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Abstract: This paper uses German survey data on married couples to examine the association of performance pay at work and subsequent separation or divorce. Despite extensive controls, performance pay remains associated with an increased probability of separation or divorce. Yet, the results are entirely gender specific. When husbands earn performance pay, no association with marital instability is found. When wives earn performance pay, the association is large and robust. This pattern persists across a variety of modeling choices and attempts to account for endogeneity. We argue that the pattern fits theoretical expectations and discuss the implications.

Keywords: Performance Pay, Separation, Divorce, Gender.

JEL Codes: J33, I31, J32

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1. Introduction

Economists have long been interested in performance pay as an instrument to increase firm performance by aligning workers' interests to those of the employer. A series of studies have found that performance pay increases productivity through attracting more talented workers and inducing higher effort (Belfield and Marsden 2003, Cadsby et al. 2007, Gielen et al. 2010, Heywood et al. 1997, Heywood et al. 2011, Jirjahn 2016, Lavy 2009, Lazear 2000, Shaw 2015, Shearer 2004). While these studies have contributed to a positive assessment of performance pay, recent research shows that performance pay can have unintended negative consequences for workers' health (Bender and Skatun 2022).

However, the adverse effects of performance pay may go far beyond health issues. Performance pay may influence family life and the social relationships of workers outside the workplace. This study uniquely examines the link between performance pay and marital instability. Understanding the determinants of separation and divorce stands as an important policy issue, as the dissolution of a marriage typically reduces the financial and mental well-being of one or both partners (Bonnet et al. 2021, Bröckel and Andress, 2016, Drewianka and Meder 2020, Zulkarnain and Korenman 2019) and negatively affects the educational achievement and well-being of children (Krein and Beller 1988, Lei 2022, McLanahan and Sandefur 1994, Pong et al. 2003, Scharte and Bolte 2012).

We hypothesize that performance pay influences the stability of marriage as it is associated with greater earnings opportunities and higher commitment to the job. Building from economic theories of divorce, we emphasize important gender asymmetries in the link between performance pay and marital instability. Theories of specialization within the family, gender identity, and intra-household bargaining each suggest that performance pay

earned by the wife is particularly likely to increase the risk of separation or divorce. Women are usually disproportionately responsible for the household. A higher commitment to the job reduces a wife's ability to engage in household activities, reducing marital surplus. Moreover, the higher earnings opportunities associated with performance pay typically violate traditional gender identity norms for wives within a marriage. Those earnings opportunities also lower the wife's economic dependency on the husband and, hence, strengthen her ability to survive outside the marriage. Thus, both the higher job commitment and greater earnings opportunities for the wife associated with performance pay work in the same direction. They have a destabilizing influence on the marriage. By contrast, the implications of performance pay for the husband are less clear from a theoretical point of view. Increased earnings opportunities and higher job commitment likely work in opposite directions. Increased earnings opportunities of the husband may stabilize the marriage whereas the husband's higher commitment to the job may destabilize the marriage as it reduces the ability to share leisure and consumption with the wife.

Our empirical analysis examines the link between performance pay and marital instability for Germany. As in most Western countries, the divorce rate in Germany increased after the 1960s (Kiernan 2004) but plateaued or even reversed more recently while still standing at 39.9 per 100 marriages in 2021 (Eurostat 2023). Using data from the German Socio-Economic Panel (SOEP), we find that performance pay is associated with an increased probability of separation or divorce. Yet, this finding is entirely gender specific. When husbands earn performance pay, we find no association. When wives earn performance pay the association is persistent, large and robust. This persists across a wide variety of modeling choices and in attempts to account for the endogeneity of performance

pay. We suggest that to the extent that the costs of marital dissolution are not internalized in the employment relationship, the role of performance pay demands both more research and possible policy intervention.

In what follows, the next section provides the theoretical background discussion. The third section presents data and variables. The fourth section presents the empirical results, and the final section concludes.

2. Background Discussion

In this section, we set the stage by describing broad economic approaches to marital instability. These approaches emphasize important gender asymmetries in the causes of separation and divorce. We then discuss the possible role of performance pay. We argue that performance pay is associated with greater earnings opportunities and serves to increase a worker's commitment to work and the labor market and so influences the stability of a marriage. Considering gender asymmetries, we suggest that performance pay earned by a wife may have a larger impact on the risk of marital instability than performance pay earned by a husband.

2.1 Economic Approaches to Marital Instability

In Becker's (1973, 1991) classical theory of the family, marriage occurs if the partners are made better off; i.e., if marriage increases their expected utility. Utility depends on household-produced commodities such as the quality of meals, the quality and quantity of children, prestige, recreation, companionship, love, and health. These commodities are produced using the time inputs of the household members and the goods and services purchased in the market. Spouses maximize marital surplus by sexual division of labor

between household and market activities. As women have a comparative advantage in the household, the wife specializes more in household activities such as cooking, cleaning and childrearing while the husband specializes more in market activities. This division of labor implies that the wife makes investments highly specific to the relationship. Such relation-specific investments require a long-term contract protecting her against abandonment and other adversities. Thus, marriage can be seen a long-term commitment device between a man and a woman.

However, the decision to marry is a decision under uncertainty (Becker et al. 1977). "Surprises," either positive or negative, can lead to the dissolution of a marriage if the utility expected from remaining married falls below the utility expected from becoming single or possibly remarrying. Events that decrease specialization between the spouses increase the likelihood of divorce (Becker 1991). This view implies that increased labor force participation of married women lowers the expected gain from marriage. Thus, the wife's labor force participation and particularly the intensity of that labor force participation and the commitment to work will affect the stability of a marriage. Altogether, Becker's theory of the family implies important gender asymmetries. While an improvement in the expected labor market opportunities of the wife increases the risk of divorce, an improvement in the expected labor market opportunities of the husband lowers that risk (Weiss and Willis 1997).

In Becker's approach, spouses act as though they are maximizing a single utility function. Models of intra-household bargaining provide an alternative view of decision making within the family (Lundberg and Pollak 1996). These models take into account that husband and wife have distinct preferences. As husband and wife have partially divergent

interests, they must bargain over consumption and allocation within marriage. The partners try to reach an agreement while maximizing their individual utility. Failure to reach an agreement may result in divorce.

The outcome of intra-household negotiations depends on each partner's relative bargaining power with bargaining power being stronger the greater the ability to survive outside the marriage (Agarwal 1997, Doss 2013). If a woman gives up her career and specializes in household activities, that reduces her outside alternatives to the marriage and, hence, lowers her bargaining power over the distribution of resources. By contrast, working in the labor force increases the woman's bargaining power by providing her with outside networks and earnings opportunities. Importantly, labor force participation may enable a woman not only to negotiate solutions more favorable to her but also enable her to separate from her husband, as she does not need to rely on the financial resources provided by the husband (Friedberg and Stein 2005). Thus, crucial gender asymmetries can emerge again. An improvement in the expected labor market opportunities of the wife should be associated with an increased divorce likelihood as it reduces the wife's economic dependency. By contrast, an improvement in the expected labor market opportunities of the husband may be associated with a decreased likelihood of divorce if this enables the husband to enforce his interest within the marriage and at the same time increases the wife's dependency.

The traditional breadwinner model – with the man being disproportionately responsible for providing financial resources and the woman being disproportionately responsible for the household – reflects efficient specialization in Becker's theory of the family while it contributes to dependency and unequal power in theories of intra-household

bargaining. Another approach suggests that the breadwinner model is part of people's gender identity. Inspired by sociology and social psychology, Akerlof and Kranton (2000) developed an economic model of identity. Identity can be defined as a sense of belonging to a specific social category, coupled with a view of how people in that category should behave. Thus, considering gender identity, the breadwinner model directly enters the utility functions of men and women as a normative expectation. Utility is higher conforming to the normative expectations associated with gender identity. By contrast, violations of gender norms challenge gender identity and decrease utility. For example, labor force participation and economic success of a wife may threaten the gender identity of her husband.[1]

Against this background, greater economic success of the wife leads to a higher likelihood of divorce as it violates gender norms and threatens the gender identity of spouses. Accordingly, Bertrand et al. (2015) argue that gender identity norms create an aversion to a situation where the wife earns more than her husband. They show a surprising sharp drop in the distribution of women's earnings right of the fifty-fifty split. They also show that when the wife's earnings exceed the husband's, the wife still spends more time on household production, that couples are less satisfied with their marriage and that they are more likely to divorce.[2] Folke and Rickne (2020) find that the likelihood of divorce increases when a wife receives promotion to a top job, but not when the husband receives promotion to a top job. This particularly holds for gender-traditional couples. Thus, the gender identity approach also suggests critical gender asymmetries in the determinants of divorce.

One may question whether the gender asymmetries emphasized in the theories of specialization, intra-household bargaining, and gender identity still hold in recent times. In many developed countries, labor force participation and educational achievement of women have increased while the gender wage gap has fallen (Blau and Kahn 2017, Lundberg and Pollak 2007). Rising opportunity costs of household production, household labor-saving technologies and a robust market for household services have changed family life. Stevenson and Wolfers (2007) contend that the benefits of marriage are increasingly based on shared interests in consumption and leisure, rather than on the gains from specialization or bargaining over duties. This view implies that events disrupting the ability to share consumption and leisure reduce the gains from marriage regardless of whether these events occur on the wife's or on the husband's side. Finally, changes in gender identity norms toward more equality may imply that economic success of a wife affects the stability of the marriage to a lesser degree (Foster and Stratton 2021).

However, even though gender asymmetries have decreased, this does not mean that they have completely disappeared. Fortin (2005, 2015) finds that traditional gender role attitudes still play a role in women's labor force participation. Time use studies show that women on average spend much more time on childcare and homecare than men (Bredtmann 2014, Craig and Mullan 2010, Ferrant et al. 2014, Garcia et al. 2011, Sellach and Libuda-Köster 2017). Women often remain disproportionately responsible for the household even when they work. As a consequence, they experience more psychological strain from combining work and family than men (DGB 2017, Klünder and Meier-Gräwe 2017, Ross and Mirowsky 1988). Artz et al. (2022) find that the well-known gender gap in job burnout is largely driven by perspectives of women's role in society. Women who

express a traditional view about work and gender relations are significantly more likely to report job burnout than men.

This suggests that gender asymmetries should still play a role in separation and divorce. At issues is how performance pay affects the risk of separation or divorce. In what follows, we argue that performance pay influences the divorce risk through two transmission channels. First, performance pay improves earnings opportunites. Second, performance pay increases an employee's commitment to work and the labor market.

2.2 The Role of Performance Pay

A series of studies have found that performance pay is associated with higher earnings (Booth and Frank 1999, Green and Heywood 2016, Heywood and O'Halloran 2005, Heywood and Parent 2012, Jirjahn and Stephan 2004, Parent 1999, Paarsch and Shearer 2000, Pekkarinen and Riddell 2008, Seiler 1984). This association reflects that performance pay rewards both increased effort and higher ability of employees (Lazear 2000). Increased effort and higher ability lead to greater productivity. Employees receiving performance pay participate in their greater productivity and, hence, have higher earnings.

Against this background, it may be unsurprising that a rapidly growing strand of research shows that performance pay is associated with substantially greater commitment to work. Performance pay involves greater hours of work (Artz and Heywood 2022, DeVaro 2022, Green and Heywood 2023) and, hence, entails reduced time on leisure activities, exercise, sleep, and home cooking (Andelic et al. 2022). A heightened mental focus on work even implies that employees on performance pay exhibit an increased willingness to prioritize spending time socializing with colleagues over socializing with friends or family (Hur et al. 2021). Performance pay increases work commitment to such a

degree that it induces "over-work".[3] Performance pay has been shown to increase stress (Allan et al. 2021, Baktash et al. 2022a, Cadsby et al. 2016), increase the use of prescription anti-anxiety and anti-depression drugs (Dahl and Pierce 2020), and increase the use of alcohol and illicit drugs (Artz et al. 2021, Baktash et al. 2022b). Relatedly, performance pay has been linked to increased illness, worse health, and increased sickness absence (Andelic et al. 2023, Bender and Theodossiou 2014, DeVaro and Heywood 2017).

Considering the theories of divorce, improved earnings and greater commitment to work imply that performance pay can destabilize a marriage if the wife receives it. In the theory of intra-household specialization, a higher intensity of labor force participation and greater commitment to work reduce the wife's ability to engage in household activities. The wife not only has less time available for household activities, but the time spent in household activities is used less effectively because of increased stress, worsened health or a shift of mental focus to work. Thus, comparing two working wives – one without and one with performance pay – the latter should have a higher likelihood of separation or divorce. In the theory of intra-household bargaining, the greater earnings opportunities associated with performance pay reduce the wife's dependency on the financial resources provided by the husband. Thus, a greater ability to survive outside the marriage may increase the likelihood of separation or divorce. Finally, considering gender identity, greater earnings and work commitment of the wife make a violation of gender identity norms more likely. The violation of gender norms reduces the spouses' utility from being married and, hence, increases the risk of separation or divorce.

The consequences for the stability of a marriage are less clear if the husband receives performance pay. On the one hand, the husband's improved earnings opportunities

should lower the likelihood of marital instability. In the theory of specialization, greater financial resources provided by the husband allows the wife to specialize in household activities to a larger degree. More efficient division of labor between the spouses reduces the risk of separation or divorce. Taking intra-household bargaining into account, improved earnings opportunities of the husband can lead to both an increased dependency of the wife and a greater ability of the husband to enforce his interests within the marriage. Increased economic dependency of the wife makes it more difficult for her to divorce while a redistribution of marital surplus to the husband's favor reduces his propensity to divorce. Finally, considering gender identity, improved earnings of the husband accord with gender identity norms and, hence, increases the spouses' utility from being married.

On the other hand, performance pay received by the husband may also increase the risk of separation or divorce. The greater commitment to work implies that the husband has less time available for sharing consumption and leisure with the wife. Moreover, increased stress, worsened health and a stronger mental focus on work may reduce the quality of joint consumption and leisure. Finally, even if the wife is disproportionately responsible for household activities, this does not mean that the husband is not involved in those activities. However, a greater commitment to work makes it more difficult for the husband to contribute his share of the household activities.

In total, theoretical considerations suggest an important gender asymmetry in the link between performance pay and marriage stability. The destabilizing influence of a wife receiving performance pay should be greater than that for a husband. If a wife receives performance pay, increased earnings and greater job commitment, each work in the same direction. They increase the likelihood of separation or divorce. By contrast, if a husband

receives performance pay, the two facets of performance pay work in opposite directions. Increased earnings opportunities decrease the likelihood of separation or divorce while greater commitment to the job increases that likelihood.

Of course, more than current earnings and current job commitment influence marital stability. As the decision to separate or divorce reflects the spouses' expected utility, future earnings and future job commitments anticipated by the wife and the husband also enter the decision. For example, a wife may anticipate that performance pay will enable her to economically survive after divorce as she can increase her earnings through higher effort and receive future rewards for her ability.

3. Data and Variables

3.1 Dataset

Our empirical analysis uses data from the SOEP, a large representative longitudinal survey of private households in Germany (Goebel et al. 2019). Routine socio-economic and demographic questions are asked annually. Different 'special' topic questions appear in specific waves. Information on performance pay is available in the waves 2004, 2008, 2011 and 2016. We pool the data so explanatory variables are taken from these waves. For each wave, we focus on heterosexual couples who are not older than 65 years.

The independent variables in the respective year t $(t = 2004, 2008, 2011, 2016)$ are used to explain a separation or divorce in the next three years (i.e., in $t + 1,\ t + 2$ or $t + 3$). This takes into account that performance may not immediately lead to separation and divorce. Instead, it may take some time until performance pay results in marriage breakdown. Couples reporting a separation or divorce drop out of the estimation sample thereafter.

We examine the role performance pay earned by either the husband or the wife plays in the risk of marital instability. Our main analysis focuses on dual earner couples so that we can compare the relative influence of performance pay for each spouse.[4] As a check of robustness, we will also consider male and female single-earner couples, the latter being a very rare constellation.

3.2 Variables

Table 1 provides the definitions and descriptive statistics of the key variables. The key explanatory variables are two dummy variables indicating performance pay earned by the husband and performance pay earned by the wife in the respective year. A spouse is considered to earn performance pay if he or she is subject to regular and formalized performance appraisals by the superior at work and the performance appraisals have consequences for his or her earnings; i.e., consequences for monthly gross wage, annual bonus, future wage growth and/or potential promotion (Cornelissen et al. 2011, Grund and Sliwka 2010). In addition to contrasting the influence by gender of the spouse, we will also examine whether it plays a role if only one spouse or both spouses earn performance pay.

Our dependent variable for marital instability is a dummy equal to 1 if the couple separates or divorces in the next three years. Table 2 shows the mean of the dependent variable for spouses with and without performance pay. We do not find a significant difference in marital instability for husbands with and without performance pay. By contrast, there is a significant difference for wives with and without performance pay. The share of those with a separation or divorce is more than twice as large for wives with performance pay than for wives without performance pay. This pattern of results can be

seen as first tentative evidence supporting our theoretical considerations. Of course, at issue is whether the pattern also holds in a multivariate analysis that controls for other influences.

The data provides a series of important controls. Appendix Table A1 shows their definitions and descriptive statistics. While the unit of observation is the couple and their marriage status, for each spouse, we control for education, age, number of previous marriages, migration background, risk tolerance, occupation, tenure with the employer, and public sector employment. Moreover, we account for marriage duration, number of children in the household, appropriate size of the dwelling, broad regional influences, and the year of observation.

4. Estimation Results

4.1 Initial Estimates

Table 3 shows the key results of the initial regressions on the determinants of marital instability. Control variables are included but are suppressed to save space.[5] Columns (1) and (2) provide linear probability estimations, a pooled OLS and an FGLS random effects regression. The random effects model decomposes the error term of the regression into a time-varying and a couple-specific time-invariant random component. However, a Breusch Pagan LM test does not reject the null hypothesis of no couple-specific random influences, so the pooled OLS is preferred. Furthermore, accounting for the dichotomous nature of the dependent variable, columns (3) and (4) show a pooled probit and a random effects probit estimation. A likelihood ratio test cannot reject the null hypothesis of no couple-specific random influences so again the pooled model is preferred. Finally, as the share of observations with a separation or divorce is low, column (5) provides the results of a rare

events logit to check the robustness of results. Standard errors are clustered in the regressions at the couple level using the Huber-White sandwich estimator.

All estimations show the same key pattern of results conforming to our theoretical expectations of gender asymmetry. Performance pay for the husband is not a significant determinant. By contrast, performance pay for the wife is a significantly positive determinant of marital instability. The influence is quantitatively quite substantial. Probit regression (3) suggests that performance pay for the wife is associated with a 1.2 percentage point higher risk of separation or divorce. This magnitude is very similar to the one we obtain from the OLS regression (1). Given that we have 1.6 percent of observations with a separation or divorce, it implies an increase in the risk by 75 percent.

4.2 The Issue of Endogeneity

Our initial regressions suggest that performance pay earned by the wife, but not performance pay earned by the husband is significantly associated with the likelihood of marital instability. However, the initial estimates may suffer from the endogeneity of performance pay. Despite the control variables, there may be unobserved factors influencing both marital instability and sorting into performance pay. Such unobserved factors may imply that the influence of performance pay on marital instability is over- or underestimated.

A fixed effects model might stand as one approach to account for endogeneity. We do not pursue this approach for two reasons. First, our unbalanced dataset includes many singleton observations which cannot be used for estimating within-person effects. Dropping the singleton observation substantially reduces the number of observations. Second, the fixed effects model can only address the problem of unobserved time-invariant

influences, but not the problem of unobserved time-varying influences. Plümper and Troeger (2019) show that fixed effects estimates may even aggravate the bias due to omitted time-varying variables as dropping the between variation increases the influence of time-varying misspecification on parameter estimates.

Instead, we use an instrumental variable (IV) approach to address the issue of endogeneity. The IV approach has the advantage that it accounts for both time-invariant and time-varying unobserved variables. A crucial requirement of IV estimates is the exclusion restriction that the IVs influence the key explanatory variables, but not the outcome variable. Finding convincing exclusion restrictions is always a matter of debate. Just-identifying exclusion restrictions are based on assumptions that cannot be formally tested (Heckman 2000, Keane 2010). They can only be justified by reasoning and an appeal to intuition. Thus, attempts to account for endogeneity should be largely viewed as exploratory and perhaps best seen as robustness tests.

We follow an IV strategy based on aggregation (for examples see Andelic et al. 2023, Baktash et al. 2022a, 2022b, Bilanakos et al. 2018, Cornelissen et al. 2011, Fisman and Svensson 2007, Lai and Ng 2014, Lee 2004, Machin and Wadhwani 1991, Woessman and West 2006). We use both the share of husbands earning performance pay and the share of wives earning performance pay each calculated for detailed four-digit occupations as instruments. When calculating the share of those receiving performance pay for a worker's occupation, we exclude that worker. The share of workers receiving performance pay reflects the general propensity within a narrowly defined occupation that workers are on performance pay. For example, a high share of workers receiving performance pay within an occupation may indicate that worker output can be easily monitored for that occupation.

This, in turn, increases the individual worker's probability of receiving performance pay (Bayo-Moriones et al. 2013).

The validity of the instrument requires that the share of workers with performance pay in the detailed occupation has no direct influence on the individual risk of marital instability. Importantly, the validity of an instrument can depend on the control variables included (Angrist and Pischke 2009). An instrument may be not valid per se but may be valid only after conditioning on covariates. Our dataset enables us to include a rich set of controls and the instruments allow us to still include the broadly defined two-digit occupation dummies. Thus, to the extent that we control for critical determinants of marital instability, we do not expect a direct influence of the instrument, but only an indirect influence through the individual worker's likelihood of receiving performance pay.

Using linear probability regressions, column (1) of Table 4 shows the results of a two-stage least squares (2SLS) model.[6] The first stage estimates both the probability that the husband earns performance pay and the probability that the wife earns performance pay. Our two IVs, the share of husbands earning performance pay within an occupation and share of wives earning performance pay within an occupation, enter for each estimation. They emerge as significantly positive determinants of the individual husband's and the individual wife's propensity to receive performance pay. As shown by the robust *F* tests, the hypothesis of weak instruments is rejected.[7]

The Wooldridge robust score test on endogenous regressors rejects the hypothesis that the performance pay variables are jointly exogenous. Thus, in the second stage, we account for endogeneity in the regression on marital instability and replace the performance pay dummies with the predicted values obtained from the first-stage estimations.[8] This

exercise confirms our key pattern of results. Performance pay earned by the husband still does not emerge with a significant coefficient while the estimated influence of performance pay earned by the wife remains statistically significant. Compared to the simple OLS estimate in Table 3, the magnitude of that influence is much larger when taking the issue of endogeneity into account. The 2SLS regression suggests that performance pay earned by the wife is associated with a 4-percentage point higher risk of separation or divorce.

Column (2) of Table 4 shows the results of a recursive multivariate probit regression (Balia and Jones 2008, Jones 2007). The recursive multivariate probit model is an extension of the recursive bivariate model (Greene 1998). The model accounts for both endogeneity and the dichotomous nature of our key variables. The determinants of marital instability are simultaneously estimated with the determinants of performance pay earned by the husband and the determinants of performance pay earned by the wife. The recursive multivariate probit regression confirms that our IVs are significantly positive determinants of both performance pay earned by the husband and performance pay earned by the wife.

The error terms of the performance pay equations are negatively correlated with the error term of the equation for marital instability. However, the negative correlation of error terms is only significant for performance pay earned by the wife. This suggests that performance pay earned by the wife is endogenous. The negative correlation suggests that there are unobserved factors influencing marital instability negatively and sorting into performance pay positively (or vice versa). For example, physical attractiveness could be an unobserved variable causing the negative correlation. More attractive individuals may be more likely to sort into performance pay. At the same time, physical attractiveness of

an individual may increase the partner's commitment to the relationship and, hence, reduces the likelihood of separation or divorce.[9]

Most importantly, the recursive multivariate probit regression also confirms gender asymmetry. Performance pay earned by the husband is not a significant determinant whereas performance pay earned by the wife is a significant determinant of the likelihood of separation or divorce. The negative correlation between the error terms in the performance pay and the marital instability equation implies that the estimated influence is stronger in the recursive model than in the simple probit regression of Table 3. The average marginal effect reveals that performance pay earned by the wife is associated with a roughly 3 percentage point higher likelihood of separation or divorce.

To summarize, our key finding of a gender asymmetry in the link between performance pay and marital instability holds even when accounting for the endogeneity of performance pay. We still do not find a significant association between performance pay earned by the husband and marital instability. The estimated influence of performance pay earned by the wife on marital instability is even more sizable when taking the issue of endogeneity into account.

4.3 One or Both Spouses Receiving Performance Pay

At issue is if it makes a difference if only the wife earns performance pay or both spouses earn it. For example, a violation of gender identity norms and, hence, the risk of separation or divorce may be more likely if only the wife, but not the husband receives performance pay. Alternatively, one may argue that the consequences of time pressure are particularly severe when not only the wife, but also the husband receives performance pay.

Thus, we divide the couples into four categories: neither earns performance pay (the base), only the husband earns performance pay, only the wife earns performance pay and both spouses earn performance pay. The results of this division are shown in a series of regressions in Table 5. We present pooled OLS and probit estimations, their random effects equivalents, and as a check of robustness the rare event logit. Again, the null hypothesis of no couple-specific random influences cannot be rejected so the pooled regressions have to be preferred.

Most importantly, the pattern is consistent across estimations. The coefficient for the husband earns performance pay is negative but always insignificantly different from zero. The coefficient for the wife earns performance pay is positive and routinely significant. The coefficient for both spouses earn performance pay is positive but always insignificantly different from zero.

The estimates so far suggest that it is particularly harmful to marital stability if only the wife receives performance pay. Yet, endogeneity remains a concern in these estimates. Therefore, in Table 6, we use our IVs to again run 2SLS and recursive bivariate probit regressions. We estimate the influence of each performance pay constellation (only the husband receives performance pay, only the wife receives performance pay, both spouses receive performance pay) one at a time relative to the reference group of neither spouse receiving performance pay. We respectively exclude observations with the other constellations.

The 2SLS and recursive bivariate probit estimates show a clear pattern of results. While performance pay earned by the husband only still does not emerge as a significant determinant, now both performance pay earned by the wife only and performance pay

earned by both spouses show a significant association with marital instability. This suggests that performance pay earned by the wife increases the likelihood of separation or divorce regardless of whether the husband earns performance pay. However, the estimated magnitudes suggest that the influence is stronger if only the wife earns performance pay than if both spouses earn performance pay. The basic point remains that we find a crucial gender asymmetry in the link between performance pay and marital instability even when we consider the various constellations of performance pay.

4.4 Male and Female Single-Earner Couples

We now examine the role of performance pay in the stability of marriages where only one spouse works. We follow the broad methodology used before of first showing the uncorrected results and then correcting for endogeneity. At issue is the extent to which these marriages mirror or contrast with the more common case of two working spouses. We recognize that the number of observations is much smaller when we consider single-earner marriages. Thus, we largely view the analysis of single-earner marriages as an explorative robustness check. In particular, the number of female single-earner couples is relatively small underscoring that there are still important gender asymmetries in the German society and sole female breadwinning remains an exception.

Table A3 shows results for marriages in which only the wife works. The uncorrected results consistently show a positive but insignificant coefficient of approximately the same magnitude as in marriages with two working spouses. When accounting for endogeneity, we now have only the single instrument of the aggregated occupational share of wives receiving performance pay. The robust F test rejects the hypothesis of a weak instrument and the Wooldridge robust test score rejects the hypothesis

that performance pay earned by the wife is exogenous. In both the 2SLS and the recursive bivariate probit estimation, performance pay earned by the wife emerges as a statistically significant positive determinant of marital instability. This result for female single-earner couples fits the findings for dual-earner couples.

Table A4 shows results for marriages in which only the husband works. The uncorrected results consistently show negative coefficients. These coefficients are significantly different from zero in the OLS and RE estimates indicating that for male single-earner couples performance pay earned by the husband even has a stabilizing effect. When accounting for endogeneity, we now have only the single instrument of the aggregated occupational share of husbands receiving performance pay. The magnitude of the estimated coefficient grows and remains negative but is insignificantly different from zero in both the 2SLS and the recursive bivariate probit estimation. Note that standard errors are larger in IV estimations. Indeed, the increase in the standard errors dominates the increase in the magnitude of the estimated coefficients resulting in insignificant results. Moreover, the Wooldridge robust test score does not reject the hypothesis of exogeneity. Thus, the uncorrected estimates must be preferred. Altogether, our results for male single-earner couples fit those for dual-earner couples finding no evidence of a destabilizing effect of performance pay earned by the husband. If anything, the results provide cautious evidence that performance pay earned by husbands in single earner couples even decreases the risk of separation and divorce.

In summary, despite small sample sizes, the overall tenor of our exploratory estimations for single-earner marriages confirm gender asymmetry. In the uncorrected estimates the male results were significantly negative while the female results were not

significant. In the endogeneity corrected results the female results were significantly positive while the male results were not significant. This asymmetry fits with that found initially for marriages with two working spouses and in the examination of the detailed constellations.

5. Conclusions

While the nature of marriage may be changing to some extent, we suggested a series of reasons to anticipate gender asymmetry in the response to performance pay. Performance pay typically involves increased commitment to the job as effort, work hours and job stress increase while commitment to home and shared leisure decrease. Thus, performance pay earned by a wife is the type of change in the traditional Becker model that increases marital instability. It can also disrupt bargaining within the family, increasing instability as it increases the wife's bargaining power. Most broadly, it still represents a substantial variation from gender identity norms similarly increasing instability.

Our estimates using German panel data follow dual-earner marriages over time. We estimate the determinants of marriage instability. The initial results all show the same key pattern of gender asymmetry. Performance pay for the husband is not a significant determinant of instability. By contrast, performance pay for the wife is a significantly positive determinant of marital instability. This pattern of results persists in IV estimations accounting for endogeneity.

We expanded this examination to account for all constellations of spousal performance pay. Performance pay earned by the husband only remains an insignificant determinant but both performance pay earned by the wife only and performance pay earned by both spouses showed a significant association with marital instability. Thus,

performance pay by the wife increases instability regardless of the performance pay status of her husband. Finally, we examined marriages in which only one spouse worked. Again, we found evidence of asymmetry. Performance pay is associated with instability only when earned by a wife.

This research was motivated by the broad findings that performance pay has unanticipated consequences for health and well-being. The suggestion that performance pay increases marriage instability has not previously been examined. Our finding that it plays a role, when earned by women, represents another piece of evidence to be considered in any evaluation of performance pay. This finding becomes increasingly important if the substantial costs of marital instability are not internalized in the labor market. If not internalized, the earnings associated with performance pay fail to compensate for the harm to families from increased marital instability and may argue for policy intervention. A discussion on possible policy intervention would be timely as performance pay has spread among firms in the United States and many European countries (Lemieux et al. 2009, Zwysen 2021).

However, we also emphasize that the finding of a gender asymmetry in the link between performance pay and marital instability likely reflects underlying gender inequality in the responsibility for household production, economic power and gender identity norms. One may anticipate that if a society moves toward more gender equality, the gender asymmetry may diminish.

Finally, while gender inequality remains an issue all around the world, countries differ in the degree of gender inequality (World Economic Forum 2022). Thus, future research could fruitfully examine whether the extent of the gender asymmetry in the link

between performance pay and marital instability differs across countries with different degrees of gender inequality. The asymmetry may be less pronounced in Nordic countries which have greater gender equality.

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Table 1: Definition and Descriptive Statistics of the Key Variables

Variable	*Definition*	*Mean*	*Std. dev.*
Marital instability	Dummy equals 1 if the couple separates or divorces in the next three years.	0.016	0.125
Performance pay (husband)	Dummy equals 1 if the husband faces a regular performance appraisal that has consequences for his earnings.	0.326	0.469
Performance pay (wife)	Dummy equals 1 if the wife faces a regular performance appraisal that has consequences for his earnings.	0.205	0.404
Performance pay (husband only)	Dummy equals 1 if only the husband faces a regular performance appraisal that has consequences for his earnings.	0.223	0.417
Performance pay (wife only)	Dummy equals 1 if only the wife faces a regular performance appraisal that has consequences for her earnings.	0.103	0.303
Performance pay (both)	Dummy equals 1 if both the husband and the wife face a regular performance appraisal that has consequences for their earnings.	0.103	0.304
Performance pay share by occupation (husband)	The share of workers receiving performance pay calculated for 243 detailed four-digit occupations excluding the husband's own contribution to the share for each survey year.	0.274	0.196
Performance pay share by occupation (wife)	The share of workers receiving performance pay calculated for 201 detailed four-digit occupations excluding the wife's own contribution to the share for each survey year.	0.202	0.164

Number of observations = 5412. For the "performance pay share by occupation (husband)" and "performance pay share by occupation (wife)" variables, the number of observations is equal to 5389.

Table 2: Mean Comparisons

Variable	*(1)* *Performance pay* *Mean*	*(2)* *No performance pay* *Mean*	*(3)* *Difference* *(t-statistic)*
Husband			
Marital instability	0.014	0.017	-0.003 (0.71)
Number of observations	1765	3647	5412
Wife			
Marital instability	0.027	0.013	0.014 (3.33)***
Number of observations	1111	4301	5412

*** Statistically significant at the 1% level.

Table 3: Initial Estimates

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
	OLS	*RE*	*Probit*	*RE probit*	*Rare events logit*
Performance pay (husband)	-0.005 (1.24)	-0.004 (1.09)	-0.120 [-0.004] (1.17)	-0.120 [-0.004] (1.14)	-0.275 (1.06)
Performance pay (wife)	0.013 (2.55)**	0.014 (2.60)***	0.281 [0.012] (2.83)***	0.281 [0.012] (2.30)**	0.671 (2.85)***
Number of observations	5412	5412	5412	5412	5412
Number of couples	3358	3358	3358	3358	3358

Dependent variable: Marital instability. The table shows the estimated coefficients. t- and z-statistics in parentheses are based on clustered standard errors at the couple level. Average marginal effects are in square brackets. Marginal effects are not available for the rare events logit. ** Statistically significant at the 5% level; *** at the 1% level. Control variables are included but suppressed to save space.

Table 4: The Issue of Endogeneity

	(1)	*(3)*
	2SLS	*Recursive multivariate probit*
	Marital instability	
Performance pay (husband)	0.004 (0.33)	0.098 [0.004] (0.47)
Performance pay (wife)	0.043 (2.39)**	0.603 [0.026] (2.51)**
	Performance pay (husband)	
Performance pay share by occupation (husband)	0.698 (17.14)***	1.982 (16.15)***
Performance pay share by occupation (wife)	0.175 (3.63)***	0.534 (3.70)***
Robust F test	169.42***	---
ρ Marital instability & Performance pay (husband)	---	-0.168 (1.51)
	Performance pay (wife)	
Performance pay share by occupation (husband)	0.056 (1.73)*	0.219 (1.73)*
Performance pay share by occupation (wife)	0.806 (17.31)***	2.563 (17.30)***
Robust F test	155.45***	---
ρ Marital instability & Performance pay (wife)	---	-0.224 (1.75)*
Wooldridge robust score test	2.58*	---
Number of observations	5389	5389
Number of couples	3347	3347

The table shows the estimated coefficients. z-statistics in parentheses are based on clustered standard errors at the couple level. Average marginal effects are in square brackets. Rho is the correlation between the error term in the respective performance pay equation and the error term in the marital instability equation. * Statistically significant at the 10% level; ** at the 5% level; *** at the 1% level. Control variables are included, but suppressed to save space.

Table 5: Constellations of Performance Pay

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
	OLS	*RE*	*Probit*	*RE probit*	*Rare events logit*
Performance pay (husband only)	-0.003 (0.87)	-0.003 (0.76)	-0.119 [-0.004] (0.96)	-0.119 [-0.004] (0.95)	-0.252 (0.77)
Performance pay (wife only)	0.016 (2.10)**	0.016 (2.09)**	0.282 [0.013] (2.34)**	0.282 [0.013] (2.00)**	0.686 (2.44)**
Performance pay (both)	0.007 (0.99)	0.008 (1.24)	0.160 [0.006] (1.08)	0.160 [0.006] (1.03)	0.401 (1.14)
Number of observations	5412	5412	5412	5412	5412
Number of couples	3358	3358	3358	3358	3358

Dependent variable: Marital instability. The table shows the estimated coefficients. t- and z-statistics in parentheses are based on clustered standard errors at the couple level. Average marginal effects are in square brackets. Marginal effects are not available for the rare events logit. ** Statistically significant at the 5% level. Control variables are included, but suppressed to save space.

Table 6: Constellations of Performance Pay; The Issue of Endogeneity

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
	2SLS			*Recursive bivariate probit*		
	Marital instability					
Performance pay (husband only)	0.010 (0.77)	---	---	0.610 [0.030] (0.90)	---	---
Performance pay (wife only)	---	0.046 (1.76)*	---	---	1.036 [0.084] (2.31)**	---
Performance pay (both)	---	---	0.039 (2.05)**	---	---	0.642 [0.036] (1.84)*
	Performance pay					
Performance pay share by occupation (husband)	0.703 (15.85)***	0.018 (0.47)	0.378 (8.91)***	2.063 (14.82)***	0.106 (0.59)	1.574 (8.79)***
Performance pay share by occupation (wife)	0.059 (1.01)	0.682 (11.86)***	0.704 (12.81)***	0.237 (1.30)	2.417 (12.46)***	2.629 (13.22)***
Wooldridge robust score test	1.39	1.53	3.47*	---	---	---
Robust F test	129.73***	71.56***	155.22***	---	---	---
ρ	---	---	---	-0.438 (1.34)	-0.433 (2.07)**	-0.265 (1.45)
Number of observations	4283	3629	3631	4283	3629	3631
Number of couples	2820	2451	2498	2820	2451	2498

The table shows the estimated coefficients. z-statistics in parentheses are based on clustered standard errors at the couple level. Average marginal effects are in square brackets. Rho is the correlation between the error term in the performance pay equation and the error term in the marital instability equation. *Statistically significant at the 10% level; ** at the 5% level; *** at the 1% level. Control variables are included, but suppressed to save space.

Appendix

Table A1: Definition and Descriptive Statistics of the Control Variables

Variable	*Definition*	*Mean*	*Std. dev.*
Age: 40s (husband)	Dummy equals 1 if the husband is 40-49 years old.	0.397	0.489
Age: 50+ (husband)	Dummy equals 1 if the husband is 50-65 years old.	0.420	0.494
Age: 40s (wife)	Dummy equals 1 if the wife is 40-49 years old.	0.417	0.493
Age: 50+ (wife)	Dummy equals 1 if the wife is 50-65 years old.	0.316	0.465
Marriage duration	The duration of couple's marriage by years.	18.107	10.175
Number of previous marriages (husband)	The number of previous marriages of husband, excluding current marriage.	0.109	0.338
Number of previous marriages (wife)	The number of previous marriages of wife, excluding current marriage.	0.105	0.331
Highly educated (husband)	Dummy equals 1 if the husband has at least 13 years of formal education.	0.391	0.488
Highly educated (wife)	Dummy equals 1 if the wife has at least 13 years of formal education.	0.386	0.487
Migration background (husband)	Dummy equals 1 if the husband is a first-generation or second-generation immigrant.	0.141	0.348
Migration background (wife)	Dummy equals 1 if the wife is a first-generation or second-generation immigrant.	0.152	0.359
Fit dwelling	Dummy equals 1 if the couple think that the total size of their dwelling is just right for their household.	0.730	0.444
Number of children	Number of children under 16 years in the household.	0.853	0.992
Public sector (husband)	Dummy equals 1 if the husband is employed in the public sector.	0.269	0.443
Public sector (wife)	Dummy equals 1 if the wife is employed in the public sector.	0.383	0.486
Tenure (husband)	The number of years the husband is with their current firm.	14.428	10.758
Tenure (wife)	The number of years the wife is with their current firm.	11.745	9.596
Risk tolerance (husband)	The husband's score of risk tolerance. The interviewee answers the question: "Are you generally willing to take risks or do you try to avoid taking risks?" on an eleven-point Likert scale. The scale ranges from 0 "not at all willing to take risks" to 10 "very willing to take risks."	5.023	2.139
Risk tolerance (wife)	The wife's score of risk tolerance. The interviewee answers the question: "Are you generally willing to take risks or do you try to avoid taking risks?" on an eleven-point Likert scale. The scale ranges from 0 "not at all willing to take risks" to 10 "very willing to take risks."	4.188	2.111
Region dummies	Three region of residence dummies for East Germany (Berlin, Brandenburg, Mecklenburg-West Pomerania, Saxony, Saxony-Anhalt, Thuringia), Southern West Germany (Bavaria, Baden-Wuerttemberg) and Northern West Germany (Schleswig-Holstein, Hamburg, Lower Saxony, Bremen).	---	---
Occupation dummies	Four broad occupation dummies for each spouse for skilled blue-collar, skilled white-collar, highly skilled white-collar, white-collar with extensive managerial duties.	---	---
Year dummies	Three dummies for the years 2008, 2011 and 2016.	---	---

Number of observations =5412.

Table A2: Initial Estimates; Full Results

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
	OLS	*RE*	*Probit*	*RE Probit*	*Rare events Logit*
Performance pay (husband)	-0.005	-0.004	-0.120	-0.120	-0.275
	(1.24)	(1.09)	[-0.004]	[-0.004]	(1.06)
			(1.17)	(1.14)	
Performance pay (wife)	0.013	0.014	0.281	0.281	0.671
	(2.55)**	(2.60)***	[0.012]	[0.012]	(2.85)***
			(2.83)***	(2.30)**	
Age: 40s (husband)	0.012	0.016	0.263	0.263	0.636
	(1.51)	(2.02)**	(1.80)*	(1.62)	(1.82)*
Age: 50+ (husband)	0.007	0.009	0.137	0.137	0.343
	(0.79)	(1.03)	(0.69)	(0.68)	(0.70)
Age: 40s (wife)	-0.005	-0.008	-0.087	-0.087	-0.246
	(0.71)	(1.07)	(0.60)	(0.59)	(0.72)
Age: 50+ (wife)	-0.011	-0.015	-0.336	-0.336	-0.872
	(1.18)	(1.65)*	(1.50)	(1.39)	(1.51)
Marriage duration	-0.000	-0.000	-0.015	-0.015	-0.034
	(1.87)*	(0.60)	(2.17)**	(2.16)**	(2.02)**
Number of previous marriages (husband)	-0.004	-0.003	-0.072	-0.072	-0.183
	(0.65)	(0.39)	(0.51)	(0.51)	(0.54)
Number of previous marriages (wife)	0.013	0.017	0.250	0.251	0.671
	(1.60)	(1.73)*	(1.98)**	(1.90)*	(2.24)**
Highly educated (husband)	-0.002	-0.004	-0.056	-0.056	-0.175
	(0.60)	(0.91)	(0.50)	(0.49)	(0.62)
Highly educated (wife)	0.003	0.005	0.079	0.079	0.161
	(0.66)	(0.90)	(0.73)	(0.71)	(0.59)
Migration background (husband)	0.006	0.005	0.123	0.123	0.362
	(0.72)	(0.62)	(0.68)	(0.68)	(0.79)
Migration background (wife)	-0.012	-0.016	-0.349	-0.349	-0.770
	(1.76)*	(2.21)**	(1.79)*	(1.67)*	(1.47)
Fit dwelling	-0.010	-0.011	-0.238	-0.238	-0.521
	(2.18)**	(2.40)**	(2.59)***	(2.09)**	(2.28)**
Number of children	-0.001	-0.002	-0.008	-0.008	-0.022
	(0.42)	(1.02)	(0.17)	(0.17)	(0.19)
Public sector (husband)	-0.001	-0.000	-0.016	-0.016	-0.056
	(0.23)	(0.11)	(0.14)	(0.14)	(0.19)
Public sector (wife)	0.008	0.008	0.224	0.224	0.553
	(2.11)**	(1.62)	(2.33)**	(2.22)**	(2.31)**
Tenure (husband)	-0.000	-0.000	-0.007	-0.007	-0.014
	(1.04)	(0.98)	(1.24)	(1.26)	(1.01)
Tenure (wife)	-0.000	-0.000	-0.007	-0.007	-0.015
	(1.19)	(0.47)	(1.24)	(1.22)	(1.00)
Risk tolerance (husband)	0.000	0.000	0.006	0.006	0.015
	(0.19)	(0.53)	(0.28)	(0.28)	(0.27)
Risk tolerance (wife)	0.001	0.001	0.024	0.024	0.066
	(1.03)	(0.67)	(1.07)	(1.10)	(1.16)
Region dummies	Included	Included	Included	Included	Included
Occupation dummies	Included	Included	Included	Included	Included
Year dummies	Included	Included	Included	Included	Included
Number of observations	5412	5412	5412	5412	5412
Number of couples	3358	3358	3358	3358	3358

The table indicates the estimated coefficients. t- and z-statistics in parentheses are based on clustered standard errors at the couple level. Average marginal effects are in square brackets. * Statistically significant at the 10% level; ** at the 5% level; *** at the 1% level.

Table A3: Only the Wife Employed

Panel A					
	(1)	*(2)*	*(3)*	*(4)*	*(5)*
	OLS	*RE*	*Probit*	*RE probit*	*Rare events logit*
Performance pay (wife)	0.010 (0.78)	0.009 (0.83)	0.278 [0.012] (1.15)	0.429 [0.012] (0.77)	0.713 (1.13)
Number of observations	834	834	834	834	834
Number of couples	646	646	646	646	646
Panel B					
	(6)		*(7)*		
	2SLS		*Recursive bivariate probit*		
	Marital instability				
Performance pay (wife)	0.126 (1.67)*		2.355 [0.502] (2.86)***		
	Performance pay (wife)				
Performance pay share by occupation (wife)	0.546 (4.80)***		1.893 (4.45)***		
Robust F test	23.08***		---		
ρ	---		-0.906 (5.08)***		
Wooldridge robust score test	3.00*		---		
Number of observations	833		833		
Number of couples	645		645		

Dependent variable: Marital instability. The table shows the estimated coefficients. t- and z-statistics in parentheses are based on clustered standard errors at the couple level. Average marginal effects are in square brackets. Marginal effects are not available for the rare events logit. Rho is the correlation between the error term in the performance pay equation and the error term in the marital instability equation. * Statistically significant at the 10% level; *** at the 1% level. The following control variables are included, but suppressed to save space: migration background (husband), migration background (wife), number of previous marriages (husband), number of previous marriages (wife), fit dwelling, public sector (wife), and tenure (wife).

Table A4: Only the Husband Employed

Panel A					
	(1)	*(2)*	*(3)*	*(4)*	*(5)*
	OLS	*RE*	*Probit*	*RE probit*	*Rare events logit*
Performance pay (husband)	-0.009 (1.99)**	-0.006 (1.79)*	-0.259 [-0.008] (1.58)	-0.510 [-0.008] (1.52)	-0.641 (1.45)
Number of observations	2571	2571	2571	2571	2571
Number of couples	1906	1906	1906	1906	1906
Panel B					
	(6)		*(7)*		
	2SLS		*Recursive bivariate probit*		
	Marital instability				
Performance pay (husband)	-0.018 (1.26)		-0.511 [-0.015] (1.23)		
	Performance pay (husband)				
Performance pay share by occupation (husband)	0.858 (17.14)***		2.481 (15.48)***		
Robust F test	293.71***		---		
ρ	---		0.173 (0.62)		
Wooldridge robust score test	0.45		---		
Number of observations	2565		2565		
Number of couples	1902		1902		

Dependent variable: Marital instability. The table shows the estimated coefficients. t- and z-statistics in parentheses are based on clustered standard errors at the couple level. Average marginal effects are in square brackets. Marginal effects are not available for the rare events logit. Rho is the correlation between the error term in the performance pay equation and the error term in the marital instability equation. * Statistically significant at the 10% level; *** at the 1% level. The following control variables are included, but suppressed to save space: number of previous marriages (husband), number of previous marriages (wife), fit dwelling, public sector (husband), and tenure (husband).

Endnotes

[1] Fissman et al. (2006) show in speed dating experiments that men shy away from women they perceive to be smarter or more ambitious than themselves.

[2] Raz-Yourovich (2012) also finds that dual-earner couples in which the wife earns as much or more than the husband have the highest risk of divorce. In a similar vein, Kraft and Neimann (2009) show that couples have a higher likelihood of divorce if the wife is the main earner.

[3] The idea that performance pay induces workers to overwork themselves goes back at least to Adam Smith (1776) who was concerned that piece rates create incentives for workers to "ruin their health."

[4] We exclude a couple from the analysis if at least one of the spouses is in education or training, is marginally employed (monthly earnings of below 450 Euros), or is self-employed, or reports zero working hours.

[5] See Table A2 for the full results.

[6] We also ran a random effects IV model. This model yielded very similar results as the simple 2SLS estimation.

[7] The problem of a weak instrument arises when the correlation of the instrument with the endogenous regressor is small so that conventional approximations to the distribution of IV estimators are generally unreliable. If the instrument is weak, even a small correlation between the instrument and the dependent variable can result in a large inconsistency of the IV estimator (Bound et al. 1995).

[8] The estimations were performed in Stata MP 17.0. Stata automatically calculates the correct standard errors for IV estimations.

[9] Empirical studies show that more attractive workers receive better performance evaluations and earn a higher amount of performance pay (Ahmed et al. 2023, Hosoda et al. 2003, Tu et al. 2022). This suggests that attractive workers have an increased incentive to sort into performance pay.

Moreover, there is empirical evidence that people are more committed to a relationship if they perceive their partner as being attractive (Gonzalez Avilés et al. 2021, Sangrador and Yela 2000).