life satisfaction is due to an increased consumption potential (autonomy perspective) or due to an increase in her bargaining power and independence through an increase in her absolute wealth (dependence model), this study provides further evidence that personal financial resources within couples matter.

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[i] Respondents in couples with no gross wealth are on average younger compared to respondents in couples with non-zero gross wealth. For further descriptive characteristics and differences in the samples, see Table A 2-1 and Table A 2-2 in the Appendix.

[ii] I run regressions with wealth-imputed data to check the robustness. See Table A 2-3 and Table A 2-4 in the Appendix. Although not significant on a 5% level, the models hint at similar conclusions.

[iii] To check if the exclusion of singletons might bias the estimations, I run a logistic regression predicting the probability that the wealth share is observed for only one time point. The probability is not significantly associated with the wealth share (see Table A 2-5 in the Appendix).

[iv] For a correlation matrix of all variables see Table A 2-6 in the Appendix.

[v] Table A 2-7 in the Appendix shows means and standard deviations of the dependent and main predictor variables over time.

[vi] Random effects regression models are presented in Table A 2-8 and Table A 2-9 in the Appendix. Prior to running the hausman test, I run a Breusch and Pagan Lagrangian multiplier test to choose between the pooled OLS and RE model, which indicated that the errors are serially correlated (Female: chibar2(01) = 783.64, $p < 0.000$, Male: chibar2(01) = 815.33, $p < 0.000$).

[vii] For the full models see Table A 2-10 and Table A 2-11 in the Appendix.

[viii] Another confounding factor could be time-varying abilities. Reverse causality might also be a threat to causal claims.

2.6 References

Ahn, N., Ateca-Amestoy, V., & Ugidos, A. (2014). Financial satisfaction from an intra-household perspective. *Journal of Happiness Studies*, *15*, 1109–1123. https://doi.org/10.1007/s10902-013-9466-3

Allison, P. D. (2001). *Missing Data*. London: SAGE Publications.

Becker, G. (1965). A Theory of the Allocation of Time. *The Economic Journal*, *75*(299), 493. https://doi.org/10.2307/2228949

Blood, R. O., & Wolfe, D. M. (1960). *Husbands and wives: The dynamics of married living*. New York: Free Press.

Bonke, J., & Browning, M. (2009). The distribution of financial well-being and income within the household. *Review of Economics of the Household*, *7*(1), 31–42. https://doi.org/10.1007/s11150-008-9044-3

Brennan, R. T., Barnett, R. C., & Gareis, K. C. (2001). When She Earns More than He Does : A Longitudinal Study of Dual-Earner Couples. *Journal of Marriage and Family*, *63*(1), 168–182.

Browning, M., Bourguignon, F., Chiappori, P.-A., & Lechene, V. (1994). Income and Outcomes. *Journal of Political Economy*, *102*(6), 1067–1096. https://doi.org/10.2307/2138780

Brulé, G., & Suter, C. (2019). Why Wealth Matters More Than Income for Subjective Well-being? In G. Brulé & C. Suter (Eds.), Wealth(s) and Subjective Well-Being (pp. 1–13). Cham: Springer.

Dutta, A. (2012). Germany. In J. M. Scherpe (Ed.), *Marital Agreements and Private Autonomy in Comparative Perspective* (pp. 158–199). Oxford: Hart Publishing.

Eirich, G. M., & Robinson, J. H. (2017). Does Earning More Than Your Spouse Increase Your Financial Satisfaction? A Comparison of Men and Women in the United States, 1982 to 2012. *Journal of Family Issues*, *38*(17), 2371–2399. https://doi.org/10.1177/0192513X16638384

Frey, B. S., Benz, M., & Stutzer, A. (2004). Introducing procedural utility: Not only what but also how matters. *Journal of Institutional and Theoretical Economic*, *160*(3), 377–401.

Friedberg, L., & Webb, A. (2006). Determinants and Consequences of Bargaining Power in Households. *NBER Working Papers 12367*.

Goebel, J., Grabka, M., Stefan, L., Martin, K., David, R., Carsten, S., & Jürgen, S. (2019). The German Socio-Economic Panel (SOEP). *Journal of Economics and Statistics*, *239*(2), 345–360. https://doi.org/10.1515/jbnst-2018-0022

Grabka, M., Marcus, J., & Sierminska, E. M. (2015). Wealth Distribution within Couples. *Review of Economics of the Household*, *13*(3), 459–486. https://doi.org/10.1007/s11150-013-9229-2

Gupta, S. (2007). Autonomy, dependence, or display? The relationship between married women's earnings and housework. *Journal of Marriage and Family*, *69*(2), 399–417. https://doi.org/10.1111/j.1741-3737.2007.00373.x

Hajdu, G., & Hajdu, T. (2018). Intra-Couple Income Distribution and Subjective Well-Being: The Moderating Effect of Gender Norms. *European Sociological Review*, *34*(2), 138–156. https://doi.org/10.1093/esr/jcy006

Halbmeier, C., & Grabka, M. M. (2019). Wealth Changes and Their Impact on Subjective Well-Being. In G. Brulé & C. Suter (Eds.), *Wealth(s) and Subjective Well-Being* (pp. 401–414). Cham: Springer. https://doi.org/10.1007/978-3-030-05535-6_18

Hamplov, D., Chaloupková, J. K., & Topinková, R. (2019). More Money, Less Housework? Relative Resources and Housework in the Czech Republic. *Journal of Family Issues*, 40(18), 2823–2848. https://doi.org/10.1177/0192513X19864988

Headey, B. (2019). Wealth Influences Life Satisfaction More Than Income: A Supplement to

The Easterlin Paradox. In G. Brulé & C. Suter (Eds.), *Wealth(s) and Subjective Well-Being* (pp. 167–182). Cham: Springer. https://doi.org/10.1007/978-3-030-05535-6_8

Headey, B., Muffels, R., & Wooden, M. (2008). Money Does not Buy Happiness - Or Does It? A Reassessment Based on the Combined Effects of Wealth, Income and Consumption. *Social Indicators Research*, *87*(1), 65–82. https://doi.org/10.1007/s11205-007-9146-y

Hiekel, N., Liefbroer, A. C., & Poortman, A.-R. (2014). Income pooling strategies among cohabiting and married couples. *Demographic Research*, *30*, 1527–1560. https://doi.org/10.4054/DemRes.2014.30.55

Hook, J. L. (2017). Women's Housework: New Tests of Time and Money. *Journal of Marriage and Family*, *79*(1), 179–198. https://doi.org/10.1111/jomf.12351

Joseph, R., & Rowlingson, K. (2012). Her House, His Pension? The Division of Assets Among (Ex-) Couples and the Role of Policy. *Social Policy and Society*, *11*(01), 69–80. https://doi.org/doi:10.1017/S147474641100042X

Kan, M. Y., & Laurie, H. (2014). Changing patterns in the allocation of savings, investments and debts within couple relationships. *The Sociological Review*, *62*, 335–358. https://doi.org/10.1111/1467-954X.12120

Kapelle, N., & Lersch, P. M. (2020). The Accumulation of Wealth in Marriage: Over-Time Change and Within-Couple Inequalities. *European Sociological Review*, 36(4), 580–593. https://doi.org/10.1093/esr/jcaa006

Keizer, R., & Komter, A. (2015). Are "Equals" Happier Than "Less Equals"? A Couple Analysis of Similarity and Well-being. *Journal of Marriage and Family*, *77*(4), 954–967. https://doi.org/10.1111/jomf.12194

Killewald, A., & Gough, M. (2010). Money isn't everything: Wives' earnings and housework time. *Social Science Research*, *39*(6), 987–1003. https://doi.org/10.1016/j.ssresearch.2010.08.005

Lauer, S. R., & Yodanis, C. (2011). Individualized Marriage and the Integration of Resources. *Journal of Marriage and Family*, *73*(3), 669–683. https://doi.org/10.2307/29789609

Lersch, P. M. (2017). Individual Wealth and Subjective Financial Well-Being in Marriage: Resource Integration or Separation? *Journal of Marriage and Family*, *79*, 1211–1223.

Menaghan, E. (1991). Work experiences and family interaction processes: the long reach of the job? *Annual Review of Sociology*, *17*, 419–444.

Rogers, S. J., & Deboer, D. D. (2001). Changes in Wives' Income: Effects on Marital Happiness, Psychological Well-Being, and the Risk of Divorce. *Journal of Marriage and Family*, *63*(2), 458–472.

Rojas, M. (2019). Affluence: More Relative Than Absolute. In G. Brulé & C. Suter (Eds.), *Wealth(s) and Subjective Well-Being* (pp. 147–166). Cham: Springer. https://doi.org/10.1007/978-3-030-05535-6_7

Spilerman, S. (2000). Wealth and Stratification Processes. *Annual Review of Sociology*, *26*(1), 497–524. https://doi.org/10.1146/annurev.soc.26.1.497

2.7 Appendix

Table A 2-1 Descriptive Statistics for Different Samples, Women

	Analysis Sample	Wealth missing	Both partners no wealth	Total
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Life satisfaction	7.25 (1.60)	7.43 (1.58)	6.90 (1.82)	7.34 (1.61)
Age	45.17 (9.29)	42.60 (9.54)	38.95 (10.55)	42.87 (9.93)
Personal labour income, logged	7.83 (4.06)	7.72 (4.05)	5.47 (4.70)	7.50 (4.20)
Children below 17 in household	0.47 (0.50)	0.56 (0.50)	0.63 (0.48)	0.54 (0.50)
Currently employed	0.67 (0.47)	0.66 (0.47)	0.42 (0.49)	0.63 (0.48)
Work experience: Full time	11.71 (9.57)	10.22 (9.08)	6.96 (8.78)	10.31 (9.40)
Work experience: Unemployment	0.75 (1.84)	0.64 (1.80)	1.96 (3.36)	0.77 (2.02)
Currently married	0.90 (0.30)	0.86 (0.35)	0.79 (0.41)	0.85 (0.35)
Migration background	0.14 (0.35)	0.17 (0.38)	0.48 (0.50)	0.20 (0.40)
Currently in East Germany	0.27 (0.44)	0.22 (0.42)	0.23 (0.42)	0.23 (0.42)
N	5040	10433	1872	21927

Table A 2-2 Descriptive Statistics for Different Samples, Men

	Analysis sample	Wealth missing	Both partners no wealth	Total
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Life satisfaction	7.16 (1.57)	7.34 (1.57)	6.71 (1.90)	7.24 (1.61)
Age	47.62 (9.18)	45.31 (9.64)	42.06 (10.63)	45.57 (9.97)
Personal labour income, logged	10.09 (2.46)	10.09 (2.28)	8.33 (3.61)	9.89 (2.58)
Children below 17 in household	0.47 (0.50)	0.56 (0.50)	0.63 (0.48)	0.54 (0.50)
Currently employed	0.90 (0.30)	0.90 (0.30)	0.68 (0.47)	0.87 (0.33)
Work experience: Full time	23.71 (9.93)	21.49 (10.39)	16.80 (10.97)	21.54 (10.69)
Work experience: Unemployment	0.54 (1.50)	0.49 (1.50)	2.55 (3.82)	0.70 (1.96)
Currently married	0.90 (0.30)	0.86 (0.35)	0.79 (0.41)	0.85 (0.35)
Migration background	0.12 (0.33)	0.15 (0.36)	0.48 (0.50)	0.19 (0.39)
Currently in East Germany	0.27 (0.44)	0.22 (0.42)	0.23 (0.42)	0.23 (0.42)
N	5035	10433	1872	21927

Table A 2-3 Regressions on Life Satisfaction with Imputed Data, Women

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]	(4) B/(SE)/[p]
Wealth share	0.33	0.24	-0.12	0.27
	(0.19)	(0.19)	(0.23)	(0.19)
	[0.088]	[0.218]	[0.585]	[0.167]
Wealth share, squared	-0.36	-0.25	-0.04	-0.14
	(0.20)	(0.20)	(0.21)	(0.20)
	[0.074]	[0.204]	[0.844]	[0.504]
Couple's gross wealth, ranked		0.48		
		(0.12)		
		[0.000]		
Personal gross wealth, ranked			0.46	
			(0.13)	
			[0.000]	
Partner's gross wealth, ranked				0.50
				(0.12)
				[0.000]
N Observations	13726	13726	13726	13726
N Individuals	5468	5468	5468	5468

Note: Least square individual fixed effects regressions with cluster robust standard errors are estimated. All models control for age group, children below 17 in household, currently employed, partner currently employed, work experience, partner's work experience, unemployment experience, partner's unemployment experience, currently married, personal logarithmised labour income, partner's logarithmised labour income, and year dummies.

Data: SOEP 2002, 2007, 2012, 2017, wealth imputations done by the SOEP team.

Table A 2-4 Regressions on Life Satisfaction with Imputed Data, Men

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]	(4) B/(SE)/[p]
Wealth share	0.45	0.37	0.16	0.30
	(0.26)	(0.26)	(0.27)	(0.26)
	[0.080]	[0.151]	[0.557]	[0.256]
Wealth share, squared	-0.41	-0.34	-0.25	-0.17
	(0.21)	(0.21)	(0.22)	(0.23)
	[0.055]	[0.120]	[0.263]	[0.454]
Couple's gross wealth, ranked		0.32		
		(0.12)		
		[0.006]		
Personal gross wealth, ranked			0.35	
			(0.12)	
			[0.005]	
Partner's gross wealth, ranked				0.33
				(0.13)
				[0.010]
N Observations	13556	13556	13750	13750
N Individuals	5455	5455	5480	5480

Note: Least square individual fixed effects regressions with cluster robust standard errors are estimated. All models control for age group, children below 17 in household, currently employed, partner currently employed, work experience, partner's work experience, unemployment experience, partner's unemployment experience, currently married, personal logarithmised labour income, partner's logarithmised labour income, and year dummies.
Data: SOEP 2002, 2007, 2012, 2017, wealth imputations done by the SOEP team.

Table A 2-5 Logistic Regression: Probability to be Observed Only One Time

	Women B/(SE)	Men B/(SE)	All B/(SE)
Wealth share	0.05	-0.09	-0.02
	(0.08)	(0.08)	(0.05)
	[0.473]	[0.212]	[0.735]
Constant	-0.09	-0.01	-0.06
	(0.04)	(0.05)	(0.03)
	[0.018]	[0.827]	[0.053]
N	9925	9928	19853

Data: SOEP 2002, 2007, 2012, 2017.

Table A 2-6 Correlation Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Wealth share	1														
2	Personal gross wealth, ranked	0.388***	1													
3	Partner's gross wealth, ranked	-0.390***	0.578***	1												
4	Couple gross wealth, ranked	-0.000	0.858***	0.856***	1											
5	Age	0.050***	0.286***	0.239***	0.287***	1										
6	Children below 17 in household	0.000	-0.011	-0.011	-0.010	-0.512***	1									
7	Currently employed	0.166***	0.110***	-0.013	0.052***	-0.011	-0.025*	1								
8	Work exp.: Full time	0.199***	0.202***	0.024*	0.122***	0.644***	-0.371***	0.254***	1							
9	Work exp.: Unemployment	-0.067***	-0.202***	-0.149***	-0.201***	0.072***	-0.071***	-0.207***	-0.074***	1						
10	Currently. married	-0.005	0.170***	0.177***	0.169***	0.224***	0.079***	-0.054***	0.110***	-0.017	1					
11	Partner currently employed	-0.162***	-0.010	0.110***	0.054***	-0.074***	-0.021*	-0.086***	-0.193***	-0.002	-0.051***	1				
12	Partner work exp.: Full time	-0.202***	0.021*	0.201***	0.120***	0.452***	-0.370***	-0.193***	-0.000	0.090***	0.110***	0.254***	1			
13	Partner work exp.: Unemployment	0.065***	-0.147***	-0.200***	-0.198***	0.078***	-0.074***	-0.003	0.089***	0.246***	-0.014	-0.207***	-0.072***	1		
14	Personal labor income, logged	0.185***	0.155***	0.006	0.087***	0.036***	-0.049***	0.731***	0.304***	-0.208***	-0.052***	-0.138***	-0.215***	0.002	1	
15	Partner's labor income, logged	-0.184***	0.007	0.154***	0.088***	-0.039***	-0.049***	-0.139***	-0.214***	0.003	-0.050***	0.730***	0.304***	-0.208***	-0.190***	1

Note: Pearson's correlation coefficients. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table A 2-7 Mean and Standard Deviation of Dependent and Independent Variables over Time

	2002 Mean (SD)	2007 Mean (SD)	2012 Mean (SD)	2017 Mean (SD)	Total Mean (SD)
Life satisfaction, women	7.29 (1.56)	7.11 (1.66)	7.25 (1.62)	7.44 (1.53)	7.25 (1.60)
Life satisfaction, men	7.17 (1.50)	7.03 (1.68)	7.19 (1.58)	7.31 (1.47)	7.16 (1.58)
Wealth share, women	0.42 (0.24)	0.42 (0.24)	0.43 (0.25)	0.43 (0.25)	0.43 (0.24)
Wealth share, men	0.58 (0.24)	0.58 (0.24)	0.57 (0.25)	0.57 (0.25)	0.58 (0.24)

Table A 2-8 RE Regressions, Women

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]	(4) B/(SE)/[p]
Wealth share	1.01 (0.25) [0.000]	0.77 (0.26) [0.003]	-0.06 (0.30) [0.840]	0.84 (0.25) [0.001]
Wealth share, squared	-0.99 (0.27) [0.000]	-0.69 (0.27) [0.012]	-0.20 (0.30) [0.499]	-0.51 (0.28) [0.068]
Personal labor income, logged	0.01 (0.01) [0.453]	0.01 (0.01) [0.481]	0.01 (0.01) [0.478]	0.01 (0.01) [0.446]
Partner's labor income, logged	0.02 (0.01) [0.222]	0.01 (0.01) [0.392]	0.01 (0.01) [0.370]	0.01 (0.01) [0.353]
Couple's gross wealth, ranked		0.75 (0.11) [0.000]		
Personal gross wealth, ranked			0.88 (0.13) [0.000]	
Partner's gross wealth, ranked				0.74 (0.13) [0.000]
N Observations	5040	5040	5040	5040
N Individuals	2137	2137	2137	2137

Note: Least square individual random effects regressions with cluster robust standard errors are estimated. All models control for age group, children below 17 in household, currently employed, partner currently employed, work experience, partner's work experience, unemployment experience, partner's unemployment experience, currently married, personal logarithmised labour income, partner's logarithmised labour income, year dummies, education, migration background, living in East Germany, cohort, and age difference between partners.

Table A 2-9 RE Regressions, Men

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]	(4) B/(SE)/[p]
Wealth share	0.49	0.06	-0.44	-0.09
	(0.30)	(0.31)	(0.34)	(0.31)
	[0.109]	[0.836]	[0.188]	[0.768]
Wealth share, squared	-0.36	-0.01	0.21	0.53
	(0.25)	(0.26)	(0.27)	(0.28)
	[0.152]	[0.965]	[0.444]	[0.059]
Personal labor income, logged	0.05	0.04	0.04	0.04
	(0.01)	(0.01)	(0.01)	(0.01)
	[0.001]	[0.002]	[0.001]	[0.001]
Partner's labor income, logged	-0.01	-0.01	-0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)
	[0.195]	[0.175]	[0.203]	[0.175]
Couple's gross wealth, ranked		0.86		
		(0.10)		
		[0.000]		
Personal gross wealth, ranked			0.88	
			(0.12)	
			[0.000]	
Partner's gross wealth, ranked				0.98
				(0.13)
				[0.000]
N Observations	5035	5035	5035	5035
N Individuals	2136	2136	2136	2136

Note: Least square individual random effects regressions with cluster robust standard errors are estimated. All models control for age group, children below 17 in household, currently employed, partner currently employed, work experience, partner's work experience, unemployment experience, partner's unemployment experience, currently married, personal logarithmised labour income, partner's logarithmised labour income, year dummies, education, migration background, living in East Germany, cohort, and age difference between partners.

The regression equation of the main models (Table A 2-10 and Table A 2-11) states:

$$y_{it} = \beta_0 + WS_{it}\beta_1 + WS_{it}^2\beta_2 + X_{it}\beta_3 + u_i + \epsilon_{it}$$

where *y* measures subjective life satisfaction of individual *i* in time point *t*. β_0 is the constant. *WS* denotes the wealth share and *WS²* the squared wealth share, which are the main predictor variables. X_{it} is a row vector of time-varying individual characteristics and β_3 is a column vector of coefficients. The remaining part is the random part of the model. u_i is the unit-specific error term and ϵ_{it} is the idiosyncratic error.

Table A 2-10 Full Models, Women

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]	(4) B/(SE)/[p]
Wealth share	0.79	0.70	0.22	0.74
	(0.33)	(0.33)	(0.39)	(0.33)
	[0.018]	[0.038]	[0.568]	[0.027]
Wealth share, squared	-0.58	-0.47	-0.18	-0.39
	(0.35)	(0.35)	(0.38)	(0.36)
	[0.096]	[0.187]	[0.629]	[0.276]
Age brackets (ref.: 18-27 years)				
28-37	-0.33	-0.36	-0.34	-0.36
	(0.16)	(0.16)	(0.16)	(0.16)
	[0.034]	[0.023]	[0.029]	[0.023]
38-47	-0.26	-0.30	-0.28	-0.30
	(0.19)	(0.19)	(0.19)	(0.19)
	[0.176]	[0.123]	[0.145]	[0.127]
48-57	-0.08	-0.11	-0.09	-0.11
	(0.23)	(0.23)	(0.23)	(0.23)
	[0.726]	[0.634]	[0.686]	[0.634]
58-	-0.06	-0.07	-0.06	-0.08
	(0.29)	(0.29)	(0.29)	(0.29)
	[0.824]	[0.797]	[0.841]	[0.780]
Children below 17 in household	0.13	0.12	0.12	0.12
	(0.07)	(0.07)	(0.07)	(0.07)
	[0.074]	[0.105]	[0.103]	[0.093]
Currently employed	0.00	-0.00	-0.00	-0.01
	(0.08)	(0.08)	(0.08)	(0.08)
	[0.989]	[0.953]	[0.975]	[0.946]
Work experience: Full time	-0.00	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)
	[0.826]	[0.900]	[0.863]	[0.886]
Work experience: Unemployment	-0.01	-0.00	-0.00	-0.00
	(0.05)	(0.05)	(0.05)	(0.05)
	[0.901]	[0.965]	[0.928]	[0.965]
Currently married	0.04	0.01	0.01	0.02
	(0.14)	(0.14)	(0.14)	(0.14)
	[0.775]	[0.957]	[0.938]	[0.899]
Partner currently employed	0.30	0.29	0.29	0.29
	(0.12)	(0.12)	(0.12)	(0.12)
	[0.011]	[0.013]	[0.014]	[0.012]
Partner work experience: Full time	0.00	0.00	0.00	0.00
	(0.02)	(0.02)	(0.02)	(0.02)
	[0.967]	[0.968]	[0.929]	[0.999]
Partner work experience: Unemployment	-0.01	-0.01	-0.01	-0.01
	(0.05)	(0.05)	(0.05)	(0.05)
	[0.826]	[0.895]	[0.903]	[0.870]
Year (ref.: 2012)				
2002	0.30	0.35	0.35	0.33
	(0.18)	(0.18)	(0.18)	(0.18)
continued	(1)	(2)	(3)	(4)

	B/(SE)/[p]	B/(SE)/[p]	B/(SE)/[p]	B/(SE)/[p]
	[0.090]	[0.050]	[0.049]	[0.064]
2007	0.05	0.07	0.08	0.07
	(0.10)	(0.10)	(0.10)	(0.10)
	[0.600]	[0.453]	[0.445]	[0.501]
2017	0.04	0.02	0.02	0.02
	(0.09)	(0.09)	(0.09)	(0.09)
	[0.665]	[0.867]	[0.858]	[0.792]
Personal labour income, logged	-0.00	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)
	[0.643]	[0.635]	[0.660]	[0.659]
Partner's labour income, logged	-0.01	-0.01	-0.01	-0.01
	(0.02)	(0.02)	(0.02)	(0.02)
	[0.632]	[0.577]	[0.599]	[0.606]
Couple's gross wealth, ranked		0.47		
		(0.18)		
		[0.008]		
Personal gross wealth, ranked			0.53	
			(0.19)	
			[0.006]	
Partner's gross wealth, ranked				0.39
				(0.20)
				[0.050]
Constant	6.92	6.74	6.81	6.73
	(0.51)	(0.52)	(0.52)	(0.52)
	[0.000]	[0.000]	[0.000]	[0.000]
N Observations	5040	5040	5040	5040
N Individuals	2137	2137	2137	2137
Within R²	0.021	0.023	0.023	0.022

Note: Least square individual fixed effects regressions with cluster robust standard errors are estimated.

Table A 2-11 Full Models, Men

	(1) B/(SE)/[p]	(2) B/(SE)/[p]	(3) B/(SE)/[p]	(4) B/(SE)/[p]
Wealth share	0.26	0.10	-0.11	0.01
	(0.41)	(0.41)	(0.44)	(0.42)
	[0.534]	[0.816]	[0.807]	[0.977]
Wealth share, squared	-0.19	-0.05	0.03	0.22
	(0.34)	(0.34)	(0.35)	(0.36)
	[0.576]	[0.883]	[0.938]	[0.541]
Age brackets (ref.: 18-27 years)				
28-37	-0.25	-0.29	-0.29	-0.26
	(0.18)	(0.18)	(0.18)	(0.18)
	[0.157]	[0.102]	[0.108]	[0.140]
38-47	-0.30	-0.36	-0.36	-0.33
	(0.22)	(0.22)	(0.22)	(0.22)
	[0.164]	[0.090]	[0.101]	[0.123]
48-57	-0.23	-0.29	-0.28	-0.26
	(0.25)	(0.25)	(0.25)	(0.25)
	[0.359]	[0.252]	[0.268]	[0.300]
58-	-0.17	-0.21	-0.20	-0.19
	(0.29)	(0.29)	(0.29)	(0.29)
	[0.560]	[0.477]	[0.487]	[0.526]
Children below 17 in household	-0.01	-0.02	-0.01	-0.02
	(0.07)	(0.07)	(0.07)	(0.07)
	[0.923]	[0.792]	[0.840]	[0.795]
Currently employed	0.19	0.17	0.18	0.17
	(0.13)	(0.13)	(0.13)	(0.13)
	[0.151]	[0.178]	[0.169]	[0.184]
Work experience: Full time	-0.02	-0.02	-0.02	-0.02
	(0.03)	(0.03)	(0.03)	(0.03)
	[0.449]	[0.421]	[0.433]	[0.436]
Work experience: Unemployment	-0.05	-0.04	-0.04	-0.04
	(0.06)	(0.06)	(0.06)	(0.06)
	[0.473]	[0.524]	[0.516]	[0.526]
Currently married	0.10	0.07	0.08	0.08
	(0.11)	(0.11)	(0.11)	(0.11)
	[0.371]	[0.510]	[0.460]	[0.487]
Partner currently employed	0.19	0.18	0.18	0.19
	(0.08)	(0.08)	(0.08)	(0.08)
	[0.013]	[0.017]	[0.018]	[0.015]
Partner work experience: Full time	0.01	0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)
	[0.199]	[0.179]	[0.183]	[0.190]
Partner work experience: Unemployment	0.03	0.04	0.04	0.03
	(0.03)	(0.03)	(0.03)	(0.03)
	[0.322]	[0.275]	[0.281]	[0.300]
Year (ref.: 2012)				
2002	0.05	0.09	0.08	0.09
	(0.28)	(0.28)	(0.28)	(0.28)
continued	(1)	(2)	(3)	(4)

	B/(SE)/[p]	B/(SE)/[p]	B/(SE)/[p]	B/(SE)/[p]
	[0.849]	[0.743]	[0.768]	[0.750]
2007	-0.08	-0.07	-0.07	-0.07
	(0.14)	(0.14)	(0.14)	(0.14)
	[0.550]	[0.630]	[0.621]	[0.627]
2017	0.08	0.06	0.06	0.06
	(0.14)	(0.14)	(0.14)	(0.14)
	[0.568]	[0.671]	[0.651]	[0.648]
Personal labour income, logged	0.00	0.00	0.00	0.00
	(0.02)	(0.02)	(0.02)	(0.02)
	[0.855]	[0.901]	[0.877]	[0.869]
Partner's labour income, logged	-0.02	-0.02	-0.02	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)
	[0.092]	[0.090]	[0.098]	[0.097]
Couple's gross wealth, ranked		0.51		
		(0.16)		
		[0.002]		
Personal gross wealth, ranked			0.43	
			(0.19)	
			[0.022]	
Partner's gross wealth, ranked				0.54
				(0.19)
				[0.005]
Constant	7.37	7.26	7.33	7.15
	(0.80)	(0.80)	(0.80)	(0.81)
	[0.000]	[0.000]	[0.000]	[0.000]
N Observations	5035	5035	5035	5035
N Individuals	2136	2136	2136	2136
Within R²	0.014	0.017	0.015	0.016

Note: Least square individual fixed effects regressions with cluster robust standard errors are estimated.

Chapter 3

Distributive Justice in Marriage: Experimental Evidence on Fair Savings Arrangements[*][†]

Joint with Philipp M. Lersch

Abstract

This study examines fairness perceptions of experimentally manipulated savings arrangements in couples (i.e., distribution of control and ownership of monetary savings) to identify distributive justice principles in marriage. Theoretically, competing norms about individual ownership rights (equity principle) and marital sharing (equality principle) in interaction with gender ideology (entitlement principle) may explain how individuals perceive the fairness of different savings arrangements, but these explanations have not been convincingly examined in previous research. In a nationally representative factorial survey experiment, implemented in the German GESIS Panel, 3,948 respondents evaluated the fairness of randomly presented savings arrangements (N = 19,648 evaluations). Respondents rated equal control as more important than equal ownership to establish fairness in marriage. The ownership of savings does not seem to be directly linked to control, providing evidence against the equity principle. Inequality in ownership is rated fairer if it is in favor of the husband, whereas inequality in control is rated fairer if it is in favor of the wife. This suggests that gender is an ascriptive characteristic according to which resources should be allocated (entitlement principle). The results indicate that the ideal of marital sharing is widespread, but the ideal is rather accomplished by equal control than by equal ownership. In addition, the results show that perceptions of inequality in marriage are still gendered.

3.1 Introduction

How valued resources should be distributed is a major question in society in general, but also in the private sphere including marriage. Distributive justice principles morally guide individuals on how to distribute resources. Little is known about which justice principles individuals apply within marriage. Generally following Deutsch (1975), the equity principle (i.e., allocating rewards proportional to inputs) is dominantly applied to enhance productivity, whereas the equality principle (i.e., allocating rewards equally neglecting inputs) is dominantly applied to foster enjoyable relationships and promote harmony. Within marriage, the entitlement principle (i.e., allocating rewards according to gender) may also be an important justice principle (Hülle, Liebig, & May, 2018). For example, individuals may believe in men's greater financial competence and therefore think that it is fair if husbands have the last word in major financial decisions.

Prior research in this area has primarily focused on couples' outcomes of distributive justice processes by studying financial arrangements and the treatment of income in marriage (for a review, see Bennett, 2013). However, studying behaviour can only partially explain which justice principles spouses apply in marriage (Pepin, 2019). For example, observed financial arrangements do not necessarily reveal intentions to share resources (Burgoyne & Sonnenberg, 2009). Having a joint bank account may not indicate that couples apply the equality principle as individual access to the account might be unequal following the equity principle (Elizabeth, 2001). Further, financial arrangements do not always reflect both spouses' norms and attitudes. On the one hand, financial arrangements may not be explicitly negotiated and rather evolve unconsciously for practical reasons and convenience (Addo, 2017). On the other hand, if spouses' norms conflict, the spouse with more financial resources may enforce her or his preferred financial arrangement (Blood & Wolfe, 1960).

In this study we experimentally examine if individuals apply the equality, the equity, or the entitlement principle when rating the fairness of different savings arrangement of fictitious couples. Here, savings arrangements refer to the distribution of control (i.e., who has the final say in important financial decisions) and ownership (i.e., in which name savings are held) of monetary savings between spouses. Revealing justice principles in marriage helps examining the subjective relevance of within-couple inequalities in savings. In addition, we can answer the question if individuals would feel fairly treated under different saving arrangements, which is essential for spouses' well-being and the stability of marriage (Burgoyne & Lewis, 1994).

We focus on savings as an important component of wealth. Whereas earnings are flows of money, which can be clearly ascribed to each spouse, wealth is a stock of assets, where

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sources are more diffuse. Therefore, distributing control and ownership of wealth likely involves more ambiguous fairness considerations than distributing income.

By studying savings, we can address an empirical puzzle regarding substantial within-couple wealth inequalities in Germany. Whereas the formal ownership of wealth is unequally distributed, informal control of finances is more equally distributed between opposite-sex partners in Germany. For instance, women own about €33,000 less personal wealth than men in married and cohabiting couples (Grabka, Marcus, & Sierminska, 2015). However, in over 80% of the couples, respondents indicate that the partners share the last word in important financial decisions (Lott, 2009). This discrepancy may be explained by individuals prioritizing equal control over equal ownership.

Our study contributes in several ways to the literatures on distributive justice and on money in marriage. The overarching aim of this study is to identify distributive justice principles in marriage. First, we aim to address the question whether equality or equity is the dominant justice principle in marriage. Prior research showed experimental evidence that individuals apply both the equity and the equality principle when evaluating the fairness of housework and income allocations within couples (Auspurg, Iacovou, & Nicoletti, 2017; Burgoyne & Routh, 2001; Pepin, 2019). We test if individuals apply those two principles also when distributing the control and ownership of savings and ask if equity and equality are two equally relevant justice principles in marriage. Further, as prior research found mixed results regarding the question if men are more likely to apply the equity and women the equality principle (Auspurg et al., 2017; Burgoyne & Lewis, 1994), we exploratively examine differences in justice evaluations of male and female respondents.

Second, by considering entitlement as an additional justice principle and by testing if gender is a characteristic according to which resources should be distributed, we aim to contribute to the literature on gendered money in couples (Bennett, 2013). Prior research showed that gendered inequalities in power over money within couples exist (Vogler & Pahl, 1994). Whereas wives have been more likely to manage money, i.e., organize money and make ends meet, husbands have been more likely to control money, i.e., make major financial decisions (Vogler, Lyonette, & Wiggins, 2008). However, the reasons why wives have less power over money than husbands have yet to be investigated in detail. We contribute to this literature by asking if individuals perceive the fairness of inequalities in control and ownership in favor of the husband differently than inequalities in favor of the wife.

Last, we aim to respond to the question of how couples reconcile the competing norms of autonomy and sharing in marriage (Bennett, 2013). For example, whereas the norm of

autonomy may be fulfilled by having separate savings accounts, the norm of sharing may be met by having an equal say in major financial decisions. Prior experimental research showed that equality is an important ideal in marriage (Burgoyne & Routh, 2001; Pepin, 2019). However, little is known about how individuals would like to establish equality and what marital sharing comprises (Elizabeth, 2001). Equality can be established by pooling financial resources, but also by sharing control over financial resources. We test if sharing control is more important for fairness than sharing ownership. Further, we quantitatively examine if having separate savings accounts but equal control could be one option to reconcile autonomy and sharing.

We use data from a factorial survey experiment, which was implemented for this study in a nationally representative panel survey in Germany (GESIS Panel, https://doi.org/10.4232/1.13245). Each respondent received five different vignettes, which are descriptions of fictitious situations of a couple, and respondents were asked to evaluate the fairness of the described situations. The vignettes varied in the degrees of inequality in control and ownership of savings. We can clearly identify how single characteristics of a hypothetical couple affect fairness evaluations because these characteristics are randomly presented to respondents. This can be achieved by comparing the fairness evaluations of different vignettes, which include different combinations of couple's characteristics. The main advantage of the factorial survey approach is to overcome the empirical confoundedness of ownership and control over savings with different individual characteristics such as gender, which is the central limitation of prior observational studies.

3.2 Background

Early qualitative literature on money in marriage focused on establishing a typology to categorize couples' financial management and control, differentiating between the whole wage, allowance, shared management, and independent management system (e.g., Pahl, 1983; Vogler & Pahl, 1994). To operationalize Pahl's (1983) typology in quantitative surveys, Pahl (1990) suggested to use two criteria to create a classification of couple's financial arrangements, namely if the couple pools their money and who "really" controls the money. On the basis of these two criteria, Kenney (2006) identified six systems of financial arrangements: separate money, women's control; separate money, men's control; separate money, equal control; pooled money, women's control; pooled money, men 's control; pooled money, equal control.

More recent studies refined and tested these typologies in different countries and over time, and tried to find couples' characteristics which explain couples' choices of financial arrangements (e.g., Coelho, 2014; Knudsen & Wærness, 2009; Lott, 2017). This research shows

that the majority of married couples pool their money but men are more likely than women to have control over money independent of the couple's pooling mode (Kenney, 2006; Lauer & Yodanis, 2011; Vogler et al., 2008). Further, when women have the necessary resources they seem to prefer financial autonomy by separating income and have the highest probability to have at least equal control (Kenney, 2006; Lott, 2017; Vogler et al., 2008). There seems to be a general trend towards more separateness in couples' finances involving the risk that men have control over more money than their female partner due to, on average, lower earnings of women (Knudsen & Wærness, 2009). However, even if no money is pooled, personal money might be used to provide the partner with an economic buffer and some degree of control might be granted to the partner (Evertsson & Nyman, 2014).

The starting point of our study are Pahl's (1990) two criteria to classify couple's financial arrangements, but we focus on savings instead of income. We label the two criteria ownership and control. Ownership is concerned only with the legal ownership of savings, i.e., in whose name savings are held. Spouses may have separate savings accounts, joint accounts, or both. Control relates to which partner has the final say in major financial decisions (Pahl, 1983). Control has to be distinguished from money management, which refers to organizing money and making ends meet on a day to day basis (Vogler et al., 2008).

The German Context

The meaning and relevance of inequalities in ownership and control over savings may depend on the social context. Because we use representative data from Germany, we briefly describe three aspects of the German context which are most relevant to contextualize ownership and control over savings. First, private savings are relatively common in Germany. The average household saving rate in 2018 was about 11 percent in Germany and is among the highest rates in OECD countries (e.g., 7 percent in the United States in 2017) (OECD, 2020). The high saving rate in Germany is explained with underdeveloped credit markets and strict mortgage regulations which necessitate private savings. In addition, tax incentives and public subsidies encourage saving (Börsch-Supan, Reil-Held, & Schnabel, 2003).

Second, the default marital property regime in Germany is separation of property (similar to most states in the United States) with community of accrued gains at divorce. In other words, within marriage both spouses remain the owners of their complete personal wealth including wealth that they accumulate during marriage. Their individual control is only limited in cases of very significant financial decisions and in cases which pertain to the joint household, e.g., concerning the marital home. At divorce, the wealth gained during marriage (except for inheritances) is equally divided between both partners. Spouses can opt out of this default

regime with a marital contract, but it is unclear how many couples choose alternative property regimes (Dutta, 2012; Tammen, 2007).

Third, Germany used to be classified as a strong male breadwinner society with a prevalent traditional gender ideology (Cooke & Baxter, 2010; Treas & Widmer, 2000). In recent decades, more egalitarian gender ideologies have spread (Grunow, Begall, & Buchler, 2018). In addition, welfare reforms such as the parental leave reform of 2007 with two additional months of paid leave if each parent takes at least 2 months of leave shifted the gendered division of labor towards a modified breadwinner model with 1.5 earners. Still clear gender inequalities in the labor market persist with women remaining the main care givers (Trappe, Pollmann-Schult, & Schmitt, 2015).

To derive our hypotheses about fairness evaluations of couples' savings arrangements, we combine the literature on money in marriage with the literature on distributive justice in marriage considering the German context. Distributive justice theory addresses the fairness in the distribution of goods, such as ownership and control over savings. We test which justice principles (equality, equity, and entitlement) individuals apply when evaluating the fairness of different saving arrangements.

Equality Principle

Equality refers to allocating resources equally neglecting inputs (Deutsch, 1975). In many modern societies, intimate relationships are perceived as "partnerships between equals, based on love, sharing and equality, in which all resources are shared equally, regardless of who contributes what to the household" (Vogler, 2005, p. 3). Particularly, this applies to marriage. In qualitative studies, participants reveal a rhetoric of sharing and equality, which shows that the norm of marital sharing is widespread (e.g., Burgoyne & Lewis, 1994; Elizabeth, 2001). If individuals have internalized the norm of sharing, they would apply the equality principle. Because the output of equality is not tied to any individual inputs, we expect that both equal ownership and equal control are rated fairer than unequal ownership and unequal control. In this study, we define equal ownership as a couple having a joint savings account, where both spouses legally own an equal share of the savings.

> H1: Individuals judge situations fairer in which partners own equal savings (joint account) compared to unequal savings, adjusted for control.
> H2: Individuals judge situations fairer if both partners jointly control savings compared to only one partner controlling savings, adjusted for ownership.

Prior research showed that individuals apply the equality principle when allocating money or housework within couples (Auspurg et al., 2017; Burgoyne & Routh, 2001; Pepin, 2019). However, it is unclear what individuals mean by equal sharing of money (Elizabeth, 2001). If individuals have the equality principle in mind, do they seek for equality in ownership of money or for equality in control over finances or both? To establish equality in marriage, having equal control over savings might be more important than having a joint bank account because control relates more to power than ownership of joint resources. Even when couples pool their money or when both partner work, women have been found to have on average less economic power than their partners (Kenney, 2006). To put it differently, "neither mere work in economic activities nor even ownership of economic resources is enough if the person doesn't control them" (Blumberg, 1988, p. 54). Whereas a joint account does not guarantee equal informal rights to access money and to decide how to spend it (Burgoyne, 1990), having control over savings enables partners to enjoy these benefits. For example, a non-working partner might not feel entitled to spend the savings although jointly held. Thus, hidden economic inequalities may arise (Burgoyne, 1990). However, if partners equally control the savings although the account is held in only one name, both partners may benefit from this account. For example, a couple may always jointly decide over major financial issues. Thus, we expect equality of control to be more important for fairness judgments than equality of ownership.

> H3: The control dimension is more important for fairness judgments than the ownership dimension.

Within-couple inequality in the ownership of savings may emerge deliberately or unconsciously, but couples may feel uncomfortable with unequal ownership in both ways as it conflicts with the norm of marital sharing. In contrast, there is a debate on the trend towards individualization of marriage (Yodanis & Lauer, 2014) and prior experimental research showed that individuals endorse some economic autonomy also for married couples (Pepin, 2019). Thus, modern couples have to reconcile the tensions between the norm of marital sharing and the desire for financial autonomy. In a qualitative study, Evertsson and Nyman (2014, p. 78) found that "couples desired equality while attempting to maintain economic autonomy". They interviewed couples, which did not pool their money at all, and found that although both partners had full control over their personal money in theory, they granted some degree of control to their partners. Thus, one way how couples could reconcile the competing norms of sharing and autonomy is to keep separate accounts but share control, i.e., make major decisions together. Spouses may compensate inequality in the ownership of savings by sharing control

over savings to establish equality. We therefore expect that inequality in ownership is rated fairer if control is equal compared to unequal control.

> H4: Unequal ownership is judged fairer if both partners control the savings than if only one partner controls the savings.

Equity Principle

Qualitative research showed that although the norm of marital sharing is widespread and the interviewed couples often aim to realize the ideal of equal sharing, in practice this was not always achieved (Burgoyne & Lewis, 1994). Instead, perceived ownership of joint money is often based on partners' contributions, leading to (hidden) inequalities in accessing money (Burgoyne, 1990). In particular, the interplay of ownership and control may evoke equity considerations. Equity refers to allocating rewards proportional to inputs of different kind, such as contributions or efforts (Deutsch, 1975). Individuals may consider ownership as a valid input factor for the allocation of control. Therefore, they may think that owning more savings should go along with the right to control savings (Burgoyne & Lewis, 1994). Burgoyne (1990), for example, found that partners often only feel entitled to control household money if they have contributed to it. Therefore, we expect individuals to apply the equity principle.

> H5: Individuals judge situations fairer in which the partner who owns more savings, also controls the savings than situations in which the other partner controls.

As prior research discussed if men are more likely to apply the equity principle than women (Auspurg et al., 2017; Burgoyne & Lewis, 1994), we exploratively examine if male respondents are more likely than female respondents to apply the equity principle.

Entitlement Principle

Traditional gender ideology, i.e., individuals' support for a gendered division of labor, might affect fairness evaluations of couples' savings arrangements via the entitlement principle. This principle refers to allocating rewards according to gender or other ascribed status characteristics (Hülle et al., 2018). As mentioned above, despite a trend towards more egalitarian gender ideologies, a modified breadwinner model with 1.5 earners persists in large parts of the German population. Individuals with a rather traditional gender ideology may believe that men have a greater financial competence than women and that it is the role of the husband to be the main financial provider of the family. Nyman (2003, p. 92) termed this idea as "men's 'natural' right to money". The male breadwinner model implicitly induces the normative expectation that the male partner should have control over savings as he is

responsible for the financial well-being of the family. In terms of the doing gender approach (West & Zimmerman, 1987), men do gender by owning and controlling savings. Women do gender by managing money and in particularly making ends meet. In contrast to control, money management is often perceived as part of housework (Vogler et al., 2008; Yodanis & Lauer, 2007). This implies that money and therefore economic inequality is not gender-neutral. Therefore, we expect respondents to believe in men's entitlement to own and control savings.

> H6: Unequal ownership is judged fairer if the husband owns more savings compared to the wife, adjusted for control.
> H7: Unequal control is judged fairer if the husband has more control compared to the wife, adjusted for ownership.

Prior research found mixed evidence for gendered distributive justice in marriage. Gager and Hohmann-Marriott (2006) found that especially husbands' fairness evaluations of housework are based on the traditional gender-based division of labor. In contrast, Auspurg et al. (2017) found little evidence for beliefs that gender is a characteristic according to which housework should be allocated. Regarding money, Pepin (2019) showed that respondents in the United States believe in gendered distributive justice. In her survey experiment, different vignettes were presented to respondents describing different hypothetical couples. Each respondent received one vignette and was asked to allocate the personal earnings of the couple to individual accounts and a shared account. Among others, the vignettes varied in the levels of both partners' earnings. In vignettes in which the woman was framed as the primary earner respondents allocated more money to her personal account compared to money on his personal account when the man was framed as the primary earner.

3.3   Method

Data

To test the hypotheses, we use the GESIS Panel (Version 29.0.0) (Bosnjak et al., 2018), a bimonthly probability-based mixed-mode access panel in Germany. That is, the GESIS Panel is accessible for academic researchers to field primary studies by passing through a peer review procedure. The reference population for the probability-based sample is the German-speaking population aged between 18 and 70 years permanently residing in Germany. To ensure representativeness also among non-Internet users, the GESIS Panel offers two participation modes. About two third of the respondents participate online (web-based), one third participate offline by mail.

Our factorial survey experiment on fairness perceptions of couples' savings arrangement was implemented in Wave fd 2018. 3948 respondents of 3992 respondents of this wave have

participated in the factorial survey experiment. 98% of the 3948 respondents who started the factorial survey rated all presented vignettes. Because each respondent was asked to rate five vignettes, our analyses are based on 19,648 vignette evaluations, which are our units of analysis. There are 51 percent women in our sample. The average age of respondents is 53 years. We include both partnered and single respondents because we are interested in the general population's beliefs about fairness in couples. 63 percent of the respondents are married. For further details see Table A 3-2 in the Appendix.

Factorial Survey Design

Factorial surveys are used to gain deeper insights into respondents' judgment principles by comparing the influence of different stimuli on the outcome of interest. In our factorial survey, each respondent received five vignettes each describing a fictitious couple. These vignettes vary randomly on couple's savings arrangement. It was the respondents' task to evaluate the fairness of the five hypothetical situations. We employed a 3x3 design, resulting in nine different vignettes. Thus, we had two dimensions (ownership and control) with each three levels (inequality in favor of wife, inequality in favor of husband, and equality). One of these vignettes is shown here (varying part in italics):

> Imagine a married couple, woman and man, both at the same age. They have been living together in a rented flat for 5 years and are childless. Both work full-time and they share the housework. Both put some of their monthly incomes aside to save for major purchases or rainy days.
> *They have €20.000 on a joint savings account and no individual savings accounts. Mainly the woman decides when and for what the whole savings are spent.*
> How fair is this situation?

The first part of the vignette describes the vignette couple. This description stayed constant across the nine vignettes. The description is important to ensure that respondents think about the same scenario such that further characteristics, which individuals might associate with the hypothetical couple (e.g., different work effort of the spouses), cannot bias the analyses. By stating that both vignette partners work full-time, share the housework equally, are at the same age, and are married we hold important factors for fairness considerations constant. That means, we cannot generalize our findings to beliefs about fairness in couples deviating from these characteristics, for example, cohabiting couples. We deliberately left open the question of how the inequality in the ownership of savings has emerged (e.g., differences in income, in bequests, or in savings behavior between the spouses). The second part of the vignette includes the experimental manipulations, which are further explained in the measurement section.

To reduce methodological issues that could bias our estimates (e.g., order/carryover, learning, ceiling, and fatigue effects as well as censoring of responses), we took the following steps. To avoid fatigue effects we did not present all nine vignettes to all respondents. Instead, we built two decks including each five vignettes with a deliberate blocking technique (%MktEx Macro in SAS 9.4) to maximize orthogonality (dimensions do not correlate) and level balance (each level occurs with equal frequency) within each deck (Auspurg & Hinz, 2015, p. 39). Thereby, a most efficient design can be accomplished.

To control for differences in referent points between groups we used one anchoring vignette, i.e., each respondent received the same vignette as the first vignette. Thus, only the remaining eight vignettes were assigned to the two decks. The anchoring vignette should be the baseline category of both dimensions to ensure statistical independence between vignette dimensions. We used equality in both dimensions as an anchor because this vignette makes it easier for respondents to judge the fairness of more unequal situations. Further, using this anchor vignette reduces ceiling effects because we expect respondents to rate this vignette as the fairest situation. To reduce order effects, we reversed the order of the four vignettes per deck, resulting in four experimental groups, each containing five vignettes (see Table A 3-4 in the Appendix). Finally, respondents could re-evaluate their answers to reduce ceiling effects. That is, by allowing re-evaluations we guarantee that the measuring range was not exceeded and respondents could rate each vignette in comparison to the other vignettes. The questionnaire was pretested qualitatively (N = 5) and quantitatively (N = 132, convenience sample).

Factorial surveys are most efficient if the design is both orthogonal and balanced (Auspurg & Hinz, 2015). As we used one anchoring vignette, we do not have a balanced design. The equal control and joint ownership levels are oversampled. However, the two dimensions are almost orthogonal and are correlated only marginally (r = 0.05, p < .001, see Table A 3-1 in the Appendix). Most importantly for the vignette experiment to work, the four different survey versions were randomly assigned to respondents. There are no significant correlations between the two dimensions of the vignettes' and the respondents' characteristics (see Table A 3-1 in the Appendix). Further, each experimental group includes roughly the same number of respondents (see Table A 3-4 in the Appendix).

Measurements

For our analyses we use respondents' perceived fairness of the described situation as the dependent variable, which ranges from 0 (*very unfair*) to 10 (*very fair*). Figure 3-1 shows the histograms of the dependent variable for the whole sample and for a reduced sample with level balance. To generate the reduced sample, we randomly dropped half of the first vignette

evaluations. Because each respondent first received the anchoring vignette (joint ownership and equal control), this vignette is oversampled in the original sample. The anchor vignette is the vignette, which is rated on average as the fairest, explaining the higher percentage of the value 10 (*very fair*) in the whole sample.

Figure 3-1 Histogram of Vignette Evaluations
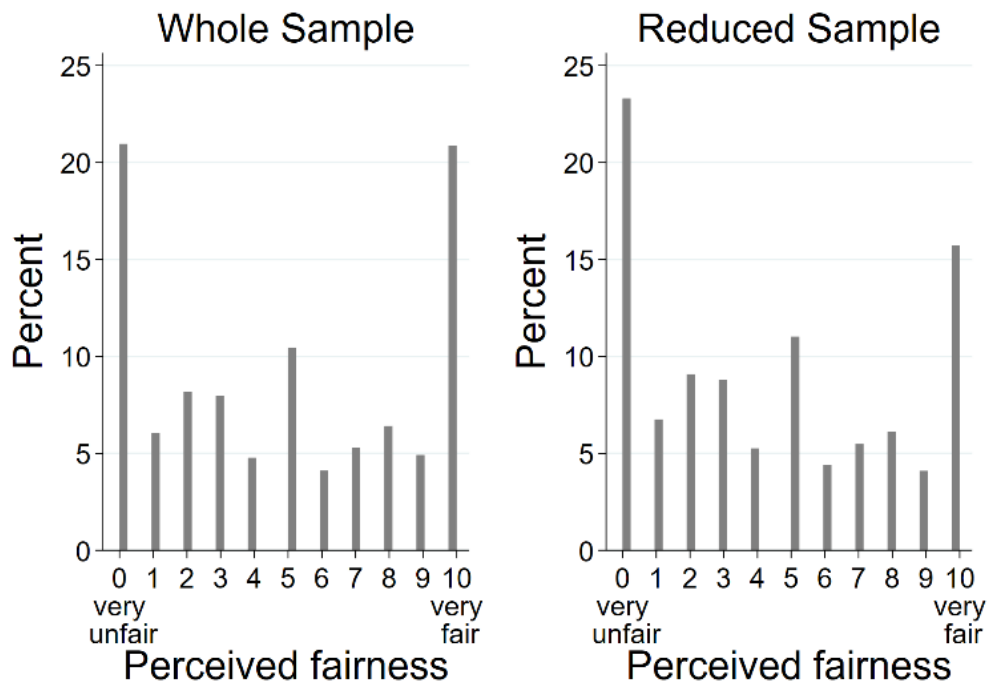
Note: N = 19,648 vignette evaluations in whole sample, N = 17,643 in reduced sample.

Our predictor variables are ownership and control, both with three levels. The ownership dimension comprises the levels: 1) joint ownership, 2) unequal ownership in favor of the wife, and 3) unequal ownership in favor of the husband. The control dimension comprises the following levels: 1) equal control, 2) wife mainly controls, and 3) husband mainly controls (see Table 3-1). For the control dimension, we focus on major instead of minor decision-making because we want respondents to think about who should control the savings and not only about who should have access to savings. In addition, we use the interaction terms of ownership and control to explain fairness evaluations. As the respondents were randomly assigned to vignettes, respondents' characteristics do not have to be included in the statistical models (Mutz, 2011).

Table 3-1 Vignette Dimensions and Levels

Dimensions	Levels
Ownership	(1) Joint ownership: They have €20.000 on a joint savings account and no individual savings accounts.
	(2) Wife owns more: The wife has got 15.000 € on her savings account, the husband has got 5.000 € on his savings account.
	(3) Husband owns more: The wife has got 5.000 € on her savings account, the husband has got 15.000 € on his savings account.
Control	(1) Equal control: They both decide equally when and for what the whole savings are spent.
	(2) Wife controls: Mainly the woman decides when and for what the whole savings are spent.
	(3) Husband controls: Mainly the man decides when and for what the whole savings are spent.

Analytical Approach

We preregistered our hypotheses at the Open Science Framework (OSF) (https://osf.io/6ued4). To test the hypotheses, we estimate ordinary least squares (OLS) regressions. As respondents evaluated up to five different vignettes and, thus, the single judgments are the unit of analysis, we adjust standard errors for clustering within respondents. We will first show the results of the regression graphically and then test the hypotheses with additional F-tests using predicted margins.
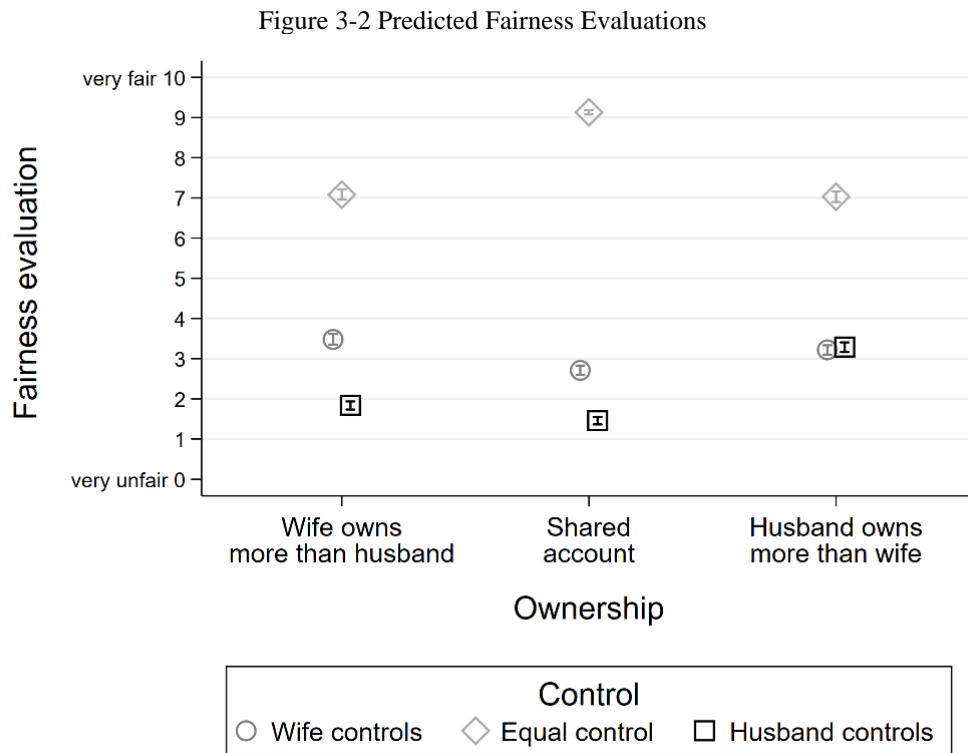
3.4   Results

Graphical Presentation of Regression Results

We start with a graphical presentation of the OLS regression results in Figure 3-2. Predicted fairness evaluations are depicted on the y-axis. The x-axis comprises the ownership dimension with its three levels. The markers comprise the control dimension. The circles depict situations in which the wife controls, the diamonds situations in which both spouses jointly control, and the squares situations in which the husband controls. Respondents rated situations in which both spouses equally control the savings fairest. For example, if the wife owns more savings than the husband and both control equally, respondents rated this situation as 7.08 on a fairness scale from 0 (*very unfair*) to 10 (*very fair*) with a standard deviation of 3.78. Coefficients were precisely estimated and confidence intervals were narrow.

Hypotheses Tests

The hypotheses were tested by comparing predicted margins (see Table 3-2 for hypotheses tests and Table 3-3 for regression results). H1 states that equal ownership is rated fairer than unequal ownership. We found support for this hypothesis. Having a joint account was rated on average as 4.9 on the fairness scale, adjusted for control. The level of fairness was

rated significantly lower when the wife owns more (difference = 0.47, p < 0.001) and when the husband owns more (difference = 0.14, p < 0.001), adjusted for control. Thus, joint ownership was rated less than one fairness point fairer than unequal ownership.

Figure 3-2 Predicted Fairness Evaluations

Note: N =19,648 vignette evaluations, 95% confidence intervals. Full results in Table 3-3.

H2 states that equal control is rated fairer than unequal control. We also found support for this hypothesis. Figure 3-2 clearly shows that equal control was rated fairer than unequal control. Having equal control was rated on average as 7.89 on the fairness scale, adjusted for ownership. The level of fairness was rated significantly lower when the wife controls (difference = 4.79, p < 0.001) and when the husband controls (difference = 5.77, p < 0.001), adjusted for ownership. Thus, equal control was rated roughly 5 to 6 fairness points fairer than unequal control.

H3 states that the control dimension is more important for fairness evaluations than the ownership dimension. We found support for this hypothesis. We tested H3 by examining the differences between the main effects of ownership and the main effects of control. Thus, we tested if the coefficients belonging to the control dimension are significantly larger than the coefficients belonging to the ownership dimension. A joint F-test indicated that the effects of unequal control in favor of the wife or in favor of the husband are larger than the effects of unequal ownership in favor of the wife or in favor of the husband (F[2, 3947] = 3542.88, p < 0.001).

H4 states that unequal ownership is rated fairer if control is equally distributed compared to unequal control. In other words, equal control can compensate unequal ownership. We found support for this hypothesis. Figure 3-2 clearly shows that unequal ownership (both in favor of the wife and the husband) was rated fairer if control is equally distributed. A joint F−test indicated that the differences between equal control and unequal control (both in favor of the wife and the husband) for both unequal ownership categories were significantly different from zero (F[4, 3947] = 1539.61, p < 0.001).

Table 3-2 Hypotheses Tests with Predictive Margins

Hypo.	Difference	Test statistic
H1	Joint account (4.90) – W owns (4.43)	0.47***
	Joint account (4.90) – H owns (4.76)	0.33***
H2	Equal control (7.89) – W controls (3.09)	4.79***
	Equal control (7.89) – H controls (2.12)	5.77***
H3	Equal control vs. W controls (4.79) – Joint account vs. W owns (0.47)	4.32***
	Equal control vs. H controls (5.77) – Joint account vs. H owns (0.33)	5.44***
H4	W owns & Equal control (7.08) – W owns & H controls (1.84)	5.25***
	W owns & Equal control (7.08) – W owns & W controls (3.48)	3.60***
	H owns & Equal control (7.03) – H owns & W controls (3.22)	3.81***
	H owns & Equal control (7.03) – H owns & H controls (3.29)	3.74***
H5	W owns & W controls (3.48) – W owns & H controls (1.84)	1.65***
	H owns & H controls (3.29) – H owns & W controls (3.22)	0.07
H6	H owns (4.76) – W owns (4.43)	0.33***
H7	W controls (3.09) – H controls (2.12)	0.98***

Note: N =19648 vignette evaluations. W = Wife, H = Husband. The table shows F-tests of differences between predictive margins presented in Figure 3-2 and Table A 3-3 in the Appendix. Predictive margins in parentheses. *p < .05. **p < .01. ***p < .001.

H5 states that the one who owns more should also control the savings, thus, testing the equity principle. We found conflicting support for this hypothesis. When the wife owns more than her husband, respondents indicated it is fairer if she also controls the savings compared to her husband controlling (difference = 1.65, p < 0.001). But when the husband owns more than the wife, we did not find a significant difference in fairness evaluation between husband controls and wife controls (difference = 0.07, p = 0.196).

With hypotheses H6 and H7 we tested the entitlement principle. H6 states that respondents believe in husband's entitlement to own more savings than the wife. We found support for this hypothesis. Adjusted for control, respondents evaluated unequal ownership in favor of the husband fairer than unequal ownership in favor of the wife. However, the difference was substantially very small (difference = 0.33, p < 0.001).

Last, H7 states that respondents believe in husband's entitlement to control more savings than the wife. We found no support for this hypothesis. Rather, results indicated that adjusted

for ownership, respondents evaluated unequal control in favor of the wife fairer than unequal control in favor of the husband (squares below circles in Figure 3-2). Here, the difference between her controlling and him controlling (adjusted for ownership) was significant and close to 1 fairness point (difference = 0.98, $p < 0.001$). This result indicated that respondents believed rather in wives' entitlement to control.

Table 3-3 Results of OLS Regression

Variable	All B (SE)	Female B (SE)	Male B (SE)	Difference Female - Male
Wife owns more	-2.05*** (0.06)	-2.04*** (0.09)	-2.05*** (0.09)	n.s.
Husband owns more	-2.10*** (0.07)	-2.05*** (0.10)	-2.15*** (0.10)	n.s.
Wife controls	-6.42*** (0.07)	-6.53*** (0.09)	-6.30*** (0.10)	n.s.
Husband controls	-7.67*** (0.06)	-8.02*** (0.08)	-7.33*** (0.09)	***
Wife owns more × Wife controls	2.82*** (0.11)	2.82*** (0.16)	2.81*** (0.16)	n.s.
Wife owns more × Husband controls	2.42*** (0.08)	2.49*** (0.11)	2.36*** (0.11)	n.s.
Husband owns more × Wife controls	2.60*** (0.08)	2.61*** (0.12)	2.59*** (0.12)	n.s.
Husband owns more × Husband controls	3.93*** (0.10)	4.04*** (0.14)	3.83*** (0.15)	n.s.
Constant	9.13*** (0.03)	9.17*** (0.04)	9.09*** (0.04)	
N	19648	9950	9698	
AIC	91781	46302	45435	

Note: Reference categories: equal control; joint account. *$p < .05$. **$p < .01$. ***$p < .001$.

Gender Differences

Female respondents differed little from male respondents in their fairness evaluations. Table 3-3 shows regressions results separately for female and male respondents. We conducted two separate regressions and tested all seven hypotheses in each subsample. There was only one difference in the hypotheses tests. For the male sample, we found support for the equity principle (H5), but for the female sample we did not find support. Male respondents indicated that if the wife owns more than her husband it is fairer if she controls the savings than he controlling (1.48, $p < 0.001$) and if the husband owns more it is fairer if he controls instead of her (0.21, $p < 0.01$). Female respondents also indicated that if the wife owns more than her husband it is fairer if she controls compared to him controlling (1.82, $p < 0.001$). However, in the female subsample we did not find a significant difference in fairness evaluation between husband controls and wife controls when unequal ownership is in favor of the husband (-0.06, $p = 0.475$), just like in the total sample. This suggested that men in contrast to women were more likely to apply the equity principle.

We further checked if this finding is caused by the fact that empirically men on average own more financial savings than their partner. That is, men may be more likely to apply the equity principle because empirically their financial contribution to the household may be greater (Cook & Hegtvedt, 1983). Considering only respondents who live together with their partners and controlling for respondent's actual within-couple wealth distribution (respondent owns more, respondent's partner owns more, and respondent owns as much as respondent's partner) interacted with the vignette dimensions, we no longer found evidence that male respondents apply the equity principle (p = 0.133, detailed results available upon request). Further, we found evidence for the equity principle only for respondents who own more savings than their partner (p = 0.000, detailed results available upon request). For respondents who own less or equal savings compared to their partner, we found no evidence for the equity principle. Thus, it seems that gender differences in the equity principle can be explained by respondents' characteristics such as their own financial contributions.

Supplementary Analyses

With supplementary analyses we tested the robustness of the findings and the validity of the survey experiment. In the following, we discuss (1) if the sample indeed constitutes a valid random experiment, and if (2) satisficing by respondents (i.e., respondents attempt to minimize cognitive effort), (3) specifications, and (4) the order of vignettes biased the results.

Independence between vignette dimensions and respondents' characteristics. For a valid experiment, vignettes must be randomly assigned to respondents. Thus, vignette dimensions should be uncorrelated with respondents' characteristics. Respondents were randomly assigned to the experimental groups. Due to nonresponse, however, vignette dimensions might be correlated with respondents' characteristics in the final sample. That is, some respondent's characteristics might lead to nonresponse on specific vignette evaluations. To check if vignette dimensions are uncorrelated with unobserved characteristics, we compared coefficients of a random effects and a fixed effects model (Auspurg et al., 2017). A cluster-robust version of Hausman's specification test, which allows for potential correlation in the errors within respondents, indicated that the coefficients do not differ significantly ($\chi^2[8] = 9.57$, p = 0.30, rhausman ado in Stata (Kaiser, 2015)), suggesting that the vignette dimensions are uncorrelated with unobserved respondents' characteristics.

Satisficing. Another threat to validity is satisficing, that is, respondents attempt to minimize their cognitive effort (Oppenheimer, Meyvis, & Davidenko, 2009). For example, respondents did not read the different vignettes or did not think about the vignettes before evaluating the

fairness. Vignette evaluations would then not reflect respondents' true opinion, increasing noise and decreasing validity. Hints for satisficing behavior are that respondents (1) do not rate all five vignettes, (2) rate all five vignettes equally, and (3) indicate that they find the task of evaluating the vignettes difficult. Excluding respondents, (1) who did not evaluate all five vignettes (N = 19,370 remaining observations), (2) who indicated the same fairness evaluation in all five vignettes (N = 19,163 remaining observations), or (3) who indicated that the task was difficult or very difficult (N = 18,354 remaining observations), did not change the results. For the latter, after the vignette evaluations, respondents were asked how difficult it was to rate the vignettes. Figure 3-3 shows that in all three additional models there are hardly differences to the main model, suggesting that there was no issue of fatigue or satisficing in the sample. However, we cannot completely rule out that respondents might have minimized their cognitive effort by answering according to social desirability rather than their true opinions, a problem which is inevitable in most studies of attitudes.

Figure 3-3 Robustness Checks: Satisficing
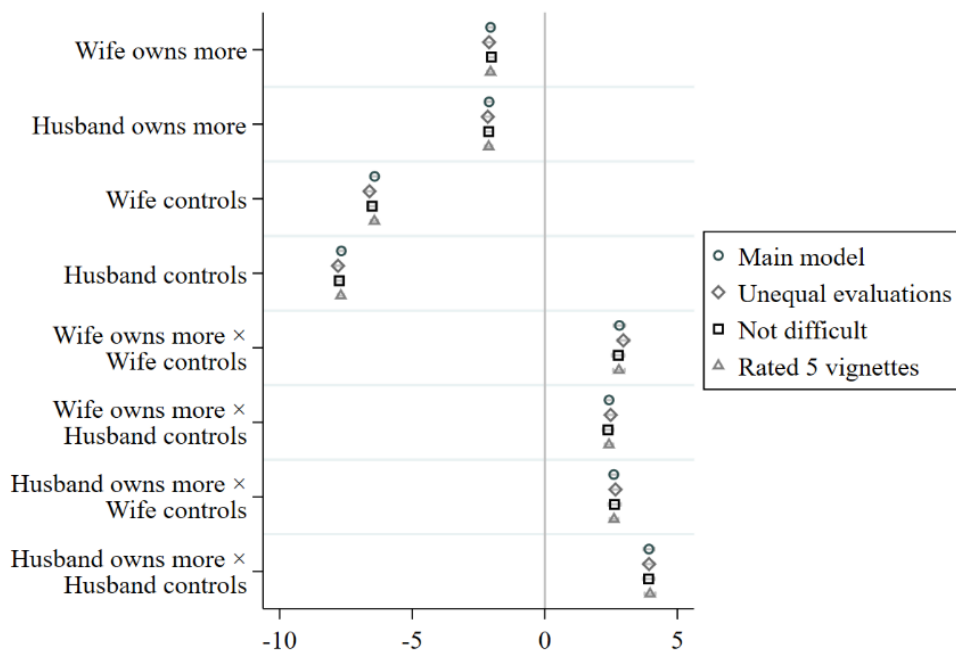
Note: Regression coefficients are shown. N =19,648 vignette evaluations (Main model), N = 19,163 (Unequal evaluations), N = 18,354 (Not difficult), N = 19,370 (Rated 5 vignettes). 95% confidence intervals.

Model specifications. To test if model specifications affect the findings, we replicated the main model (OLS with cluster robust standard errors) using a multilevel model, which did not lead to a change in the coefficients or standard errors (see Figure 3-4). To check if the unbalanced vignettes (oversample of anchoring vignette) affected results, we randomly split the

sample in half, using the anchoring vignette only for half of the sample to reach level balance. Figure 3-4 shows that the coefficients did not change much. As the vignette evaluations might not be linear, i.e., the differences between two fairness points may not be equal across the whole range, we performed an ordered probit regression as a sensitivity analysis. Figure 3-4 shows that all coefficients were significant in the same direction as in the main model.

Figure 3-4 Robustness Checks: Model Specification
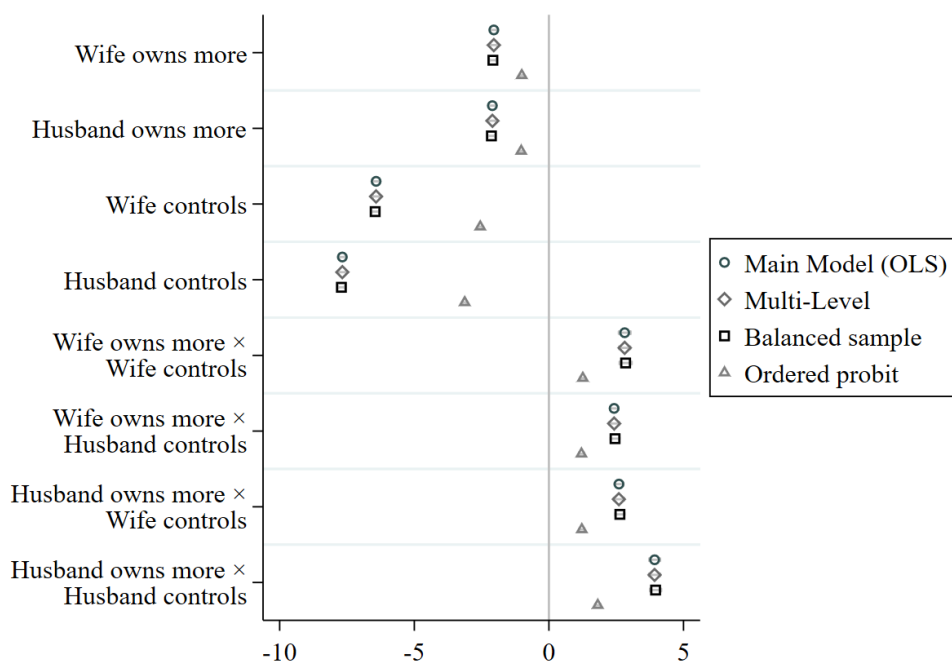
Note: Regression coefficients are shown. N = 19,648 vignette evaluations (Main model, Multi-Level, Ordered probit), N = 17,643 (Balanced sample). 95% confidence intervals.

Order effects. Last, we checked if the order of the vignettes affects fairness evaluation. Indeed, we found evidence for this phenomenon. Because we split the sample in four experimental groups, with two groups each having the same set of vignettes but in reverse order, we could perform separate regressions with each of the two experimental groups. Figure 3-5 indicates that the coefficients changed slightly in comparison to the main model. We run the additional hypotheses test in the same manner as before (see Table 3-2) and found differences to the main model only regarding Hypotheses H5 and H6. First, in the subsample with experimental groups 1 and 2 we found support for the equity principle (H5) ($p = 0.047$). Second, in the subsample with experimental groups 3 and 4 we did not find support for men's entitlement to own more savings ($p = 0.090$).

Another test for order effects is to include only the first three vignettes per respondents. By doing this, the dataset again included all vignette dimensions as each deck is reversely ordered once. The results of the hypotheses tests changed only regarding one hypothesis

compared to the main model. We no longer found support for H1 (equal ownership is rated fairer than unequal ownership). In fact, in this subsample on average respondents rated unequal ownership in favor of the husband about 0.14 fairness points fairer than equal ownership ($p = 0.01$). As respondents were randomly assigned to experimental groups, the results indicated that the order of the vignette matters for fairness evaluations. We rely on the analyses with the full sample because using all four experimental groups and all vignette evaluations will partly neutralize order effects.

Figure 3-5 Robustness Checks: Order Effects
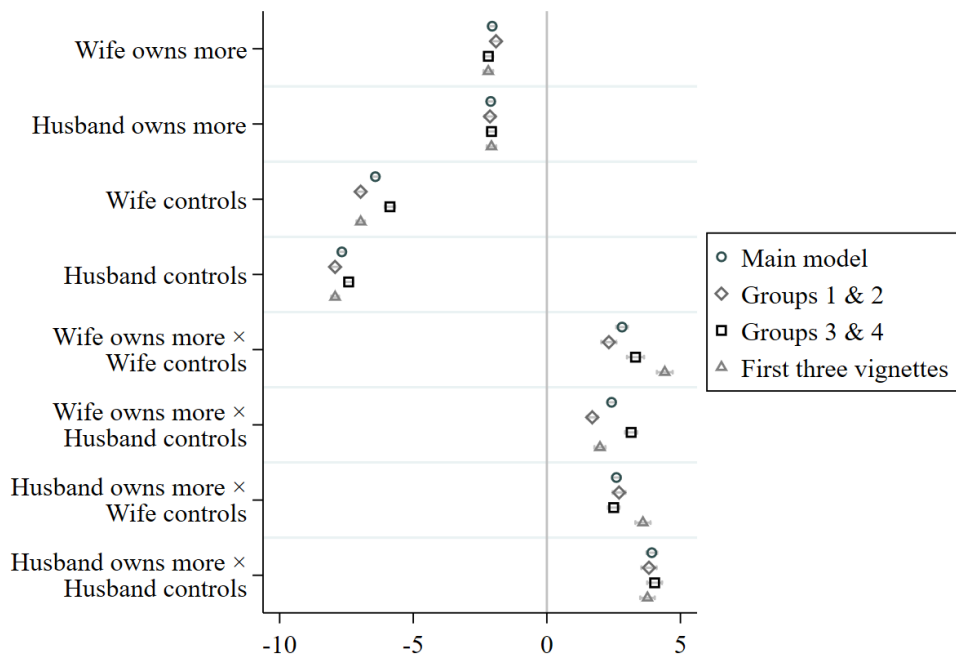
Note: Regression coefficients are shown. N = 19,648 vignette evaluations (Main model), N = 9,836 (Groups 1 & 2), N = 9,812 (Groups 3 & 4), N = 11,795 (First three vignettes). 95% confidence intervals.

3.5 Discussion

This study has examined fairness perceptions of experimentally manipulated savings arrangements in couples, i.e., the distribution of ownership of and control over savings between partners. With a nationally representative factorial survey experiment in Germany, we tested competing norms about individual ownership rights and autonomy (equity principle) and marital sharing (equality principle) in interaction with gender ideology (entitlement principle). Respondents were asked to rate the fairness of hypothetical savings arrangements in couples with random inequality in ownership of and control over savings.

By examining the perceived fairness of married couples' saving arrangements, we contribute to the literatures on justice principles and money in marriage. With our

methodological approach we overcome the empirical confoundedness between individuals' characteristics such as gender and ownership of as well as control over money, which is a central limitation of observational studies. Further, we quantitatively tested hypotheses derived from non-representative qualitative research (e.g., Elizabeth, 2001; Evertsson & Nyman, 2014). Last, we explicitly tested justice principles and focused on savings rather than income, complementing prior experimental research on money in couples (e.g., Pepin, 2019).

Our major aim was to identify justice principles in marriage, in particular regarding the distribution of savings. To this end, we first examined if individuals apply the equity and equality principle when evaluating the fairness of couples' savings arrangements and asked if equity and equality are two equally relevant justice principles in marriage. We found support for the equality principle, especially when looking at the control dimension. This is in line with prior experimental research studying justice principles in couples in different countries (Auspurg et al., 2017; Burgoyne & Routh, 2001; Pepin, 2019).

In contrast, we did not find convincing evidence for the equity principle (H5). This finding conflicts with a study by Pepin (2019), who showed that respondents in the United States endorse the primary earner maintaining a greater amount of the total household income. It also conflicts with qualitative research in the United Kingdom concluding that patterns of personal spending money are dominantly based on equity (Burgoyne & Lewis, 1994). In contrast to prior studies, we examined savings instead of earnings and control instead of money management. Earnings can be clearly ascribed to individuals whereas savings are more diffuse because savings are stocks rather than flows. If a couple owns a joint savings account and both spouses irregularly put some money into this account, the spouses may not know how much money each spouse has contributed to the joint savings. Therefore, earnings might carry more than the ownership of savings implicit rights to control. Because money management is a rather executive task, it is less strongly linked to power than control (Vogler et al., 2008). Therefore, equality in control might also be subjectively more important than equality in money management. In addition, we looked at a country with a rather high prevalence of traditional gender ideology. Therefore, it might be that marital sharing and the equality principle is more established in Germany than in other countries. Further, respondents in Germany might not perceive ownership of savings as relevant because the default German marital property regime of accrued gains provides financial security in the event of divorce. However, redistribution of property exists in many other contexts including the United States. All in all, our study suggests that marital sharing and the idea of equality trump equity considerations when looking at control and ownership of savings at least in Germany.

Regarding gender differences, we found support for the equity principle only for male respondents. However, after controlling for respondents' actual within-couple distribution of savings, we found no evidence for the equity principle for female or male respondents. Thus, gender differences in justice principles seem to be explained by respondents' characteristics such as their financial contributions to the household, which should be further examined in future research.

To examine if entitlement is another important justice principle in marriage, we tested if gender is a characteristic according to which resources should be distributed in marriage. We found evidence for the entitlement principle, but not in the expected direction. Based on traditional gender ideology we expected respondents to believe in men's entitlement to own more savings and to control them. Although our results comply with beliefs in men's entitlement to own, they also suggest that respondents believe in wives' entitlement to control savings. This result might be interpreted as beliefs in greater support for women's economic autonomy. This interpretation would be in line with findings of Pepin's (2019) experimental vignette study in the United States, in which respondents were asked to allocate the income of hypothetical couples between their individual accounts and a shared account. She showed that when women were presented as the primary earners, respondents put more money on their personal accounts than when men were presented as the primary earners. Pepin (2019) argues that the male breadwinner norm might suppress support for men's economic autonomy but not women's.

However, our evidence for beliefs in women's entitlement to control savings may also be explained by expectations about gender-specific behavior independent of traditional gender ideology. Respondents might have assumed that the hypothetical wife but not the hypothetical husband would spent savings rather on goods benefiting both partners than on goods benefiting only one partner (Blumberg, 1988; Lundberg, Pollak, & Wales, 1997). Another explanation of the finding could be measurement error. Respondents might have misunderstood our measure of control as money management, which was traditionally the wife's role (Vogler et al., 2008). However, in our qualitative pilot we did not find hints that participants thought about management rather than control. Importantly, inequality in favor of the husband was rated differently than inequality in favor of the wife. Thus, unlike in the allocation of housework (Auspurg et al., 2017), when distributing money individuals seem to differentiate on the basis of gender indicating that beliefs about money in marriage and fairness perceptions of inequality are gendered. Although savings are more common and therefore may play a more important role in German marriages compared to other countries, based on Pepin's (2019) findings

regarding beliefs in women's economic autonomy our findings may be generalizable to other countries.

Last, we examined how individuals would like to establish equality and what marital sharing comprises. Our results suggest that the norm of marital sharing is widespread but is rather fulfilled by equal control than by equal ownership. We found that equal control is more important for fairness than equal ownership. We further showed that unequal ownership is judged fairer if both partners control the savings than if only one partner controls the savings. This is evidence for respondents' beliefs that unequal ownership can be compensated by equal control. Respondents seem to believe that autonomy and sharing can be reconciled by having separate savings accounts but equal control. Whereas separate saving accounts guarantee long-term autonomy in access, having equal control realizes the norm of sharing. Because prior qualitative research shows that couples in different countries try to reconcile the competing norms of autonomy and sharing (Evertsson & Nyman, 2014; Pepin, 2019), this finding may be generalizable to other contexts. However, comparative research is needed to understand how individuals' beliefs about sharing in couples are shaped by national contexts.

Our findings should be interpreted in light of its limitations. One limitation of this study is that results are only transferable to the German general population's beliefs about the fairness of savings arrangements in married, childless, full-time working, and housework-sharing couples because we kept those characteristics constant in the vignettes. Important complements for future research would be to experimentally manipulate marital and parental status but also to examine other financial arrangements (income or other wealth components). Further, it would be interesting to look at justice principles in the context of divorce.

Another limitation is that we cannot completely rule out the possibility of order effects. We showed that the order of vignettes affects fairness evaluations. However, as we reversed the order of the vignettes within the two decks once to have four experimental groups, we at least reduced order effects when using the whole sample. Within the GESIS Panel it is only possible to use up to four experimental groups. An important methodological take-home message of this study is to always randomize the order of vignettes.

Last, the study is theoretically limited in neglecting access to and management of savings. By studying control over savings (i.e., final say over major financial decisions), we neglect access to savings for smaller purposes. Elizabeth (2001) cautions that if access to income is neglected, inequalities in personal spending power may emerge although control is shared. Although the difference between access to and control over savings might not be as severe as

the difference between access to and control over income, access to savings is arguably another important factor affecting (financial) well-being.

One could conclude that wealth inequalities can be compensated by sharing equal control. Because control is shared in most German couples (Lott, 2009), the substantial within-couple wealth inequalities identified in prior studies (Grabka et al., 2015) might not be perceived as subjectively relevant by those affected. However, if equality is established by having equal control, hidden inequality through unequal access may be in place (Elizabeth, 2001). The acceptance of unequal ownership if control is shared, thus, involves the risk that inequalities in accessing savings still emerge due to beliefs in individual ownerships rights and equity considerations, affecting personal spending power and the (financial) well-being of individuals.

3.6 References

Addo, F. R. (2017). Financial integration and relationship transitions of young adult cohabiters. *Journal of Family and Economic Issues*, *38*(1), 84–99. doi:10.1007/s10834-016-9490-7

Auspurg, K., & Hinz, T. (2015). *Factorial survey experiments*. Los Angeles: SAGE.

Auspurg, K., Iacovou, M., & Nicoletti, C. (2017). Housework share between partners: Experimental evidence on gender-specific preferences. *Social Science Research*, *82*(1), 1–22. doi:10.1016/j.ssresearch.2017.01.003

Bennett, F. (2013). Researching within-household distribution: Overview, developments, debates, and methodological challenges. *Journal of Marriage and Family*, *75*(3), 582–597. doi:10.1111/jomf.12020

Blood, R. O., & Wolfe, D. M. (1960). *Husbands and wives: The dynamics of married living*. Glencoe, Illinois: The Free Press.

Blumberg, R. L. (1988). Income under female versus male control: Hypotheses from a theory of gender stratification and data from the Third World. *Journal of Family Issues*, *9*(1), 51–84. doi:10.1177/019251388009001004

Börsch-Supan, A., Reil-Held, A., & Schnabel, R. (2003). Household saving in Germany. In A. Börsch-Supan (Ed.), *Life-cycle savings and public policy: A cross-national study of six countries* (pp. 57–99). Amsterdam, Boston: Academic Press.

Bosnjak, M., Dannwolf, T., Enderle, T., Schauerer, I., Struminskaya, B., Tanner, A., & Weyandt, K. W. (2018). Establishing an open probability-based mixed-mode panel of the general population in Germany. *Social Science Computer Review*, *36*(1), 103–115. doi:10.1177/0894439317697949

Burgoyne, C. (1990). Money in marriage: How patterns of allocation both reflect and conceal power. *The Sociological Review*, *38*(4), 634–665. doi:10.1111/j.1467-954X.1990.tb00933.x

Burgoyne, C., & Lewis, A. (1994). Distributive justice in marriage: Equality or equity? *Journal of Community & Applied Social Psychology*, *4*(2), 101–114. doi:10.1002/casp.2450040204

Burgoyne, C., & Routh, D. A. (2001). Beliefs about financial organization in marriage: The "equality rules ok" norm? *Zeitschrift Für Sozialpsychologie*, *32*(3), 162–170. doi:10.1024//0044-3514.32.3.162

Burgoyne, C., & Sonnenberg, S. (2009). Financial practices in cohabiting heterosexual couples: A perspective from economic psychology. In J. Miles & R. Probert (Eds.), *Sharing lives, dividing assets: An inter-disciplinary study* (pp. 89–108). Oxford: Hart Publishing.

Coelho, L. (2014). My money, your money, our money: Contributions to the study of couples' financial management in Portugal. *RCCS Annual Review*, *6*, 83–101. doi:10.4000/rccsar.546

Cook, K. S., & Hegtvedt, K. A. (1983). Distributive justice, equity, and equality. *Annual Review of Sociology*, *9*(9), 217–241. doi:10.1146/annurev.so.09.080183.001245

Cooke, L. P., & Baxter, J. (2010). "Families" in international context: Comparing institutional effects across western societies. *Journal of Marriage and Family*, *72*(3), 516–536. doi:10.1111/j.1741-3737.2010.00716.x

Deutsch, M. (1975). Equity, equality, and need: What determines which value will be used as the basis of distributive justice? *Journal of Social Issues*, *31*(3), 137–149. doi:10.1111/j.1540-4560.1975.tb01000.x

Dutta, A. (2012). Germany. In J. M. Scherpe (Ed.), *Marital Agreements and Private Autonomy in Comparative Perspective* (pp. 158–199). Oxford: Hart Publishing.

Elizabeth, V. (2001). Managing money, managing coupledom: a critical examination of cohabitants' money management practices. *The Sociological Review*, *49*(3), 389–411. doi:10.1111/1467-954X.00338

Evertsson, L., & Nyman, C. (2014). Perceptions and practices in independent management: Blurring the boundaries between "mine," "yours" and "ours". *Journal of Family and Economic Issues*, *35*(1), 65–80. doi:10.1007/s10834-012-9348-6

Gager, C. T., & Hohmann-Marriott, B. (2006). Distributive justice in the household. *Marriage & Family Review*, *40*(2-3), 5–42. doi:10.1300/J002v40n02_02

Grabka, M. M., Marcus, J., & Sierminska, E. (2015). Wealth distribution within couples. *Review of Economics of the Household*, *13*(3), 459–486. doi:10.1007/s11150-013-9229-2

Grunow, D., Begall, K., & Buchler, S. (2018). Gender ideologies in europe: A multidimensional framework. *Journal of Marriage and Family*, *80*(1), 42–60. doi:10.1111/jomf.12453

Hülle, S., Liebig, S., & May, M. J. (2018). Measuring attitudes toward distributive justice: The basic social justice orientations scale. *Social Indicators Research*, *136*(2), 663–692. doi:10.1007/s11205-017-1580-x

Kaiser, B. (2015). RHAUSMAN: Stata module to perform Robust Hausman Specification Test.

Kenney, C. T. (2006). The power of the purse: Allocative systems and inequality in couple households. *Gender and Society*, *20*(3), 354–381. doi:10.1177/0891243206286742

Knudsen, K., & Wærness, K. (2009). Shared or separate? Money management and changing norms of gender equality among Norwegian couples. *Community, Work & Family*, *12*(1), 39–55. doi:10.1080/13668800802009406

Lauer, S., & Yodanis, C. (2011). Individualized marriage and the integration of resources. *Journal of Marriage and Family*, *73*(3), 669–683. doi:10.2307/29789609

Lott, Y. (2009). Verwaltung und Entscheidung: Bestimmt das individuelle Einkommen die Machtverteilung in Paarbeziehungen? *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, *61*(3), 327–353. doi:10.1007/s11577-009-0071-8

Lott, Y. (2017). When my money becomes our money: Changes in couples' money management. *Social Policy and Society*, *16*(2), 1–20. doi:10.1017/S1474746415000688

Lundberg, S. J., Pollak, R. A., & Wales, T. J. (1997). Do husbands and wives pool their resources?: Evidence from the United Kingdom child benefit. *The Journal of Human Resources*, *32*(3), 463–480. doi:10.2307/146179

Mutz, D. C. (2011). *Population-based survey experiments*. Princeton (NJ): University Press. doi:10.2307/j.ctt7sf3s

Nyman, C. (2003). The social nature of money: Meanings of money in Swedish families. *Women's Studies International Forum*, *26*(1), 79–94. doi:10.1016/S0277-5395(02)00357-6

OECD (2020). Household savings (indicator). Retrieved from https://doi.org10.1787/cfc6f499-en (2020-01-08)

Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, *45*(4), 867–872. doi:10.1016/j.jesp.2009.03.009

Pahl, J. (1983). The allocation of money and the structuring of inequality within marriage. *The Sociological Review*, *31*(2), 237–262. doi:10.1111/j.1467-954X.1983.tb00389.x

Pahl, J. (1990). Household spending, personal spending and the control of money in marriage. *Sociology*, *24*(1), 119–138. doi:10.1177/0038038590024001009

Pepin, J. R. (2019). Beliefs about money in families: Balancing unity, autonomy, and gender equality. *Journal of Marriage and Family*, *81*(2), 361–379. doi:10.1111/jomf.12554

Tammen, B. (2007). Familienrecht. In J. Ecarius (Ed.), *Handbuch Familie* (pp. 521–541). Wiesbaden: VS Verlag für Sozialwissenschaften.

Trappe, H., Pollmann-Schult, M., & Schmitt, C. (2015). The rise and decline of the male breadwinner model: Institutional underpinnings and future expectations. *European Sociological Review*, *31*(2), 230–242. doi:10.1093/esr/jcv015

Treas, J., & Widmer, E. D. (2000). Married women's employment over the life course: Attitudes in cross-national perspective. *Social Forces*, *78*(4), 1409–1436. doi:10.1093/sf/78.4.1409

Vogler, C. (2005). Cohabiting couples: Rethinking money in the household at the beginning of the twenty first century. *The Sociological Review*, *53*(1), 1–29. doi:10.1111/j.1467-954X.2005.00501.x

Vogler, C., Lyonette, C., & Wiggins, R. D. (2008). Money, power and spending decisions in intimate relationships. *The Sociological Review*, *56*(1), 117–143. doi:10.1111/j.1467-954X.2008.00779.x

Vogler, C., & Pahl, J. (1994). Money, power and inequality within marriage. *The Sociological Review*, *42*(2), 263–288. doi:10.1111/j.1467-954X.1994.tb00090.x

West, C., & Zimmerman, D. H. (1987). Doing gender. *Gender & Society*, *1*(2), 125–151. doi:10.1177/0891243287001002002

Yodanis, C., & Lauer, S. (2007). Managing money in marriage: Multilevel and cross-national effects of the breadwinner role. *Journal of Marriage and Family*, *69*(5), 1307–1325. doi:10.1111/j.1741-3737.2007.00449.x

Yodanis, C., & Lauer, S. (2014). Is marriage individualized? What couples actually do. *Journal of Family Theory & Review*, *6*(2), 184–197. doi:10.1111/jftr.12038

3.7 Appendix

Table A 3-1 Correlation Matrix

	Wife owns more	Husband owns more	Wife controls	Husband controls	Female	Age	Respondent owns more	Respondent controls	Own about the same	Equal control (Resp.)
Wife owns more	-									
Husband owns more	-.43***	-								
Wife controls	.05***	.05***	-							
Husband controls	.05***	.05***	-.43***	-						
Female	-.01	.00	.00	-.00	-					
Age	.00	-.00	-.00	.00	-.05***	-				
Respondent owns more	.00	-.00	-.00	.00	-.13***	-.16***	-			
Respondent controls	-.01	.01	.01	-.01	-.01	-.04***	.32***	-		
Own about the same	-.01	.01	.01	-.01	-.03***	.27***	-.63***	-.20***	-	
Equal control (Resp.)	.00	-.00	-.00	.00	-.01	.07***	-.23***	-.80***	.25***	-

Note: N = 12,728-19,648. Pearson's correlation coefficients are shown. *p < .05. **p < .01. ***p < .001.

Table A 3-2 Descriptive Statistics

Variables	MEAN	MIN	MAX	SD	N
Vignette characteristics					
Wife owns more	.30	0	1		19648
Joint ownership	.40	0	1		19648
Husband owns more	.30	0	1		19648
Wife controls	.30	0	1		19648
Equal control	.40	0	1		19648
Husband controls	.30	0	1		19648
Characteristics of respondents					
Vignette evaluation	4.84	0	10	3.76	19648
Age	53.31	23	79	14.24	3939
Female	.51	0	1		3948
Married	.63	0	1		3758
Respondent owns more savings	.24	0	1		2576
Partner owns more savings	.21	0	1		2576
About the same amount of savings	.55	0	1		2576
Respondent controls	.07	0	1		2781
Partner controls	.04	0	1		2781
Equal control (Resp.)	.90	0	1		2781

Table A 3-3 Predicted Margins, Separated for Female and Male Respondents

Predicted margins	(1) All b/se	(2) Female b/se	(3) Male b/se
Wife owns more	4.43*** (0.04)	4.36*** (0.06)	4.49*** (0.06)
Joint account	4.90*** (0.02)	4.81*** (0.03)	4.99*** (0.03)
Husband owns more	4.76*** (0.04)	4.75*** (0.06)	4.78*** (0.06)
Wife controls	3.09*** (0.04)	3.04*** (0.06)	3.15*** (0.06)
Equal control	7.89*** (0.03)	7.95*** (0.05)	7.83*** (0.05)
Husband controls	2.12*** (0.04)	1.89*** (0.05)	2.35*** (0.05)
Wife owns more & Wife controls	3.48*** (0.07)	3.42*** (0.10)	3.54*** (0.10)
Wife owns more & Equal control	7.08*** (0.06)	7.13*** (0.09)	7.03*** (0.09)
Wife owns more & Husband controls	1.84*** (0.05)	1.60*** (0.07)	2.06*** (0.08)
Joint account & Wife controls	2.71*** (0.06)	2.64*** (0.08)	2.79*** (0.08)
Joint account & Equal control	9.13*** (0.03)	9.17*** (0.04)	9.09*** (0.04)
Joint account & Husband controls	1.46*** (0.05)	1.16*** (0.06)	1.76*** (0.07)
Husband owns more & Wife controls	3.22*** (0.06)	3.19*** (0.09)	3.24*** (0.09)
Husband owns more & Equal control	7.03*** (0.07)	7.12*** (0.10)	6.94*** (0.10)
Husband owns more & Husband controls	3.29*** (0.06)	3.14*** (0.08)	3.44*** (0.09)
N	19648	9950	9698

Note: *p < .05. **p < .01. ***p < .001.

Table A 3-4 Vignettes Across Survey Versions

Survey version 1 (deck 1)	(4) Joint ownership, equal control (Anchoring vignette)	N = 5,020 evaluations
	(5) Joint ownership, Husband controls	
	(6) Wife owns more, Husband controls	
	(7) Husband owns more, Equal control	n = 992
	(8) Wife owns more, Wife controls	respondents
Survey version 2 (deck 2)	(1) Joint ownership, equal control (Anchoring vignette)	N = 4,965 evaluations
	(2) Husband owns more, Husband controls	
	(3) Joint ownership, Wife controls	
	(4) Wife owns more, Equal control	n = 982
	(5) Husband owns more, Wife controls	respondents
Survey version 3 (deck 1, reverse)	(1) Joint ownership, equal control (Anchoring vignette)	N = 4,985 evaluations
	(2) Wife owns more, Wife controls	
	(3) Husband owns more, Equal control	
	(4) Wife owns more, Husband controls	n = 987
	(5) Joint ownership, Husband controls	respondents
Survey version 4 (deck 2, reverse)	(1) Joint ownership, equal control (Anchoring vignette)	N = 4,990 evaluations
	(2) Husband owns more, Wife controls	
	(3) Wife owns more, Equal control	
	(4) Joint ownership, Wife controls	n = 987
	(5) Husband owns more, Husband controls	respondents

Chapter 4

Unequal but Just? Experimental Evidence on Distributive Justice Principles in Parental Inter Vivos Transfer[*][†]

Joint with Tamara Gutfleisch

Abstract

This study examines perceptions of distributive justice in the context of inter vivos transfers from parents to their children. By experimentally manipulating the children's characteristics (employment status, age, child-provided help) in a multifactorial vignette experiment, we test the prevalence and the gendered application of four prominent justice principles (equality, need, entitlement, equity). The experiment was conducted with a convenience sample within the German "SoSci Panel" (N = 2,142 evaluations of 714 respondents). Most respondents allocated inter vivos equally between the fictitious daughter and son, irrespective of the children's characteristics, indicating that the equality principle is widespread. We did not find evidence for beliefs in firstborns to be entitled to a larger amount of inter vivos. However, we find evidence for beliefs in unemployed children (need principle) and helping children (equity principle) to be entitled to a larger amount of inter vivos. The principles of need and equity seem to be gendered in that being unemployed weighed more for daughters and helping in the parents' household more for sons. These results suggest that gendered fairness perceptions of unequal parental transfers are one possible mechanism explaining observed gender inequalities in inter vivos transfers.

4.1   Introduction

In families with several children, *inter vivos* transfers of parental wealth (i.e., wealth transfers during the parents' lifetime) involve the moral decision of which child should receive how much. In this decision-making process, parents may consider different justice principles, which provide moral guidance on how to fairly allocate goods (Deutsch, 1975). The basis for a fair allocation of *inter vivos* between children could be children's need (need principle), reciprocity and exchange (equity principle), status characteristics such as primogeniture (entitlement principle), or simply equality (equality principle). It is yet unclear which of these justice principles individuals believe should be applied to parental *inter vivos* transfers and what role the gender of the children plays in this context. Therefore, this study asks: Which justice principles guide individuals' perceptions of a fair allocation of parental *inter vivos* between daughters and sons?

Research has found that bequests (i.e., wealth transfers after the parents' death) in Western societies are typically divided equally between children, but that there are large inequalities in the distribution of parental *inter vivos* transfers (Albertini, Kohli, & Vogel, 2007; Dunn & Phillips, 1997; Hochguertel & Ohlsson, 2009; Light & McGarry, 2004; McGarry, 1999). Some studies have provided evidence that the gender of the child plays a role in the probability of receiving *inter vivos* transfers and the amount of transfers received (Deindl & Isengard, 2011; Leopold & Schneider, 2011b; Loxton, 2019; McGarry, 2016; Wong, 2013). One explanation for gender inequalities in parental *inter vivos* transfers might be that inequalities are not regarded as unjust because of societal beliefs in gender differences in entitlements and social roles (Lerner & Mikula, 1994, p. 6). To better understand how inequalities in parental *inter vivos* transfers between siblings emerge, it is important to identify the conditions under which these inequalities are considered fair. In addition, studying fairness perceptions of parental *inter vivos* transfers helps to understand if individuals feel fairly treated under specific allocations, which in turn might affect individuals' health and well-being (Burgoyne & Lewis, 1994).

Inter vivos transfers and bequests can both affect the economic well-being of children (Korom, 2018; Spilerman, 2000). In contrast to bequests, however, *inter vivos* transfers are less restricted by legal regulations, are always based on a conscious decision of the parents, can be given in secret (i.e., without the other children knowing), and can be provided multiple times (Halvorsen & Thoresen, 2011; Leopold & Schneider, 2011a). Moreover, *inter vivos* transfers are given earlier in children's lives making it possible for children to use these wealth transfers for the accumulation of wealth over their lifetime (Hansen & Wiborg, 2019). *Inter vivos*

transfers therefore leave more room for preferential treatment of one child, which can have large impacts on intra-familial wealth inequality. In this study, we examine individuals' perceptions of fair allocations of parental *inter vivos* in families with young adult children. We focus on large *inter vivos* in cash instead of fixed assets, such as housing, because the former can easily be divided between children.

In the literature, the principles underlying intergenerational transfers have been examined in different ways. In the majority of studies, principles were inferred from linking observational data on intergenerational transfer behaviour to children's characteristics and life events, such as income, marriage, or childbirth (e.g., Leopold & Schneider, 2011a; Loxton, 2019; McGarry, 2016). In other studies, respondents were asked directly about their own principles regarding intergenerational transfers (e.g., Halvorsen & Thoresen, 2011; Künemund, Lüdicke, & Vogel, 2006; Light & McGarry, 2004). However, these approaches suffer from different shortcomings. Inferring principles from behaviour could be misleading due to omitted variable bias or reverse causation, particularly in cross-sectional analyses (McGarry, 1999). For example, studies examining the effect of the children's income on parental *inter vivos* might be biased because parental *inter vivos* might also affect the children's income (simultaneity or reverse causality) or because confounding factors such as the children's ability or illness are not controlled for (McGarry, 2016). Most studies neglect the emotional closeness between the parents and children, which likely affects both child-provided help and parental transfers (Nivakoski, 2019). Further, existing evidence is often consistent with multiple principles simultaneously. Disentangling different justice principles and examining their relative importance is hardly possible with observational data (Hochguertel & Ohlsson, 2009; Nivakoski, 2019). On the other hand, asking directly about motives involves the risk of social desirability bias or measurement error due to ignorance. Individuals may not always be aware of why they give *inter vivos* and, thus, may be unable to explain their principles when asked directly (Wallander, 2009). Kusa (2019) has addressed some of these shortcomings by asking respondents to rate vignettes (i.e., descriptions of family situations) rather than single-item questions to examine the importance of the equity principle in public opinions on financial compensation for intra-family time transfers. However, the study's results are rather descriptive because it was not based on experimental manipulation. Moreover, Kusa (2019) has only considered one justice principle and has focused on families with two daughters.

To identify important justice principles behind *inter vivos* transfers, we examine respondents' beliefs about fair allocations of parental *inter vivos* between daughters and sons in a multifactorial vignette survey experiment. Respondents of the German *SoSci Panel* were

asked to read three randomly assigned descriptions of a fictitious couple with a son and a daughter. The vignettes systematically differ in the characteristics of the children, that is, which child is the firstborn (entitlement principle), who is unemployed (need principle), and who helps in the parents' household (equity principle). After reading each vignette, respondents were asked to indicate a fair allocation of *inter vivos* between the son and the daughter. Because systematic differences between siblings are held constant in the experiment (e.g., relationship to parents, educational background), justice principles can be identified and their gendered application can be examined without confounding of other characteristics. By asking respondents to weigh the children's characteristics against one another, this approach sheds light on the trade-offs parents may be confronted with when allocating *inter vivos* between children (Liebig, Sauer, & Friedhoff, 2015). Due to the multifactorial experimental design, responses may be less susceptible to social desirability bias compared to direct questions (Auspurg & Hinz, 2015).

In the following, we first describe the German institutional and social context in which *inter vivos* transfers are embedded, our theoretical considerations, and our methodological design. We then analyse the data from our vignette experiment. Finally, we discuss our results and draw conclusions.

4.2 German Context

Because perceptions about fair allocations of parental *inter vivos* transfers might be shaped by the institutional and social context individuals are embedded in, we provide some information on the German context given that this study is based on German data (Brandt & Deindl, 2013). Over the past decades, the German post-war generations have been able to benefit from economic prosperity and peace, thus, accumulating large amounts of wealth, which can be passed on to the next generation (Braun, Burger, Miegel, Pfeiffer, & Schulte, 2002; Reil-Held, 1999). It has been estimated that about 400 billion Euro can be transferred yearly in Germany (Baresel et al., 2021). Considering the years 2002-2017, the median amount of *inter vivos* transfers amounts to 35,952 Euro and the average amount of *inter vivos* transfers amounts to 89,000 Euro (Baresel et al., 2021). Inheritances seem to be quite equally distributed between daughters and sons in Germany (Künemund et al., 2006; Szydlik & Schupp, 2004). However, there are small differences in the inheritance of property and estates in favour of sons (Leopold & Schneider, 2011b). In addition, Leopold & Schneider (2011a) showed that German sons receive gifts more frequently and values of gifts are higher on average. Men's advantages compared to women seem to lie specifically in their higher probability to receive housing and real estates.

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In Germany, children are entitled to a statutory share of their parents' estate ("Pflichtanteil"), even if they have been disinherited by will.[i] This statutory share amounts to 50% of what the child would be generally entitled to under the law of intestate succession. The possibility of preferential treatment of a child in the distribution of the bequest is therefore limited, as the other siblings can always claim their statutory share from the child who is the sole beneficiary. This is not the case with financial gifts that children receive before their parents' death. Such *inter vivos* transfers are hardly regulated by law. The only exception is that gifts made within 10 years before the parents' death are credited against the statutory share. Besides that, parents are free to decide how often they want to make financial gifts to their children, how high the value of these gifts should be, and, most importantly, which child should receive these gifts. In this context, individuals are likely to justify unequal division of parental inter vivos transfers under specific conditions.

The tax system could also play a role for individuals' perceptions of how *inter vivos* can fairly be allocated among children. Understanding large *inter vivos* transfers as early inheritances, the German tax law treats *inter vivos* transfers and inheritances equally. In both cases, the German state grants generous allowances that are determined by the degree of kinship between the donor and the donee. For intergenerational financial transfers between parents and their children, the tax-free allowance amounts to 400,000 Euro. This allowance applies to the sum of all financial gifts received over a period of 10 years. For example, if one child receives 300,000 Euro in 2001 and 200,000 Euro in 2009, the tax is recalculated based on the aggregated amount that exceeds the allowance.

4.3   Justice Principles and Hypotheses

To derive our hypotheses, we combine distributive justice theory (Deutsch, 1975) with theoretical approaches that are commonly used to explain parental financial transfers in the economic and sociological literature. According to distributive justice theory, individuals might be morally guided by four different justice principles when evaluating the fairness of parental *inter vivos* transfers: equality, equity, entitlement, and need (Deutsch, 1975; Hülle, Liebig, & May, 2018). In the following, we elaborate on these four principles and their possible gendered application.

Equality Principle

According to the justice principle of equality, transfers should be allocated equally. The equality principle might be particularly important within the family in order to foster harmony and enjoyable social relations (Deutsch, 1975). Parents might distribute their wealth equally

among their children to avoid psychic costs arising from jealousy and family conflict (Wilhelm, 1996). The parents' decision to transfer wealth might therefore not depend on the children's characteristics, but might be motivated by a "warm glow of giving", that is, parents feel rewarded in maintaining the family peace through equal divisions of *inter vivos* (Glazer & Konrad, 1996; Leopold & Schneider, 2011a). Moreover, the application of the equality principle might also increase social approval as parents adhere to the norm of not favouring one child (Kohli & Künemund, 2003). Recent findings suggest that parents may have a desire to distribute *inter vivos* equally, albeit to a much lesser extent compared to bequests (Halvorsen & Thoresen, 2011; Light & McGarry, 2004). If respondents strictly follow the equality principle, they should allocate *inter vivos* equally between the daughter and the son in all vignettes of our experiment.

> H1 [Equality Hypothesis]: *Inter vivos* are equally allocated between daughters and sons irrespective of the children's characteristics.

Entitlement Principle

According to the entitlement principle, transfers should be allocated based on ascribed status characteristics, such as the birth order. Respondents might advantage firstborns over secondborns following traditional family norms (Menchik, 1980). Hager and Hilbig (2019) show that Germany has a pronounced local-level variation in historic inheritance customs, which they argue might affect contemporary egalitarian preferences. Historic inequitable inheritance customs, such as primogeniture, might similarly engender attitudes towards favouring firstborns in large financial *inter vivos* transfers. We therefore expect that respondents allocate a higher amount to the firstborn child.

> H2a [Entitlement Hypothesis]: The firstborn child receives a larger amount of *inter vivos*.

Equity Principle

According to the equity principle, transfers should be allocated proportionally to inputs of different kinds. For example, parental *inter vivos* might be given in exchange for affection, care, time spent together, and household help (e.g., Kusa, 2019; Light & McGarry, 2004). Such behaviour is in line with what has been termed strategic exchange in economics (e.g., Bernheim, Shleifer, & Summers, 1985) and with norms of reciprocity in sociology (e.g., Kohli & Künemund, 2003). A study with US data found that providing informal care to the parents is positively linked to the likelihood of receiving *inter vivos* (Norton, Nicholas, & Huang, 2013). Nivakoski (2019) showed for Ireland that child-provided informal care is statistically related to receiving small transfers (between 250 and 5,000 Euro) but not to transfers above 5,000 Euro.

Regarding attitudes towards the equity principle, a vignette study with representative data for Germany showed that 79% of the respondents allocated more parental money to the hypothetical daughter who helps her parents with the long-term care of her grandmother than to the hypothetical daughter not helping (Kusa, 2019). Based on this literature, we expect that the child who provides services, here operationalised by helping in the parent's household, receives a higher share of *inter vivos*.

> H3a [Equity Hypothesis]: The child who helps in the parent's household receives a larger amount of *inter vivos*.

Need Principle

Finally, according to the need principle, transfers should be allocated proportionally to the needs of children. The need principle corresponds to theories suggesting that parental giving is motivated by altruism and norms of parental responsibility (Barro, 1974; Leopold & Schneider, 2011a). Accordingly, parents give *inter vivos* to increase the well-being of their children without expecting compensation (Light & McGarry, 2004). For example, some studies have found a negative association between children's income and *inter vivos* (e.g., Dunn & Phillips, 1997; McGarry, 2016). Besides income, unemployment has been used as an operationalisation for need. Studies have shown that parents are more likely to give a monetary gift to unemployed children (Albertini & Kohli, 2013; Deindl & Isengard, 2011; McGarry, 2016). For Germany, it has been argued that unemployment might signal need particularly if the child is young, because receiving public unemployment benefits depends on having participated in the labour market (Künemund, Motel-Klingebiel, & Kohli, 2005). We expect that the child in greater need, here operationalised as being unemployed, receives a higher amount of *inter vivos*.

> H4a [Need Hypothesis]: The unemployed child receives a larger amount of *inter vivos*.

Gendered Justice Principles

Due to cultural status beliefs associated with gender, justice principles might be applied differently to daughters and sons such that daughters' needs or equity inputs weigh differently than son's. According to status characteristics theory (SCT), gender is a primary category that frames social relations and individual judgements (Ridgeway, 2009). The categorisation of others by their gender activates gender status beliefs (i.e., cultural beliefs about typical 'male' and 'female' personality traits, competences, and behaviour) that affect how men and women are evaluated (Ridgeway & Correll, 2006). These status beliefs might lead to "double standards" in the evaluation of others, such that the same characteristics have different

consequences for men and women (Foschi, 2000). This notion has been applied, for example, to study discriminatory behaviour in work contexts (e.g., Hipp, 2020). It has also been argued that gender status beliefs provoke double standards in individuals' perceptions of just earnings for men and women (Auspurg, Hinz, & Sauer, 2017; Jasso & Webster, 1997). Similarly, individuals' perceptions of fair allocations of parental *inter vivos* transfers might depend on the child's gender.

First, gender beliefs related to men's and women's status within the family might lead to a gendered application of the entitlement principle. Due to traditional beliefs in a male-preference primogeniture and archaic patrilineality, we expect the entitlement principle to be stronger for firstborn sons than firstborn daughters (Menchik, 1980; Wong, 2013).

> H2b [Gendered-Entitlement Hypothesis]: The effect of being firstborn is stronger for sons than for daughters.

Second, according to traditional gender ideology, women are responsible for the "domestic sphere", that is, it is the role of women to care for the household, children, and parents (Davis & Greenstein, 2009). The daughters' help in the parents' household might therefore not receive special attention when deciding which child should be financially compensated for their efforts. In contrast, individuals might believe that the son should be rewarded for putting in the "extra" work of helping in the parents' household besides tasks that are culturally expected from men. This notion is in line with empirical research showing a significant association between child-provided elderly care and parental financial transfers for sons but not for daughters (Mazzotta & Parisi, 2020). We therefore formulate the following hypothesis regarding gender differences in the equity principle:

> H3b [Gendered-Equity Hypothesis]: The effect of providing help is stronger for sons than for daughters.

Last, we expect the need principle to be gendered. For example, McGarry (2016) found that the probability of receiving *inter vivos* after a divorce was higher for daughters compared to sons in the US. Divorce might be a stronger indicator for daughters' need because daughters in traditional gender beliefs are expected to be cared for by their family or husband, while men, as the "male-breadwinner", are expected to be able to provide for themselves. In contrast, Leopold and Schneider (2011a) did not find gender differences in the likelihood of receiving *inter vivos* after divorce in Germany. As far as we can judge, the gendered effect of unemployment on receiving *inter vivos* has not yet been examined. In line with the theoretical argument discussed above, we expect that respondents perceive unemployment as a stronger indicator for the daughter's need than for the son's need.

H4b [Gendered-Need Hypothesis]: The effect of unemployment is stronger for daughters than for sons.

4.4 Method

To test our hypotheses, we conducted a multifactorial vignette experiment, which was integrated into an online survey. Respondents were asked to imagine a married couple which wants to transfer 10,000 Euro to a daughter and a son. Three vignettes, which differed in the combination of the children's characteristics, were presented to each respondent. After reading each vignette, the respondents were asked to decide how much money they would give to each child to reach a fair allocation of the 10,000 Euro. By experimentally manipulating the children's characteristics, their individual effects on a fair allocation of *inter vivos* can be identified and compared.

Multifactorial Experimental Design

Figure 4-1 shows one example vignette (translated into English from the German original). In the vignettes, we fixed some characteristics of the children, while manipulating others. The experimental conditions are listed in Table 4-1 and are highlighted in bold in Figure 4-1. As stated above, we chose unemployment to operationalise need, help in parents' household to operationalise equity and being firstborn to operationalise entitlement. The operationalisation for the justice principles is based on observational research studying different triggers for *inter vivos* (see theory section). We hold both children's health status, the relationship with their parents, their approximate age, education, and living situation constant. All these characteristics are found to be related with receiving *inter vivos*.

We employed a 3×3×3 design (see Table 4-1), resulting in 27 different vignettes. These 27 vignettes were blocked to nine decks, each containing three vignettes. To reach a highly efficient design, we used the %MktEx Macro in SAS 9.4 for blocking the vignettes to decks, which is a d-efficient blocking algorithm. This algorithm maximises orthogonality (minimise correlation between dimensions) and level balance (equal frequency of each level) (Auspurg & Hinz, 2015). Each respondent was randomly assigned one of the nine decks, thus three vignettes. Table A 4-1 in the Appendix shows that there are no significant correlations between the vignette dimensions and the respondent characteristics, indicating that the randomisation worked. It further indicates that the vignette dimensions correlate only marginally ($r<0.05$), which ensures an efficient estimation. By randomising the order of vignettes per respondent, allowing respondents to re-evaluate prior vignettes, and presenting only three vignettes to each respondent, we reduce order, learning, ceiling, and fatigue effects.

Table 4-1 Dimensions and Levels

Dimension	Levels	
Firstborn	1.	Son is firstborn
	2.	Twins
	3.	Daughter is firstborn
Help	1.	Son helps in parent's household
	2.	Both help in parent's household
	3.	Daughter helps in parent's household
Need	1.	Son is unemployed
	2.	Both employed (equal earnings)
	3.	Daughter is unemployed

Figure 4-1 Example vignette

Imagine a couple having a daughter and a son. Both children are healthy and have a great relationship with their parents. Both children are in their late twenties, have a university degree and live in their own households.

The couple just received the pay-out of a life insurance and wants to allocate 10,000 Euro between their children.

The son and the daughter are **twins**. The daughter has a monthly income of **2,000 Euro** and the son **has been unemployed for two months**. The **daughter** helps in their parent's household a few times a week (e.g., cleaning, shopping, small repairs).

In your opinion, what would be a fair allocation of the 10,000 Euro between the daughter and the son?

Daughter: _____ Euro
Son: _____ Euro

Note: Varying factors in bold.

Data

In May 2020, our online survey experiment was fielded within the scientific SoSci Panel[ii] (Leiner, 2016), which consists of a non-representative convenience sample in Germany (opt-in panel).[iii] Individuals can register as panellists on the website of the SoSci Panel. The non-profit SoSci Panel invites its volunteer panellists regularly to participate in scientific surveys. Researchers can apply for data collection but have to pass a peer-review process for their surveys to be fielded within this panel. Participants were invited via email. The invitation email informed about the topic of our study and the approximate length of the questionnaire. Participants were not monetarily incentivised but informed about the main findings on the website of the SoSci Panel.

Because our design eliminates confounding of unobserved heterogeneity through randomisation, respondents do not have to be sampled randomly to identify justice principles (Auspurg & Hinz, 2015). Although one should be cautious in generalising our results to the

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German population, our experimental data allow achieving high internal validity. Moreover, studies comparing results of survey experiments with convenience samples and population-based samples show that both samples provide comparable estimates of the causal effects (Mullinix, Leeper, Druckman, & Freese, 2015).

In total, 748 individuals started the online survey. From those, 27 respondents did not rate any vignette and did not answer any of the following questions (unit non-response), 4 respondents rated only one vignette, and 3 respondents rated only two vignettes (item non-response). We excluded those observations.[iv] 714 individuals completed the experiment and rated all three vignettes. Thus, our main sample included 714 respondents with 2142 vignettes ratings. Table A 4-4 in the Appendix depicts descriptive statistics of the respondent sample. About 62% of the sample is female, respondents are on average 45 years old, 50% of the respondents have children, 23% have a migration background, and about 86% are higher educated (have the German *Abitur*). Because the vignettes were randomly assigned to respondents, respondent characteristics should not influence our main results and we did not adjust for respondent characteristics in the models.

Measurements

Our dependent variables are the amount of *inter vivos* allocated to the daughter and the son. Figure 4-2 depicts histograms of the daughter's and the sons' amount of *inter vivos*. As explanatory variables, we use our experimental conditions, namely, unemployment of children, firstborn, and if children help in their parents' household. All experimental conditions have three levels each (see Table 4-1).

Figure 4-2 Histograms of children's amount of *inter vivos* received
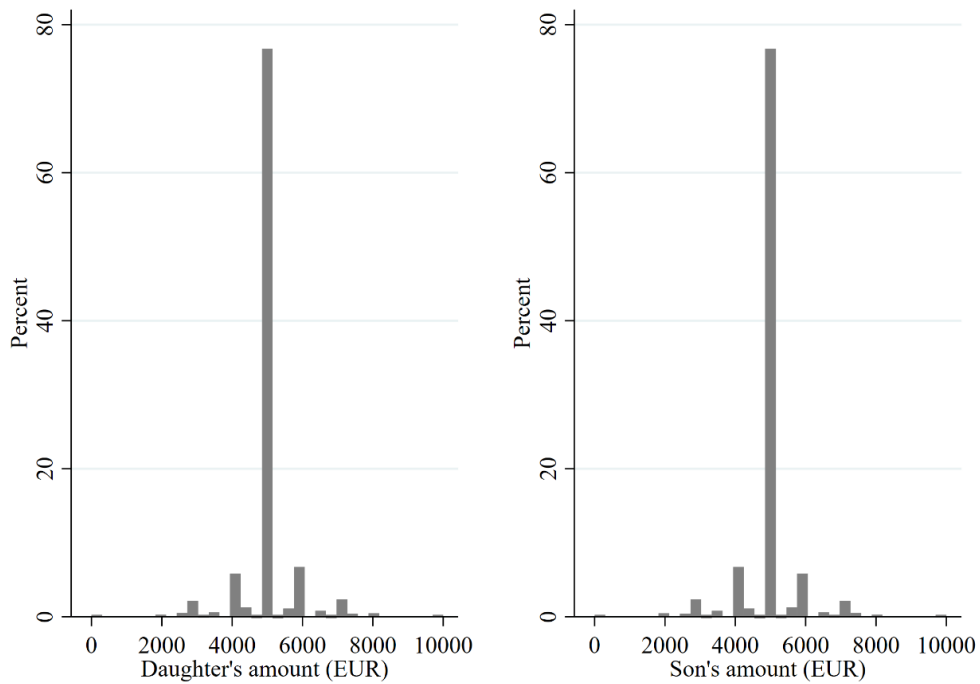
Notes: N = 2142 vignette observations (714 respondents). *Inter vivos* transfers are symmetrical for sons and daughter because respondents were asked to allocate a fixed amount of 10,000 Euro between a son and a daughter.

Analytical Approach

Our hypotheses have been preregistered at OSF (https://bit.ly/2TFt5mC). To test these hypotheses, we conducted our analyses in two steps. We first examined descriptively how many respondents strictly follow the equality principle, that is allocated the money independent of the son's and the daughter's characteristics. In a second step, we examined if respondents follow the equity, need, and entitlement principles by estimating the following two symmetrical models:

$$Daughter's\ Inter\ vivos_{iv} = \beta_0 + \beta_1 U\_S_{iv} + \beta_2 U\_C_{iv} + \beta_3 H\_S_{iv} + \beta_4 H\_C_{iv} + \beta_5 F\_S_{iv} + \beta_6 F\_C_{iv} + \varepsilon_{iv}\ (1)$$

$$Son's\ Inter\ vivos_{iv} = \beta_0 + \beta_1 U\_S_{iv} + \beta_2 U\_C_{iv} + \beta_3 H\_S_{iv} + \beta_4 H\_C_{iv} + \beta_5 F\_S_{iv} + \beta_6 F\_C_{iv} + \varepsilon_{iv}\ (2)$$

where $Inter\ vivos_{iv}$ represents the amount of inter vivos transfers allocated to the daughter or son in vignette v of respondent i. U_S_{iv} denotes a dummy for the sibling (S) being unemployed and U_C_{iv} the respective dummy for the focal child (C) being unemployed. H denotes the dummies for helping in parents' household and F denotes the dummies for being the firstborn. The respective reference categories are *both are employed*, *both help in the household*, and the *children being twins* (see Table 4-1). The βs represent the regression coefficients and ε_{iv} represents the idiosyncratic error. We run ordinary least squares (OLS)

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regressions with cluster robust standard errors because each respondent has evaluated three vignettes, thus, our data is clustered at the level of respondents. To test the main justice principles, we test the joint significance of the effects of the respective set of dummy variables for each principle (e.g., the joint significance of β_1 and β_2).

To test whether justice principles are gendered, we run an additional model with a gender-neutral dependent variable. In this model, the dependent variable takes the value of son's amount of *inter vivos* in half of the sample and the value of daughter's amount in the other half of the sample. This way, our dependent variable represents the amount of inter vivos received by a focal child (instead of the daughter or the son as in equations 1 and 2). To put it differently, we treated the amount allocated to the daughter and the amount allocated to the son in the same vignette as two single observations although they always sum up to 10,000 Euro for each vignette. That is, for each respondent we have 2 observations per vignette, one for the *inter vivos* allocated to the hypothetical daughter and one for the son. This has the advantage that we can estimate the difference in the effect sizes of the experimental conditions for sons and daughters by fully interacting the experimental condition with a dummy variable indicating the gender of the focal child. Because the son's amount and the daughter's amount sum up to 10,000 Euro in each vignette rating, the three models substantially produce identical effects, but interpretation is eased if the dependent variables and thereby the perspectives are substituted.

$$Child's\ Inter\ vivos_{iv} = \beta_0 + \beta_1 Daughter_{iv} + \beta_2 U\_C_{iv} + \beta_3 U\_C_{iv} * Daughter_{iv} + \beta_4 U\_S_{iv} +$$

$$\beta_5 U\_S_{iv} * Daughter_{iv} + \cdots + \varepsilon_{iv} \quad (3)$$

4.5   Results

Hypotheses

Most respondents in the sample (N = 465, 65.13%) allocated the amount of 10,000 Euro equally between the fictitious son and daughter in each of the three vignettes, which were evaluated. Hence, for these respondents, the children's attributes did not affect their fair allocation of parental *inter vivos*. To statistically test the equality hypothesis, we assess the overall fit of the regression model (Equation 1 or 2). The F-test of overall significance is statistically significant (F(6, 2135) = 68.80, p < 0.001), suggesting that the fit of the model including the experimental conditions is larger than the fit of the intercept-only model. That is, we find support for respondents not applying the strict equality principle at the mean. The experimental conditions explain 16.2% (R^2) of the variance in children's amount of *inter vivos*.

As a considerable proportion of respondents did not strictly follow the equality principle and allocated the money unequally, we now examine under which conditions an unequal

allocation is perceived as fair. Figure 4-3 depicts the coefficients of the regression analyses graphically and Table 4-2 shows the regression table. If firstborns were preferred, we would expect positive coefficients of firstborn for both the son and the daughter on children's amount of inter vivos as the reference category is the children being twins. Figure 4-3 shows that a son received 37 Euro more *inter vivos* if he is firstborn compared to him being a twin. However, the coefficient is not statistically significant. For daughters the coefficient is negative but also not statistically significant. Hence, our results do not support the hypothesis that the amount of inter vivos allocated to the child is larger if the child is firstborn compared to the child being a twin (H2a). In addition, we failed to reject the null hypothesis that the effect of being firstborn is not stronger for sons (H2b). Hence, we did not find support for beliefs in firstborn children to be entitled to a larger amount of *inter vivos* transfers (joint F-test: $F_{(2, 713)} = 0.45$, $p = 0.636$).

Figure 4-3 Graphical Presentation of OLS Regressions on Children's Fair Amount of *Inter Vivos*
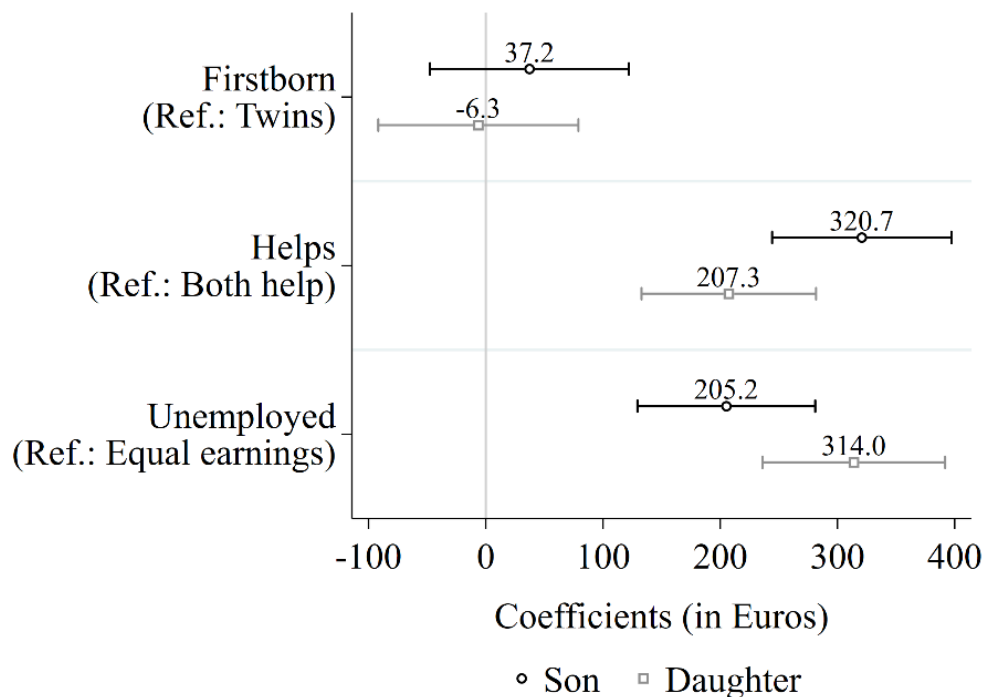
Note: Coefficient plot of OLS regressions based on Equation 1 and Equation 2.
n = 2142 vignette evaluations of N = 714 respondents,
95% confidence intervals.

In contrast, we found evidence for the equity principle (H3a). The average marginal effect of a child helping in parents' household was 264 Euro. Ceteris paribus, in situations in which only one child helped, the amount of *inter vivos* allocated to this helping child increased by 5.3% (5264/5000) on average, compared to situations in which both children help. This effect

varied by gender. Ceteris paribus, respondents allocated on average 207 Euro more to the daughter if only she helped in her parent's household and 321 Euro more to the son if only he helped compared to both helping (joint F-test: $F(2, 713) = 57.67$, $p < 0.001$). This results in an increase in *inter vivos* for helping daughters by 4,1% (5240.2/5032.9) and for helping sons by 6.5% (5287.8/4967.1) compared to the amount of inter vivos respective daughters and sons received in situations in which daughters and sons are equal on all characteristics. The difference in the effect size of daughters and sons was 113 Euro and was statistically significant (see Table 4-2). That is, helping was of larger advantage for sons than for daughters. Thus, the results provided support for a gendered application of the equity principle (H3b), in that the son's help weighed more than the daughter's help when allocating fair rewards.

Last, we also found evidence for the need principle (H4a). The average marginal effect of a child being unemployed is 260 Euro. Ceteris paribus, in situations in which only one child was unemployed, the amount of inter vivos allocated to this unemployed child increased by 5.2% (5260/5000) on average, compared to situations in which both children were employed. Again, this effect is gendered. Ceteris paribus, respondents allocated on average 314 Euro more to the daughter if only she was unemployed and 205 Euro more to the son if only he was unemployed compared to both being employed (joint F-test: $F(2, 713) = 57.68$, $p < 0.001$). Thus, if the son and the daughter are twins and both help their parents, but only the daughter is unemployed, she received 5347 Euro on average compared to 5033 Euro if the daughter and the son were equal on all characteristics (i.e., daughter's *inter vivos* increased by 6.2%). If only the son was unemployed, he received 5172 Euro on average compared to 4967 Euro if the daughter and the son were equal on all characteristics (i.e., son's inter vivos increased by 4.1%). This highlights that being unemployed was of larger advantage for daughters than for sons. The difference in the effect of unemployment was 109 Euro and was statistically significant (see Table 4-2), indicating that daughter's unemployment weighed more than son's unemployment when allocating fair rewards. Therefore, we found support for a gendered application of the need principle (H4b).

Table 4-2 Results of OLS Regressions on Children's Fair Amount of Inter Vivos Transfers

	b	se
Daughter	65.853	(74.79)
Entitlement:		
Child firstborn	37.237	(43.21)
Sibling firstborn	6.346	(43.49)
Child firstborn x Daughter	-43.583	(76.50)
Sibling firstborn x Daughter	-43.583	(76.50)
Equity:		
Child only helps	320.686***	(38.96)
Sibling only helps	-207.280***	(37.93)
Child only helps x Daughter	-113.406*	(58.64)
Sibling only helps x Daughter	-113.406*	(58.64)
Need:		
Child only unemployed	205.191***	(38.61)
Sibling only unemployed	-313.954***	(39.68)
Child only unemployed x Daughter	108.763*	(61.24)
Sibling only unemployed x Daughter	108.763*	(61.24)
Constant	4967.074***	(37.40)
N Observations	4284	
N Individuals	714	

Note: The interaction terms per experimental conditions are identical because respondents had to allocate 10,000 Euro between the son and the daughter, that is, the dependent variable is symmetrical around 5,000 Euro.
$^{*}p < 0.05,$ $^{**}p < 0.01,$ $^{***}p < 0.001$ (one-sided tests).

Relative Importance of Justice Principles

Figure 4-4 shows the main results graphically from the perspective of the hypothetical daughter (y-axis). It depicts the predicted values for the daughter's amount of *inter vivos* by the two experimental conditions unemployment and help. The highest amount of *inter vivos* is allocated to the daughter when only she is unemployed and helps in the parent's household and the lowest amount if only her brother is unemployed and helps. Both children were predicted to receive roughly the same amount of *inter vivos* if they both help and have equal earnings but also if one child helps and the other child is unemployed. Thus, daughter's unemployment weighed as much as son's help and vice versa for a fair allocation of parental *inter vivos*. The differences between the effects of daughter's unemployment and son's help as well as between the effects of daughter's help and son's unemployment were not statistically significant (joint F-test: $F(2, 2135) = 0.02$, $p = 0.984$).

Figure 4-4 Predicted Values for the Daughter's Amount of *Inter Vivos*
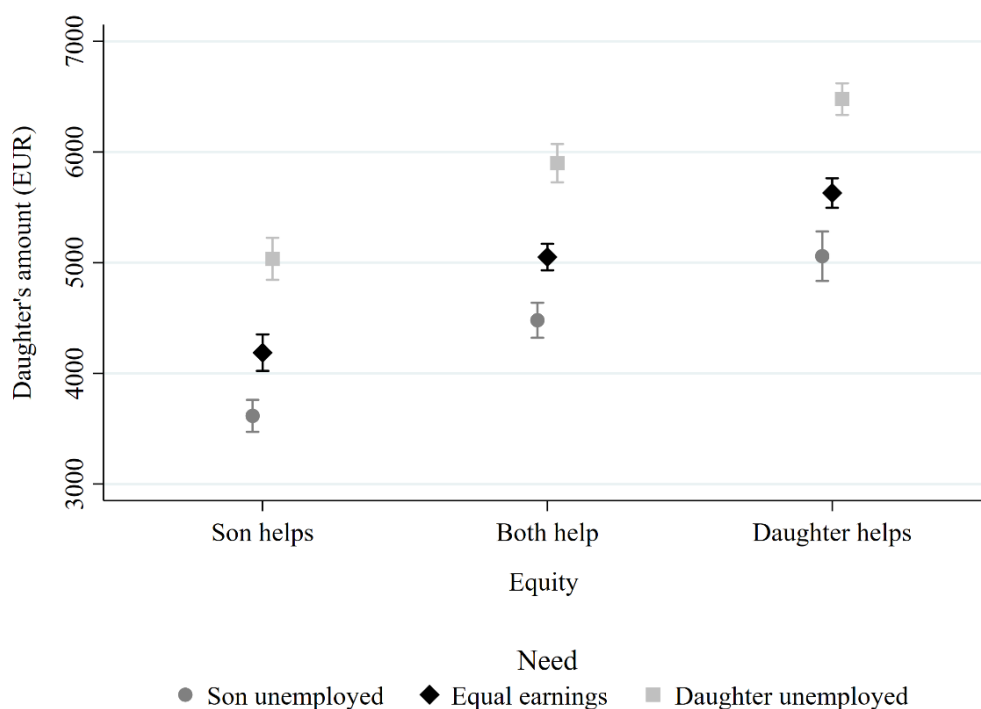
Notes: 95% confidence intervals, n = 747 vignette evaluations of N = 249 respondents, adjusted for being the firstborn child.

4.6 Discussion

To better understand how (gender) inequalities in parental *inter vivos* transfers emerge and to contextualise these inequalities, it is important to understand under which conditions inequalities in *inter vivos* transfers are perceived as fair. Distributive justice theory proposes that *inter vivos* may be allocated according to the equality, equity, entitlement, or need principle. This study aimed to identify if these justice principles are applied in parental *inter vivos* transfers and to examine what role the gender of the child plays in this regard. To this end, we conducted a multifactorial vignette experiment using a convenience sample of respondents listed in the German SoSci Panel. Respondents were asked to fairly allocate 10,000 Euro of parental *inter vivos* between a fictitious daughter and a fictitious son. The vignettes were experimentally manipulated in three children's characteristics: firstborn (entitlement principle), unemployed (need), and helping in the parents' household (equity). With the experimental approach, we extend the literature on principles in the context of *inter vivos* transfers, which has inferred principles from behaviour or asked directly about respondents' principles.

In contrast to observational studies, which focused on only one or two principles (e.g., Norton & Van Houtven, 2006), we simultaneously studied four justice principles. The equality principle was widespread in our sample but results from OLS regressions showed that a

considerable share of respondents applied the equity principle and the need principle. Helping in the parent's household and being unemployed both had a positive effect on the amount of *inter vivos* allocated to the respective child. Adding to the long-standing debate in the literature about the relative importance of the altruistic and the exchange model for *inter vivos* transfers (e.g., Cox, 1987), we found evidence that children's unemployment (as a measure of the need principle) and children's services (as a measure of the equity principle) are similarly important for a fair allocation of *inter vivos* indicated by quite equal effect sizes. Our findings regarding the need principle indicate that the family is perceived as an agency of economic redistribution in the sense that the economic weaker child should receive parental support. In line with Kusa's (2019) findings, this study's evidence for the equity principle highlights that respondents support financial compensation for services within the family.

More strikingly, we found evidence for gender discrimination in the application of the justice principles need and equity. While helping in the household weighed more for sons, being unemployed weighed more for daughters. The former finding is in line with evidence from observational studies on the relationship between informal care and financial transfers from parents to sons in several European countries (Mazzotta & Parisi, 2020). Regarding the gendered need principle, our results are in line with some studies showing a positive association between divorce and receiving *inter vivos* only for daughters (Loxton, 2019; McGarry, 2016). As far as we can judge, no evidence exists on gendered justice principles regarding the operationalisation of need with unemployment, as used in the present study. Because our sample consists of highly educated individuals, who tend to have more gender egalitarian views (Davis & Greenstein, 2009), we expect even stronger effects in the overall population of Germany.

Overall, our results have implications for the interpretation of gender inequalities in *inter vivos* transfers observed in prior studies. On the one hand, gender inequalities in *inter vivos* transfers may emerge from systematic differences in the distribution of characteristics between sons and daughters that trigger (certain kinds of) *inter vivos*. In other words, daughters and sons may benefit unequally from the prevalence of different justice principles because systematic gender differences in need (e.g., income) or equity inputs (e.g., care for parents) in society exist. For example, daughters might be advantaged in *inter vivos* because daughters are more likely to provide care to their parents later in life. On the other hand, this study showed that besides those systematic gender differences another mechanism is likely to be at place: gender inequalities in *inter vivos* are not necessarily perceived as unjust. Parents may apply a gendered double-standard when transferring *inter vivos* to their children. Our results showed differences

based on the child's gender in the importance of unemployment and helping in the parents' household for the amount of *inter vivos* received. The direction of these differences, however, depended on the respective characteristic. Respondents applied the need principle in the favour of the daughter, but the equity principle in the favour of the son. Consequently, gendered fairness perceptions of unequal allocations of *inter vivos* might contribute to or counteract existing gender inequalities in *inter vivos* depending on the distribution of characteristics that trigger *inter vivos*. More research is needed to fully understand the gendered mechanisms behind *inter vivos* transfers.

We acknowledge some limitations of our study. First, our results cannot be generalised to the German population because our analyses are based on a non-representative convenience sample. However, due to our experimental design, this does not affect the internal validity of our results for the effects of the vignette variables. Moreover, some children's characteristics were held constant in our experiment. Hence, our results cannot be generalised to fairness perceptions of parental *inter vivos* allocations in families with, for example, older children or same-sex children. Further, we have used only one operationalisation each for equity and need. Examining other operationalisations of equity and need inputs will help to better understand how children's characteristics convert to *inter vivos* for sons and daughters.

This study uniquely contributes to the literature by studying the allocation of parental *inter vivos* from the perspective of distributive justice. This approach helps to understand how inequalities among siblings in receiving *inter vivos* found in prior research can be reconciled with individual perceptions of justice. We showed that unequal *inter vivos* are legitimised by both children's needs and exchange services. Our results highlighted that in the moral decision of allocating *inter vivos* between children, parents may apply multiple principles simultaneously and make a trade-off between those. For example, respondents seemed to reconcile equality with other justice principles by not allocating the full amount to only one child. Moreover, we presented gendered fairness perceptions of unequal intergenerational transfers as a possible mechanism explaining observed gender inequalities in *inter vivos* transfers. Further avenues for future studies are examining if the justice principles in intergenerational *inter vivos* transfers vary between different kinds of wealth transfers such as cash, building and property ownership, owner-occupied housing, and company ownerships. In doing so, scholars should consider gender as a moderating factor given that the kind of *inter vivos* received varies between sons and daughters. In addition, examining fairness perceptions about a potential compensation of siblings for huge *inter vivos* to other siblings are vital to understand the complex process of parental *inter vivos* transfers.

Considering the large amounts of wealth which will be passed on to the next generation over the next decade, it is important to understand the principles behind *inter vivos* transfers. Because unequal *inter vivos* are justified by various attributes of the children, it can be expected that a remarkable share of parents will continue to allocate *inter vivos* unequally between children. Paired with the evidence of gendered principles highlighted in this study, unequal *inter vivos* transfers have both the potential to reduce or to reproduce gender inequalities in children's possibilities for wealth accumulation.

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[i] As our study focuses on financial transfers between parents and their children, we will not discuss possible differences in legal restrictions between other forms of transfers (e.g., housing or family businesses).
[ii] For details, see www.soscisurvey.de/panel.
[iii] A qualitative pilot study (N = 5) using the thinking-aloud method was conducted in March 2020.
[iv] The exclusion is not significantly related to the decks of the experiment as can be seen in Table A 4-2 and Table A 4-3.

4.7 References

Albertini, M., & Kohli, M. (2013). The generational contract in the family: An analysis of transfer regimes in Europe. *European Sociological Review*, *29*(4), 828–840.

Albertini, M., Kohli, M., & Vogel, C. (2007). Intergenerational transfers of time and money in European families: Common patterns - Different regimes? *Journal of European Social Policy*, *17*(4), 319–334.

Auspurg, K., & Hinz, T. (2015). *Factorial Survey Experiments*. Los Angeles: SAGE.

Auspurg, K., Hinz, T., & Sauer, C. (2017). Why Should Women Get Less? Evidence on the Gender Pay Gap from Multifactorial Survey Experiments. *American Sociological Review*, *82*(1), 179–210.

Baresel, K., Eulitz, H., Fachinger, U., Grabka, M. M., Halbmeier, C., Künemund, H., … Vogel, C. (2021). Hälfte aller Erbschaften und Schenkungen geht an die reichsten zehn Prozent aller Begünstigten. *DIW Wochenbericht*, *88*(5).

Barro, R. J. (1974). Are Government Bonds Net Wealth? *Journal of Political Economy*, *82*(6), 1095–1117.

Bernheim, B. D., Shleifer, A., & Summers, L. H. (1985). The Strategic Bequest Motive. *Journal of Political Economy*, *93*(6), 1045–1076.

Brandt, M., & Deindl, C. (2013). Intergenerational Transfers to Adult Children in Europe: Do Social Policies Matter? *Journal of Marriage and Family*, *75*(1), 235–251.

Braun, R., Burger, F., Miegel, M., Pfeiffer, U., & Schulte, K. (2002). *Erben in Deutschland. Volumen, Psychologie und gesamtwirtschaftliche Auswirkungen*. Cologne: Deutsches Institut für Altersvorsorge.

Burgoyne, C. B., & Lewis, A. (1994). Distributive justice in marriage: Equality or equity? *Journal of Community & Applied Social Psychology*, *4*(2), 101–114.

Cox, D. (1987). Motives for Private Income Transfers. *Journal of Political Economy*, *95*(3), 508–546.

Davis, S. N., & Greenstein, T. N. (2009). Gender Ideology: Components, Predictors, and Consequences. *Annual Review of Sociology*, *35*, 87–105.

Deindl, C., & Isengard, B. (2011). Familiale Unterstützung und soziale Ungleichheit in Europa. In P. A. Berger, K. Hank, & A. Tölke (Eds.), *Reproduktion von Ungleichheit durch Arbeit und Familie* (pp. 23–47). Wiesbaden: VS Verlag fur Sozialwissenschaften.

Deutsch, M. (1975). Equity, Equality, and Need: What Determines Which Value Will Be Used as the Basis of Distributive Justice? *Journal of Social Issues*, *31*(3), 137–149.

Dunn, T. A., & Phillips, J. W. (1997). The timing and division of parental transfers to children. *Economics Letters*, *54*(2), 135–137.

Foschi, M. (2000). Double Standards for Competence. *Annual Review of Sociology*, *26*, 21–42.

Glazer, A., & Konrad, K. (1996). A signaling explanation for charity. *The American Economic Review*, *86*(4), 1019–1028.

Hager, A., & Hilbig, H. (2019). Do Inheritance Customs Affect Political and Social Inequality? *American Journal of Political Science*, *63*(4), 758–773.

Halvorsen, E., & Thoresen, T. O. (2011). Parents' desire to make equal inter vivos transfers. *CESifo Economic Studies*, *57*(1), 121–155.

Hansen, M. N., & Wiborg, Ø. N. (2019). The Accumulation and Transfers of Wealth: Variations by Social Class. *European Sociological Review*, *35*(6), 874–893.

Hipp, L. (2020). Do Hiring Practices Penalize Women and Benefit Men for Having Children? Experimental Evidence from Germany. *European Sociological Review*, *36*(2), 250–264.

Hochguertel, S., & Ohlsson, H. (2009). Compensatory inter vivos gifts. *Journal of Applied Econometrics*, *24*, 993–1023.

Hülle, S., Liebig, S., & May, M. J. (2018). Measuring Attitudes Toward Distributive Justice: The Basic Social Justice Orientations Scale. *Social Indicators Research*, *136*, 663–692.

Jasso, G., & Webster, M. J. (1997). Double Standards in Just Earnings for Male and Female Workers. *Social Psychology Quarterly*, *60*(1), 66–78.

Kohli, M., & Künemund, H. (2003). Intergenerational Transfers in the Family: What Motivates Giving? In V. L. Bengtson & A. Lowenstein (Eds.), *Global Aging and Challenges to Families* (pp. 123–142). New York: Aldine de Gruyter.

Korom, P. (2018). Inherited Advantage: Comparing Households that Receive Gifts and Bequests with Non-receiving Households across the Distribution of Household Wealth in 11 European Countries. *European Sociological Review*, *34*(1), 79–91.

Künemund, H., Lüdicke, J., & Vogel, C. (2006). Gießkanne oder Matthäus? Muster des Erbens und ihre Konsequenzen für die soziale Ungleichheit. In K.-S. Rehberg (Ed.), *Soziale Ungleichheit, Kulturelle Unterschiede* (pp. 3819–3830). Frankfurt am Main: Campus Verl.

Künemund, H., Motel-Klingebiel, A., & Kohli, M. (2005). Do intergenerational transfers from elderly parents increase social inequality among their middle-aged children? Evidence from the German aging survey. *The Journals of Gerontology: Series B*, *60*(1), 30–36.

Kusa, N. (2019). Financial Compensation for Intra-Familial Long-Term Care and Childcare in Germany. *Journal of Family and Economic Issues*, *40*(3), 352–366.

Leiner, D. J. (2016). Our research's breadth lives on convenience samples A case study of the online respondent pool "SoSci Panel." *SCM Studies in Communication and Media*, *5*(4), 367–396.

Leopold, T., & Schneider, T. (2011a). Family Events and the Timing of Intergenerational Transfers. *Social Forces*, *90*(2), 595–616.

Leopold, T., & Schneider, T. (2011b). Intergenerationale Vermögenstransfers und soziale Ungleichheit. In P. A. Berger, K. Hank, & A. Tölke (Eds.), *Reproduktion von Ungleichheit durch Arbeit und Familie* (pp. 49–72). Wiesbaden: VS Verlag für Sozialwissenschaften.

Lerner, M. J., & Mikula, G. (1994). Justice in Close Relationships: An Introduction. In M. J. Lerner & G. Mikula (Eds.), *Entitlement and the Affectional Bond. Justice in Close Relationships* (pp. 1–10). New York: Springer.

Liebig, S., Sauer, C., & Friedhoff, S. (2015). Using factorial surveys to study justice perceptions: Five methodological problems of attitudinal justice research. *Social Justice Research*, *28*(4), 415–434.

Light, B. A., & McGarry, K. (2004). Why Parents Play Favorites: Explanations for Unequal Bequests. *The American Economic Review*, *94*(5), 1669–1681.

Loxton, A. (2019). Gender Differences in Inter Vivos Transfers. *CAEPR Working Paper*, *2*, 1–24.

Mazzotta, F., & Parisi, L. (2020). Money and time: what would you give back to me? Reciprocity between children and their elderly parents in Europe. *Economia Politica*, *37*(3), 941–969.

McGarry, K. (1999). Inter vivos transfers and intended bequests. *Journal of Public Economics*, *73*(3), 321–351.

McGarry, K. (2016). Dynamic aspects of family transfers. *Journal of Public Economics*, *137*, 1–13.

Menchik, P. L. (1980). Primogeniture, equal sharing, and the U.S. distribution of wealth. *The Quarterly Journal of Economics*, *94*(2), 299–316.

Mullinix, K. J., Leeper, T. J., Druckman, J. N., & Freese, J. (2015). The Generalizability of Survey Experiments. *Journal of Experimental Political Science*, *2*(2), 109–138.

Nivakoski, S. (2019). Does the exchange motive influence intergenerational transfers? Evidence from Ireland. *Review of Economics of the Household*, *17*(3), 1049–1079.

Norton, E. C., Nicholas, L. H., & Huang, S. S. H. (2013). Informal care and inter-vivos transfers: Results from the national longitudinal survey of mature women. *NBER Working Papers*, *18948*, 1–34.

Norton, E. C., & Van Houtven, C. H. (2006). Inter-Vivos Transfers and Exchange. *Southern Economic Journal*, *73*(1), 157–172.

Reil-Held, A. (1999). Bequests and Aggregate Wealth Accumulation in Germany. *Geneva Papers on Risk and Insurance: Issues and Practice*, *24*(1), 50–63.

Ridgeway, C. L. (2009). Framed before we know it: How gender shapes social relations. *Gender and Society*, *23*(2), 145–160.

Ridgeway, C. L., & Correll, S. J. (2006). Consensus and the Creation of Status Beliefs. *Social Forces*, *85*(1), 431–453.

Spilerman, S. (2000). Wealth and Stratification Processes. *Annual Review of Sociology*, *26*(1), 497–524.

Szydlik, M., & Schupp, J. (2004). Wer erbt mehr? *Kölner Zeitschrift Für Soziologie Und Sozialpsychologie*, *56*(4), 609–629.

Wallander, L. (2009). 25 years of factorial surveys in sociology: A review. *Social Science Research*, *38*(3), 505–520.

Wilhelm, M. O. (1996). Bequest Behavior and the Effect of Heirs ' Earnings : Testing the Altruistic Model of Bequests. *The American Economic Review*, *86*(4), 874–892.

Wong, E. S. (2013). Gender preference and transfers from parents to children: An inter-regional comparison. *International Review of Applied Economics*, *27*(1), 61–80.

4.8   Appendix

Table A 4-1 Correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1)	Equal allocation in all three vignettes	1.00														
	Vignette characteristics:															
(2)	Son unemployed	0.00	1.00													
(3)	Equal earnings	0.00	-0.50***	1.00												
(4)	Daughter unemployed	0.00	-0.50***	-0.50***	1.00											
(5)	Son helps	0.00	-0.01	-0.01	0.02	1.00										
(6)	Both help	0.00	0.02	-0.01	-0.01	-0.50***	1.00									
(7)	Daughter helps	0.00	-0.01	0.02	-0.01	-0.50***	-0.50***	1.00								
(8)	Son firstborn	0.00	0.02	-0.01	-0.01	0.04	0.00	-0.04*	1.00							
(9)	Twins	0.00	0.01	-0.02	0.00	-0.01	-0.02	0.04	-0.50***	1.00						
(10)	Daughter firstborn	0.00	-0.03	0.03	0.01	-0.03	0.02	0.01	-0.50***	-0.50***	1.00					
	Respondents characteristics:															
(11)	Age	-0.05*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00				
(12)	Female	0.05*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.22***	1.00			
(13)	Migration background	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.07**	1.00		
(14)	Already gifted	-0.01	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.56***	-0.15***	-0.00	1.00	
(15)	*Inter vivos* received	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.11***	0.01	-0.06**	-0.08*	1.00

Table A 4-2 Correlation matrix between unit non-response and decks

	All ratings missing rho	Deck 1 rho	Deck 2 rho	Deck 3 rho	Deck 4 rho	Deck 5 rho	Deck 6 rho	Deck 7 rho	Deck 8 rho	Deck 9 rho
All ratings missing[1]	1.00									
Deck 1	0.06	1.00								
Deck 2	-0.02	-0.12**	1.00							
Deck 3	-0.05	-0.12***	-0.13***	1.00						
Deck 4	-0.02	-0.12**	-0.13***	-0.13***	1.00					
Deck 5	-0.04	-0.11**	-0.12**	-0.12***	-0.12**	1.00				
Deck 6	0.06	-0.12***	-0.14***	-0.14***	-0.14***	-0.13***	1.00			
Deck 7	0.00	-0.11**	-0.12***	-0.13***	-0.12***	-0.11**	-0.13***	1.00		
Deck 8	0.00	-0.11**	-0.12***	-0.13***	-0.13***	-0.12**	-0.13***	-0.12***	1.00	
Deck 9	0.02	-0.12**	-0.13***	-0.13***	-0.13***	-0.12**	-0.13***	-0.12***	-0.12***	1.00

Note: [1]Indicator of unit non-response (1: respondents did not rate any vignette, 0: respondent rated at least one vignette).

Table A 4-3 Correlation matrix between item non-response and decks

	Not all vig. rated rho	Deck 1 rho	Deck 2 rho	Deck 3 rho	Deck 4 rho	Deck 5 rho	Deck 6 rho	Deck 7 rho	Deck 8 rho	Deck 9 rho
Not all vignettes rated[1]	1.00									
Deck 1	0.01	1.00								
Deck 2	0.03	-0.12***	1.00							
Deck 3	-0.02	-0.12***	-0.14***	1.00						
Deck 4	-0.02	-0.12***	-0.13***	-0.14***	1.00					
Deck 5	-0.02	-0.11***	-0.12***	-0.13***	-0.12***	1.00				
Deck 6	0.02	-0.12***	-0.13***	-0.14***	-0.14***	-0.13***	1.00			
Deck 7	-0.02	-0.11***	-0.12***	-0.13***	-0.13***	-0.12***	-0.13***	1.00		
Deck 8	0.03	-0.11***	-0.12***	-0.13***	-0.13***	-0.12***	-0.13***	-0.12***	1.00	
Deck 9	0.00	-0.11***	-0.13***	-0.13***	-0.13***	-0.12***	-0.13***	-0.12***	-0.12***	1.00

Note: [1]Indicator of item non-response (1: respondents did not rate all vignette, 0: respondent rated all three vignettes).

Table A 4-4 Descriptive statistics of respondent characteristics

	Mean	SD	Min	Max	N
Female	0.62		0	1	702
Age	44.93	15.29	19	82	705
Aged over 65	0.11		0	1	705
Having children	0.50		0	1	707
Migration background	0.13		0	1	704
Inter vivos (doner)[1]	0.66		0	1	353
Inter vivos (donee)	0.87		0	1	711
Education (Abitur)	0.86		0	1	690

Notes: [1]Only respondents with children are asked.

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Publications

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2021	Tisch, Daria, Philipp Lersch: „Distributive Justice in Marriage: Experimental Evidence on Beliefs about Fair Savings Arrangements". *Journal of Marriage and Family (*83) 516-533, https://doi.org/10.1111/jomf.12694.
2020	Lutter, Mark, Karlijn Roex, Daria Tisch: „Anomie or imitation? The Werther effect of celebrity suicides on suicide rates in 34 OECD countries, 1960–2014", *Social Science and Medicine* (246) 1-10, https://doi.org/10.1016/j.socscimed.2019.112755.
2018	Lutter, Mark, Daria Tisch, Jens Beckert, „Social Explanations of Lottery Play: New Evidence Based on National Survey Data", *Journal of Gambling Studies* (34) 1185–1203, https://doi.org/10.1007/s10899-018-9748-0.