WORKING PAPER

DO EMPLOYEES ALWAYS RECIPROCATE HOME-BASED WORKING WITH COMMITMENT?

The role of blurring boundaries, trust and fairness

Yvonne Lott, Anja Abendroth

ABSTRACT

Work organizations are increasingly under pressure to offer home-based working. However, there is inconsistent evidence on whether granting employees to work from home is a business case increasing their organizational commitment. Analysis of the representative German Linked Personnel Panel revealed that, overall, the use of home-based working is associated with employees' higher organizational commitment. A closer look at the data, however, shows that this is less often the case when the use of home-based working involves the blurring of work–life boundaries. Our results are the first to provide evidence that perceived fairness in the exchange relation with supervisors is of particular importance for employees' experiences with working from home.

Content

1 Introduction

Work organizations are increasingly under pressure to offer employees the option of home-based working. The European Union (EU) and national policymakers have formulated expectations that encourage these organizations to offer the option of working from home as a resource to help their employees better integrate work and family life (Messenger et al., 2017). In addition, in the wake of the COVID-19 pandemic, home-based working needed to be made more available to help reduce the spread of the virus.

The current business case arguments suggest that by implementing and expanding home-based working, employers can benefit if employees reciprocate by increasing their commitment to the organization (den Dulk et al., 2012; de Menezes and Kelliher, 2011). Although such reciprocation would be a win–win situation for both employees and employers (Kossek, 2016), evidence showing that working from home does indeed increase employees commitment has been inconsistent (for a review, see de Menezes and Kelliher, 2011). One explanation for this inconsistency might be related to the finding that home-based workers often experience greater work–life conflicts rather than an improvement in work–life balance (for a review, see Chung and van der Lippe, 2018).

Following from this, we asked whether and when the use of home-based working increases the organizational commitment of employees. Organizational commitment is a crucial resource for employers who, especially in times of skilled labor shortages, must retain and compete for skilled workers. We differentiated between a supportive implementation, in which home-based working becomes a resource for improving employees' work–life balance (Abendroth and Reimann, 2018; Bakker and Demerouti, 2007; Kossek et al., 2006), and a less supportive implementation, in which home-based working leads to greater conflicts by blurring the boundaries that separate employees' work and personal lives (Abendroth and Reimann, 2018; Kelliher and Anderson, 2010). Only in the former case would we expect to find social exchange dynamics whereby workers reciprocate by increasing their commitment to the organization, which is in line with existing arguments concerning the implications of flexible work arrangements (Chen and Fulmer, 2018; Choi, 2018; Kelliher and Anderson, 2010; Wang and Walumbwa, 2007).

We further investigate whether the implementation of home-based working as blurred boundaries and improved work-life balance and involved consequences for commitment depend on trust and fairness in the supervisor employee exchange relation. It has been argued that blurred boundaries through the use of home-based working result from social exchange dynamics in which employees reciprocate by investing more time and energy in their work to avoid being regarded as less productive and committed when home-based working and to avoid possible career penalties (Abendroth and Diewald, 2019; Abendroth and Reimann, 2018; Chung, 2019; Kelliher and Anderson, 2010; Lott and Chung, 2016). This form of stigmatization describes a lack of trust in the supervisor–employee exchange relation and has been viewed as part of pronounced presence cultures, in line with the norm of the ideal worker who is present and highly

accessible for work (Abendroth and Reimann, 2018; Acker, 1990; Chung, 2019; Kelly et al., 2010; Williams et al., 2013). Alternatively, it has also been suggested that the blurred boundaries of home-based working are intentional and are a part of high-performance management strategies and high-demand work cultures in which home-based working is used mainly to serve the flexibility interests of the employer. This unbalanced exchange relationship violates the norms of reciprocity and thus of fairness in the exchange relation (Blau, 1964; Kelliher and Anderson, 2010; Abendroth and Reimann, 2018).

Accordingly, we asked two questions:

1. How are the experiences of blurred boundaries or improved work–life balance due to home-based working related to organizational commitment?

2. Does trust and fairness in the exchange relationship with the supervisor (a) diminish experiences of blurred boundaries with home-based working, (b) increase experiences of improved work–life balance with home-based working, and (c) promote positive implications of the use of home-based working with respect to organizational commitment?

In attempting to answer these research questions, we contribute to the existing research in several ways. So far, studies have investigated the implications of the availability and use of home-based working and its implication for commitment, yet the results have been mixed (for a review, see de Menezes and Kelliher, 2011). Here, we investigate the importance of the use of home-based working by considering two different forms of implementation: either as supportive of employees' work–life balance or as blurring the boundaries between their work and personal lives. We know from previous research that most flexible working arrangements are implemented either in the interest of the employee or the employer (Chung and Tijdens 2013) – with different consequences for employees' work outcomes (e.g. Lott and Chung 2016). Home-based working, however, is a somewhat ambigious arrangements as it can be implemented in employees' and/or employers' interest. Therefore, we focus on employees' experiences with home-based working, thereby extending recent studies on flexible working and commitment (e.g. Wang and Walumbwa 2007).

We chose to use data from the Linked Personnel Panel (LPP) of the German Institute for Employment Research (IAB) because they are representative of German establishments with 50 or more employees in the industrial and service sectors and could provide information on both the employees and the companies they work for. By applying multilevel mixed effects linear regression models, we identified different social exchange dynamics and investigated their importance in the implementation of home-based working and their consequences for organizational commitment. This approach allowed us to determine what matters when it comes to experiences with home-based working and their consequences for commitment—that is, whether differences in social exchange dynamics lead to different implementations of home-based working and consequently to differences in organizational commitment.

2 Study hypotheses

2.1 Organizational commitment and home-based working from a social exchange perspective

Organizational commitment refers to an employee's attachment to the work organization (Chen and Fulmer, 2018; Choi, 2018; Kelliher and Anderson, 2010; Meyer and Allen, 1991; Wang and Walumbwa, 2007). Based on the work of Meyer and Allen (1991), three dimensions of commitment are commonly differentiated: "affective commitment," which describes an employee's emotional attachment to the work organization; "continuance commitment," which are the perceived costs of leaving the organization; and "normative commitment," which refers to a feeling of obligation to remain in the work organization.

In line with social exchange theory and the norm of reciprocity (Blau, 1964), work organizations can offer home-based working to increase the organizational commitment of their employees (see also Chen and Fulmer, 2018; Choi, 2018; Kelliher and Anderson, 2010; Wang and Walumbwa, 2007). Home-based working is increasingly perceived as a family-friendly workplace arrangement, and its availability can therefore function as a signal that the employer invests in good working conditions for the employees (Casper and Harris, 2008). In light of the norm of reciprocity, these signaled investments in the employment relationship would then in turn involve a higher commitment on the part of the employees (Chen and Fulmer, 2018; Choi, 2018; Kelliher and Anderson 2010; Wang and Walumbwa, 2007). On the basis of signaling theories, Casper and Harris (2008) specify that work–family policies increase commitment indirectly through perceived organizational support, and they provide evidence for their argument by showing a positive association between the availability of family-friendly workplace arrangements and commitment, as well as the importance of perceived organizational support as a mediating factor.

In addition to the indirect influence of the availability to work from home on commitment through perceived organizational support, the individual use of home-based working can also increase commitment by serving as a resource for achieving a better work–life balance. The resource perspective has a long tradition in work–life research and argues that the use of home-based working can reduce work–life conflicts (a) because it saves time for travel, which can be used for private obligations, and (b) because it involves greater work autonomy, which helps in rescheduling work, thus allowing the home-based worker to respond to predictable and unpredictable demands within the family domain (Abendroth and den Dulk, 2011; Bakker and Demerouti, 2007; Kossek et al., 2006). Following from this, Casper and Harris (2008) refer to the self-interest model (Lind and Tyler, 1988), which argues that family-friendly workplace arrangements increase commitment by allowing employees to realize their self-interests; these authors provide some evidence to support this model, at least for male employees. In line with the concept of the psychological contract (Rousseau, 1995; Schaufeli, 2006), workers expect the organization's resources to be proportional to

their own investment in the organizational commitment. Therefore, we formulated the following hypothesis:

> H1: Employees' use of home-based working is related to higher organizational commitment on average.

However, previous research has shown that the individual use of home-based working blurs the boundaries between work and personal life, resulting in greater time- and strain-based work–life conflicts (Abendroth and Reimann, 2018; Chung and van der Lippe, 2018; Kelliher and Anderson, 2010; Wang and Walumbwa, 2007). In this case, the employee's self-interest in a better work–life balance is not realized, and the increases in commitment are not proportional to the gains from the use of home-based working. This situation led to the following hypotheses:

> H2A: Employees' use of home-based working is less likely to be related to organizational commitment when it goes hand in hand with blurred boundaries between work and personal life.

> H2B: Employees' use of home-based working is more likely to be related to organizational commitment when home-based working improves their work–life balance.

2.2 Social exchange dynamics and different ways of implementing home-based work

The blurred-boundaries aspect of home-based working can result from the employee's difficulty in separating work and personal life when these two activities share the same location (Clark, 2000; Kossek et al., 2006). However, in this section we argue that experiences with home-based working and the related consequences for commitment are also likely to depend on the exchange dynamics within the supervisor–employee relationship, which then leads to different implementations of home-based work.

2.2.1 The importance of trust in the social exchange

Existing research describes supervisor–employee exchange dynamics whereby workers feel obliged to directly reciprocate by investing more time and energy in work for their supervisor in return for the "gift" of home-based working (Chung, 2019; Kelliher and Anderson, 2010). One explanation for this exchange dynamic is the supervisor's lack of trust in employees' productivity at home, which reflects the predominance in many workplaces of the ideal worker norm. This norm describes a worker who exhibits greater time investment, work presence and work accessibility—behavior that aligns with the traditional male life course (Acker, 1990; Kelly et al., 2010; Williams et al., 2013). In keeping with this ideal worker norm, studies have revealed the stigmas related to flexibility. For example, employees fear that they will be regarded as less committed to their work if they use flexible workplace arrangements (Chung, 2018; Konrad and Yang, 2012; Williams et al., 2013); they report that their supervisor highly values physical pres-

ence in the workplace (Lott and Abendroth, 2020); and they are concerned about the possibility of negative career consequences (Lott and Chung, 2016). Thus, a lack of trust in the supervisor–employee exchange relation is likely to promote experiences of blurred boundaries when employees use home-based working because it implies a need for reciprocation in the form of direct work intensification. With this lack of support, organizational commitment as an alternative or additional return becomes less likely, particularly because increases in commitment would not be proportional to the gains offered by such flexibility.

In contrast, if supervisors signal trust in the exchange relationship, work intensification is less likely to be perceived as a *quid pro quo*. Rather, supervisors are more likely to be supportive by implementing home-based work to encourage the employee's involvement in work communication and decision-making as part of a team and thus to give less cause for concern about invisibility and flexibility stigmas. Indeed, supervisors who support work–life balance have been found to protect against the less desirable aspects of home-based working such as blurred boundaries and work intensification (Abendroth and Reimann, 2018). Studies have further identified supervisor support and understanding with regard to the integration of work and family life as an important dimension of work–family-supportive organizational cultures and often as a key predictor of work–life conflict and work–life balance satisfaction (Kossek et al., 2006; Thompson et al., 1999). Choi (2018) further supported this argument, noting that managerial support decreased workers' intentions to use flexible workplace arrangements as a step toward leaving the work organization. Similarly, Wang and Walumbwa (2007) provided evidence that such supportive leadership had a moderating effect on work withdrawal owing to the benefits of work flexibility and of commitment. In line with this, Choi (2018) concluded that "leadership style that develops support, communication and trust in supervisor–subordinate relationships will be necessary for successful implementation of telework" (p. 31).

Accordingly, we would expect that trust in the exchange relationship between employee and supervisor prevents home-based workers from experiencing blurred boundaries and promotes employees' experiences of improved work–life balance. In addition, we assume that trust in the exchange relationship would be likely to promote increased commitment among home-based workers. Thus, we formulated the following hypotheses:

> H3A: Trust in the exchange relationship between employee and supervisor is associated with (a) lower levels of blurred boundaries when using home-based work and (b) higher levels of improved work–life balance when using home-based work.

> H3B: Trust in the exchange relationship between employee and supervisor reinforces the positive implications of the use of home-based work for organizational commitment.

> H3C: Trust in the exchange relationship between employee and supervisor reduces the negative implications of the use of home-based work for organizational commitment.

2.2.2 The importance of fairness in the social exchange

An alternative explanation for the blurred boundaries that occur with home-based working refers to a lack of fairness in the social exchange between supervisor and employee. More specifically, studies have shown that some employers enforce and enable work intensification through the use of home-based work as part of high-performance management strategies or high-demand work cultures (Abendroth and Reimann, 2018; Appelbaum et al., 2000; Cha and Weeden, 2014; Chung, 2019; Godard, 2001; Kelliher and Anderson, 2010; White et al., 2003). Evidence indicates that high-demand work cultures create a need for overtime work, so home-based working is associated with greater work–life conflicts (Abendroth and Reimann, 2018) and therefore does not serve the interests of the employees. This reflects an unbalanced exchange that involves more boundary blurring and the failure of home-based working to lead to higher organizational commitment on the part of the employee. According to Schaufeli (2006), workers expect the resources offered by their organization to be proportional to their own investment. If this "psychological contract" is violated (p. 79), the social exchange becomes unbalanced, with negative consequences for the employees' organizational commitment (Guzzo and Noonan, 1994). In contrast, fairness in the exchange relationship indicates that the flexibility interests of both employers and employees are considered. In turn, improvements in work–life balance and increases in commitment become more likely. From this, we hypothesized the following:

> H4A: Fairness in the exchange relationship between employees and supervisors is associated with (a) lower levels of blurred boundaries when using home-based work and (b) higher levels of improved work–life balance when using home-based work.

> H4B: Fairness in the exchange relationship between employees and supervisors reinforces the positive implications of the use of home-based work for organizational commitment.

> H4C: Fairness in the exchange relationship between employee and supervisor reduces the negative implications of the use of home-based work for organizational commitment.

3 Empirical strategy

3.1 Data and sample

The data for the present study were drawn from the Linked Personnel Panel (LPP), wave 1617 (doi:10.5164/IAB.LPP1617.de.en.v1) (see Mackeben et al., 2018). The LPP is a representative panel study of German establishments with 50 or more employees in the industry and service sectors. The main focus of the LPP is on human resource management, workplace culture and management instruments, and data on both employees and establishments are randomly collected. We were able to access the data during a guest stay at the Research Data Centre (FDZ) of the Federal Employment Agency at the German Institute for Employment Research (IAB) and subsequently via remotely controlled data processing at the FDZ. Employees' use of home-based working as well as the experiences with home-based working were observed in the second wave (2014/15). The dependent variables, explanatory variables and covariates of the analysis were observed for 2,362 persons. The age range was set at 18 to 65 years, so that all employees below the statutory retirement age (65 years) were included.

3.2 Measurement of affective commitment

In line with Meyer and Allen (1991), affective commitment (i.e., the employee's emotional attachment to, identification with and involvement in the organization) was measured by means of a sum index based on the following three variables:

- I would like to work in this company for the rest of my life.
- This enterprise has significant personal value for me.
- I regard the company's problems as my own.

Respondents could choose one of the following options (values in parentheses) for each of the three variables: does not apply at all (1), mostly does not apply (2), undecided (3), mostly applies (4) or completely applies (5). Cronbach's alpha was used to estimate the reliability of the composite score and was 0.83. The responses to the statements were added to yield a single sum value that ranged from 3 to 15. The sum index was generated as follows: the sum of the responses was subtracted by the minimum sum value (3) and divided by the remaining maximum value (12).

3.3 Measurement of home-based working and employees' experiences with home-based working

In all three available waves, home-based working was measured according to employees' answers to the first question, "Do you work from home—perhaps just occasionally—for your employer?" The respondents could respond either yes (1) or no (0). In the second wave (2014/15), those employees who answered yes to this question were asked what their experiences were when home-based working. For the present study, two seemingly contradictory statements related to employees' work–life balance were chosen: "By home-based working, I can better combine paid work and family and private activities" and "When I work from home, the boundary between work and leisure blurs." Employees could choose one of five responses to each of these statements: completely disagree (1), mostly disagree (2), undecided (3), mostly agree (4) or completely agree (5). The variables were used as dichotomous variables in the analyses whereby answers (4) and (5) were combined with a "yes" response (= 1) to the first question, and answers (1), (2) and (3) were combined with the "no" response (= 0) to the first question. It should be noted that multiple responses were possible in that some home-based workers responded that they experienced both a better work–life balance and a blurring of boundaries.

3.4 Measurement of perceived managerial trust and fairness

According to den Dulk et al. (2011), perceived managerial trust influences employees' use of flexible work arrangements. In our study, this effect was measured with a sum index of two statements—"Supervisors show understanding for their staff" and "Supervisors show that they trust their staff"—by means of five response options: completely disagree (1), mostly disagree (2), undecided (3), mostly agree (4) or completely agree (5). The responses to the statements were added to yield a single sum value that ranged from 2 to 10. Perceived managerial fairness was measured using the statement "I feel that my direct supervisor treats me fairly in all aspects of work." This variable was used as a dummy variable with 0 = no fairness and 1 = fairness.

3.5 Covariates

In order to estimate effects that would not be biased by an employee's workplace, sociodemographic and household characteristics, covariates had to be included in the model. On the workplace level, the effect was controlled based on the employee's contractual working time (continuous variable, because employees with shorter work hours are often stigmatized in the workplace, even if they intensify their work effort (Kelliher and Anderson, 2010), and are less often regarded as "ideal workers" (Lott and Klenner, 2018; Williams et al., 2013). A dummy variable controlled for whether employees received wages above the collectively agreed-upon pay scale. At German workplaces with collective agreements—e.g, in the industry

sectors—employees who are paid above this pay scale generally more often have access to flexible work arrangements (Felstead et al., 2002; Lott and Chung, 2016). With regard to the restricted access to flexible work arrangements for lower- and mid-level employees, the analysis also took into account the vertical segregation of the workplace by means of three proxy variables: management position (0 = no, 1 = yes), status position (0 = blue-collar worker, 1 = white-collar worker) and pre-tax monthly wages (continuous variable). In addition, access to home-based working might further depend on the functional area, a variable therefore controlled in terms of whether employees worked in production (1), sales/marketing (2), cross-divisional function/administration (3) or services (4). Because employees with fixed-term contracts are often excluded from flexible work arrangements (Felstead et al., 2002), a dummy variable was used to control for whether employees had a permanent contract.

Because access to flexible work arrangements depends on the sector (Chung, 2019), and these are offered mainly in larger establishments (Brenke, 2016)—possibly being more common in large, powerful establishments in industry sectors such as the automotive industry, which is located in specific regions in Germany, especially in the south—the sector, establishment size and region were taken into account. We therefore controlled for the sector based on the German Classification of Economic Activities, issue 1993 (WZ93): manufacturing industries (1), metal/electronics/automotive industries (2), retail/transport/media sectors (3), business services/financial services (4), and information, communications, other services (5); the size of the establishment: 0–99 employees (1), 100–249 employees (2), 250–499 employees (3), and 500 and more employees (4); and the region: north (1), east (2), south (3) and west (4).

Since household context can influence workers' commitment and their experiences with home-based work, a number of household characteristics were considered as well. For example, employees who have (very young) children or who live with a partner and are generally responsible for unpaid household and care work (van der Lippe et al., 2011) have a greater need for home-based work in order to balance work and family, a situation that tends to affect more women than men. Also, home-based working is less often available to women (Chung, 2019; Lambert and Haley-Lock, 2014; Lott and Abendroth, 2020). Thus, the analysis took into account whether employees were female (0 = no, 1 = yes), lived with a partner (0 = no, 1 = yes) and had children (0 = no children, 1 = one child, 2 = two children, and 3 = three and more children). The age of the youngest child was taken into account by using two dummy variables (ages 0 to 3 years and 4 or 5 years).

Finally, we controlled for employees' age (continuous variable) and migration background (0 = no, 1 = yes). Access to home-based working might depend on seniority, and employees with a migration background often have less access to home-based work (Lambert and Haley-Lock, 2014). Finally, since the implications of flexible work arrangements differ depending on an employee's educational background (Fuller and Hirsh, 2019), we controlled for level of education achieved: primary school (1), secondary education (2), and university or university of applied sciences (3). (An over-

view of all the variables used in the analyses for the three-wave sample and the second-wave sample can be found in Tables A1 and A2, respectively, in the online Appendix.)

3.6   Econometric strategy

To analyze a) how the use of home-based working and the experiences with the use of home-based working, i.e. blurred boundaries and improved work–life balance, affects commitment (Table 1) and b) how perceived managerial trust and perceived managerial fairness affects the experiences with home-based working (Table 2), we chose a multilevel mixed-effects linear regression model (see Hox, 2017), with robust standard errors using the Huber/White/sandwich estimator. We fit the model

$$y_{ij} = \beta_0 + \beta_1 X_{ij} + u_j + \epsilon_{ij}$$

for *i* companies and *j* employees. Finally, trust and fairness were introduced as moderator variables for the association between experiences with home-based working and commitment in the multilevel mixed-effects linear regression model (Table 3).

4 Results

In the sample, almost 16% of the employees worked from home (Table A1). The shares of employees who experienced blurred boundaries and who experienced an improved work–life balance with home-based working were equal with around 8% (Table A1). Table 1 shows the correlations for the dependent and explanatory variables used in the study. Home-based working was positively and significantly related to commitment (r = 0.08, p < 0.01) as well as the experience of an improved work–life balance with home-based working (r = 0.05, p < 0.05). The correlation between experienced blurred boundaries with home-based working and commitment was not significant. The correlations between perceived managerial trust/fairness and the experiences with home-based working were not or only weakly statistically significant.

Table 1: Correlation matrix

	1	2	3	4	5
1 Commitment					
2 Home-based working	0.0818 **				
3 Improved WLB	0.0497 *	0.6710 ***			
4 Blurring boundaries	0.0259	0.6963 ***	0.4577 ***		
5 Perceived managerial trust	0.3717 ***	0.0428 *	0.0344 †	-0.0109	
6 Perceived managerial fairness	0.2638 ***	0.0271	0.0199	-0.0262	0.4528 ***

***p < 0.001; **p < 0.01; *p < 0.05; †p < 0.10
Data from LPP 2014/15; N=2,362

Source: Author's estimations

WSI

Table 2 shows the regression results. Employees who worked from home had a significantly higher organizational commitment (p < 0.01, Model 1). This result provides evidence in support of hypothesis H1. However, it is assumed that the effect of home-based working depends on the experience of blurred boundaries or improved work–life balance. Home-based workers who experienced blurred boundaries were significantly less likely to report high organizational commitment (p < 0.05, Model 2). This finding confirms hypothesis H2A. Employees' use of home-based work is less likely to be related to commitment when it goes hand in hand with the blurring of the boundaries between work and personal life. Experiences of improved work–life balance, however, were not found to boost an employee's commitment. Thus, we found no evidence in support of hypothesis H2B, that employees' use of home-based work is more likely to be related to organizational commitment when it improves work–life balance.

Table 2: Multilevel mixed-effects linear regression models for commitment

	Model 1	Model 2
Home-based working	0.036** (0.013)	0.053** (0.018)
Experiences with home-based working		
Blurred boundaries		−0.046* (0.022)
Improved work–life balance		0.013 (0.021)
Controls		
Workplace characteristics	yes	yes
Company characteristics	yes	yes
Household characteristics	yes	yes
Individual characteristics	yes	yes
Constant	0.325** (0.099)	0.326** (0.099)
sd(constant)	0.056 (0.010)	0.056 (0.218)
Number of employees	2,362	2,362

Multilevel mixed-effects linear regression models with robust standard errors in parentheses. Commitment was the dependent variable.

***p < 0.001; **p < 0.01; *p < 0.05; †p < 0.10
Data from LPP 2014/15.

Source: Author's estimations **WSI**

We further assumed that perceived managerial trust and fairness prevents home-based workers from experiencing blurred boundaries and promotes employees' experiences of improved work-life balance. The results further show that perceived fairness in the supervisor–employee exchange relationship is negatively associated with home-based workers' experiences of blurred boundaries (p < 0.01, Model 1, Table 3). This provides evidence to support hypothesis H4A, that a fair exchange relationship between employee and supervisor prevents a home-based worker's experiences of blurred boundaries. Fairness in the exchange relationship would imply a balanced realization of the flexibility interests of both the supervisor and the employee. In contrast, a lack of fairness indicates that the supervisor's flexibility interests outweigh those of the employee. In this case, a lack of fairness seems to mean that employees use home-based work so they can work longer hours in order to meet high work demands and not to achieve work–life balance. Trust and fairness, however, do not have statistically significant effects on home-based workers' experiences of improved work–life balance (Table 3, Model 2). Home-based workers who do not experience

improved work–life balance may be able to simply maintain but not improve their work–life balance or gain other advantages through home-based working that equally encourage their commitment when compared with home-based workers who do experience improved work–life balance.

Table 3: Multilevel mixed-effects linear regression models for experienced blurred boundaries and experienced improved work–life balance with home-based working

	Experienced blurred boundaries	Experienced improved work–life balance
	Model 1	Model 2
Perceived managerial trust	-0.001 (0.002)	0.002 (0.003)
Perceived managerial fairness	-0.025† (0.013)	-0.002 (0.013)
Controls		
Workplace characteristics	yes	yes
Company characteristics	yes	yes
Household characteristics	yes	yes
Individual characteristics	yes	yes
Constant	-0.138 (0.099)	-0.265** (0.092)
Random-effects parameters		
sd(constant)	0.029 (0.015)	0.040 (0.018)
Number of employees	2,362	2,362

Multilevel mixed-effects linear regression models with robust standard errors.
Model 1: Experienced blurred boundaries with home-based working was the dependent variable;
Model 2: Experienced improved work–life balance with home-based working was the dependent variable.

***p < 0.001; **p < 0.01; *p < 0.05; †p < 0.10
Data from LPP 2014/15

Source: Author's estimations   **WSI**

Table 4 shows the results for perceived managerial trust and fairness, which were integrated as moderators for the relationship between the experienced with home-based working and organizational commitment. The interaction term between improved work-life balance with home-based working and perceived managerial trust is not statistically significant (Model 1). The interaction between improved work-life balance with home-based working and perceived managerial fairness is statistically significant (p < 0.05, Model 2), but the predictive margins for improved work-life balance with (0.65) and without perceived fairness (0.60) are not significantly different according to the chi-squared-test. Hypotheses H3B and H4B have not been confirmed — trust and fairness in the supervisor–employee ex-

change relationship do not reinforce the positive implications of the use of home-based work with respect to organizational commitment.

The interaction terms for experienced blurred boundaries with home-based working and perceived trust as well as perceived fairness are statistically significant (with perceived trust: $p < 0.05$, Model 3; with perceived fairness: $p < 0.10$, Model 4). Trust in the supervisor–employee exchange relationship associated with a less negative effect of blurred boundaries with home-based working on commitment. The predictive margins for blurred boundaries and no perceived trust are 0.49, for blurred boundaries and the highest level of trust 0.65. The predictive margins are significantly different according to the chi-squared-test ($p < 0.10$). Fairness in the supervisor–employee exchange relationship also associated with a less negative effect of blurred boundaries with home-based working on commitment. The predictive margins for blurred boundaries and no perceived fairness are 0.54, for blurred boundaries and fairness 0.62. The predictive margins are significantly different according to the chi-squared-test ($p < 0.05$). Hypotheses H4B and H4C have been confirmed— trust and fairness in the supervisor–employee exchange relationship reduces the negative implications of the use of home-based work with respect to organizational commitment.

Table 4: Multilevel mixed-effects linear regression models for commitment, with interaction terms between the experiences with home-based work and perceived managerial trust /fairness

	Model 1	Model 2	Model 3	Model 4
Home-based working	0. 040*	0.047**	0.037*	0.043*
	(0.018)	(0.017)	(0.018)	(0.017)
Experiences with home-based working				
Blurred boundaries	-0.025	-0.033	0.232*	0.232
	(0.022)	(0.023)	(0.094)	(0.035)
Improved work–life balance	0.113	0.011	0.008	0.011
	(0.100)	(0.021)	(0.021)	(0.021)
Perceived managerial trust	0.051***		0.053***	
	(0.002)		(0.002)	
Perceived managerial fairness		0.146***		0.146***
		(0.012)		(0.012)
Blurred boundaries × perceived managerial trust			-0.033**	
			(0.011)	
Blurred boundaries × perceived managerial fairness				-0.068†
				(0.038)
Improved work–life balance × perceived managerial trust	-0.013			
	(0.012)			
Improved work–life balance × perceived managerial fairness		-0.089*		
		(0.036)		
Controls				
Workplace characteristics	yes	yes	yes	yes
Company characteristics	yes	yes	yes	yes
Household characteristics	yes	yes	yes	yes
Individual characteristics	yes	yes	yes	yes
Constant	-0.120	0.201*	-0.014*	0.196*
	(0.090)	(0.098)	(0.090)	(0.098)
Random-effects parameters				
sd(constant)	0.039	0.045	0.039	0.046
	(0.010)	(0.010)	(0.010)	(0.010)
Number of employees	2,362	2,362	2,362	2,362

Multilevel mixed-effects linear regression models with robust standard errors in parentheses. Commitment was the dependent variable.

***p < 0.001; **p < 0.01; *p < 0.05; †p < 0.10
Data from LPP 2014/15.

Source: Author's estimations

WSI

5 Discussion

Work organizations are increasingly under pressure to offer home-based working as a work arrangement that can facilitate the integration of employees' work and personal lives. However, studies have provided mixed evidence as to whether investment in home-based working by employers is a business case in which workers respond with greater commitment to the organization (for a review, see de Menezes and Kelliher, 2011). The aim of our research was to investigate different forms of the implementation of home-based working and their different implications for organizational commitment.

First, we concluded that, overall, the use of home-based working is associated with greater organizational commitment. This aligns with social exchange theory and the norm of reciprocity (Blau, 1964), as well as with the concept of the psychological contract (Rousseau 1995; Schaufeli 2006), which indicates that employees increase their organizational commitment in return for supportive resources provided by the work organization. This seems to be the case, since the use of home-based working serves employees' self-interest in achieving a better work–life balance (Casper and Harris, 2008; Lind and Tyler, 1988). Indeed, characterizing home-based working as a resource for improving one's work–life balance has a long tradition in this area of research. It has been argued that home-based working reduces work–life conflicts because it saves time and thus allows for travel that can be used for other private obligations and because it involves greater work autonomy, which allows employees to reschedule work in such a way that they can react to both predictable and unpredictable demands within the family domain (Abendroth and den Dulk, 2011; Bakker and Demerouti, 2007; Kossek et al., 2006).

In taking a closer look at these assumptions, we also concluded that home-based working is less likely to result in a greater organizational commitment when employees experience blurred boundaries as a consequence. It appears that this experience of having difficulties in drawing boundaries between one's work and personal life domains is the result not only of working and living in the same location (Clark, 2000; Kossek et al., 2006) but also of the nature of the supervisor–employee exchange dynamics with regard to trust and fairness. Whereas perceived trust in the supervisor–employee relation is of no importance when it comes to home-based workers' experiences of blurred boundaries, perceived fairness in this relationship is associated with a lower likelihood of such experiences. This finding suggests that blurred boundaries also seem to be one result of exchange dynamics whereby employees respond to the option of working at home to some extent by increasing their work investment, in terms of time and energy spent, as a way of proving that they are productive in the home setting (Abendroth and Reimann, 2018; Chung, 2019; Lott and Chung, 2016).

Our results align more with the argument that fairness in the exchange relationship will increase the likelihood of implementing home-based working that considers the flexibility interests of both employers and employees equally. A lack of fairness makes blurred boundaries with home-based working more likely because it implies that the flexibility interests of the em-

ployer outweigh those of the employee. Indeed, previous research indicates that employers use home-based working to render workers more accessible within highly demanding work cultures and to satisfy high-performance work strategies, reflecting an exaggerated ideal worker norm (Abendroth and Reimann, 2018; Appelbaum et al., 2000; Cha and Weeden, 2014; Chung, 2019; Godard, 2001; Kelliher and Anderson, 2010; White et al. 2003).

Our findings further align with the evidence of the moderating role of the supervisor for the implications of home-based working when it comes to an employee's work commitment (Choi, 2018; Wang and Walumbwa, 2007). We found that trust and fairness in the exchange relationship between employee and supervisor moderate the implications of home-based working for commitment. Trust and fairness in the exchange relationship reduce the negative implications of the use of home-based work, i.e. blurring of boundaries, for organizational commitment.

Future research will be needed to obtain more detailed information concerning the social exchange dynamics involved when flexible working arrangements are implemented. This study found no evidence to support the argument that experiences of an improved work–life balance with home-based working increases employees' organizational commitment. Also, trust and fairness in the supervisor–employee exchange relationship were not found to promote experiences of improved work–life balance as a result of home-based working. Employees who report neither an increase in blurred boundaries nor an improved work–life balance may benefit in other ways from home-based working and that these benefits, in addition to improved work–life balance, are equally likely when trust and fairness are present. Quantitative and qualitative data are needed that can reveal the mechanisms of social exchange not only between employees and supervisors but also between employees and their coworkers, whose work can be affected by others' use of flexible working arrangements (Golden, 2007; van der Lippe and Lippényi, 2019). Finally, more extensive longitudinal data are needed for future research in order to investigate changes in employees' flexible working arrangements and their effects on organizational commitment as well as on the issue of work–life balance. Also, personality traits must be measured in order to account for the different segmentation/integration preferences (Ashforth et al., 2000) as well as the various of heavy work investment (Snir and Harpaz, 2012).

Nevertheless, the present study contributes to our understanding of the social exchange dynamics of flexible working arrangements and organizational commitment, thereby extending the theoretical concept of the gift exchange relationship (Chung, 2019; Kelliher and Anderson, 2010). This concept assumes that employees increase their work investments in time and energy in return for the privilege of home-based working, thanks to their supervisor. This exchange dynamic, however, is shaped by trust and fairness in the supervisor–employee relationship. Employees seem to respond by working more intensely primarily when they feel they are not trusted to be productive at home or when they perceive the relationship with their supervisor to be unfair—that is, when flexible working arrangements are implemented only to satisfy the flexibility interests of the

employer. This unbalanced exchange relation has two consequences: first, employees experience blurred boundaries when they adopt the flexible working arrangement; and second, employees who experience blurred boundaries associated with flexible working arrangements show a lower organizational commitment. Thus, when the supervisor–employee exchange dynamics are unbalanced (i.e., characterized by a lack of trust and fairness), employees respond by intensifying their work but do not increase their organizational commitment.

Another theoretical implication of this study is that it highlights the crucial role of perceived fairness in social exchange relations at the workplace. So far, most studies (e.g., Choi, 2018; Kossek et al., 2006; Thompson et al., 1999) have shown that supervisory support shapes the outcomes of flexible working arrangements. Choi (2018) further emphasized the importance of trust for the successful implementation of flexible working arrangements. Fairness seems to be another important resource for social exchange relations. In a fair social exchange relationship, employees provide their labor (performance) and receive compensation in return, such as incomes, job security, opportunities for promotion, and prestige (Chan and Goldthorpe, 2007; Diewald, 2007; Rousseau, 1995; Siegrist and Theorell, 2006), which is in line with social exchange theory (Blau, 1964). The present study suggests that a fair return also includes flexibility that will satisfy the interest of the employees. Such employee-oriented flexibility is part of the support that supervisors or employers offer to employees and that are—besides money and status—crucial resources in social exchange relations (Foa and Foa, 1980).

In addition to these theoretical implications, we can also draw policy implications from our results. First, in order to establish the business case in which flexible work arrangements are to the benefit of employers in terms of employees' organizational commitment (de Menezes and Kelliher, 2011; den Dulk et al., 2012), their implementation must take into consideration employees' interests and avoid blurring the boundaries between employees' work and personal lives. Second, trustworthy and fair relationships between supervisors and employees must be developed, for example by training supervisors in handling employees' requests for flexibility and the challenges they face in balancing work and personal life. This is also essential to avoid high turnover rates, because employees who experience blurred boundaries are at greater risk of quitting their jobs (Blomme et al., 2010; Haar, 2004). And third, in addition to income, job security, opportunities for promotion, and prestige, employees' interests include flexible working arrangements as an integral part of fairness in supervisor–employee exchange dynamics. In light of workers' increasing demands for work–life balance in many countries (Delina and Prabhakara Raya, 2013; Kinman and Jones, 2008), employers can expect that employee-oriented flexibility will come to play an even more important role in the future. Employers and supervisors must increasingly adapt to this growing need and demand for flexible working arrangements in order to enhance work–life balance.

References

Abendroth A-K and den Dulk L (2011) Support for the work–life balance in Europe: The impact of state, workplace and family support on work–life balance satisfaction. *Work, Employment and Society* 25(2): 234–256.

Abendroth A-K and Diewald M (2019) Auswirkungen von Teleheimarbeit auf geschlechtsspezifische Einkommensungleichheiten in Arbeitsorganisationen: Die Bedeutung unterschiedlicher Umsetzungsformen. *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 71(1): 81–109.

Abendroth A-K and Reimann M (2018) Telework and work–family conflict across workplaces: Investigating the implications of work–family-supportive and high-demand workplace cultures. In: Blair SL and Obradovic J (eds) *The Work–Family Interface: Spillover, Complications and Challenges.* Bingley: Emerald, 323–348.

Acker J (1990) Hierarchies, jobs, bodies: A theory of gendered organizations. *Gender & Society* 4(2): 139–158.

Appelbaum ER, Bailey T, Berg P and Kalleberg A (2000) *Manufacturing Advantage: Why High-Performance Work Systems Pay Off.* Ithaca, NY: Cornell University Press.

Ashforth BE, Kreiner GE and Fugate M (2000) All in a day's work: Boundaries and micro role transitions. The Academy of Management Review 25(3): 472– 491.

Bakker AB and Demerouti E (2007) The job demands–resources model: State of the art. *Journal of Managerial Psychology* 22(3): 309–328.

Blau PM (1964) *Exchange and Power in Social Life.* New York, NY: Wiley.

Blomme RJ, Van Rheede A and Tromp DM (2010) Work–family conflict as a cause for turnover intentions in the hospitality industry. *Tourism and Hospitality Research* 10(4): 269–285.

Brenke K (2016) Home Office: Möglichkeiten werden bei Weitem nicht ausgeschöpft. *DIW-Wochenbericht* 5/2016: 95–105.

Casper WJ and Harris CM (2008) Work–life benefits and organizational attachment: Self-interest utility and signaling theory models. *Journal of Vocational Behavior* 72(1): 95–109.

Cha Y and Weeden K (2014) Overwork and the slow convergence in the gender gap in wages. *American Sociological Review* 79(3): 457–484.

Chan TW and Goldthorpe JH (2007) Class and status: The conceptual distinction and its empirical relevance. *American Sociological Review* 72(4): 512–532.

Chen Y and Fulmer IS (2018) Fine-tuning what we know about employees' experience with flexible work arrangements and their job attitudes. *Human Resource Management* 57(1): 381–395.

Choi S (2018) Managing flexible work arrangements in government: Testing the effects of institutional and managerial support. *Public Personnel Management* 47(1): 26–50.

Chung H (2019) "Women's work penalty" in access to flexible working arrangements across Europe. *European Journal of Industrial Relations* 25(1): 23–40.

Chung H and Lippe T van der (2018) Flexible working, work-life balance and gender equality: Introduction. *Social Indicator Research* (online first).

Chung H and Tijdens K (2013) Working time flexibility components and working time regimes in Europe: Using company-level data across 21 countries. *The International Journal of Human Resource Management* 24(7): 1418–1434.

Clark SC (2000) Work/family border theory: A new theory of work/family balance. *Human Relations* 53(6): 747–770.

Delina G and Prabhakara Raya R (2013) A study on work–life balance in working women. *IRACST – International Journal of Commerce, Business and Management* 2(5): 274–282.

De Menezes LM and Kelliher C (2011) Flexible working and performance: A system review of the evidence for a business case. *International Journal of Management Reviews* 13(4): 452–474.

Den Dulk L, Peters P and Poutsma E (2012) Variations in adoption of workplace work–family arrangements in Europe: The influence of welfare-state regime and organizational characteristics. *The International Journal of Human Resource Management* 23(13): 2785–2808.

Den Dulk L, Peper B, Sadar NČ, Lewis S, Smithson J and Doorne-Huiskes A van (2011) Work, family and managerial attitudes and practices in the European workplace: Comparing Dutch, British and Slovenian financial sector managers. *Social Politics* 18(2): 300–329.

Diewald M (2007) Arbeitsmarktungleichheiten und die Verfügbarkeit von Sozialkapital. In: Franzen A and Freitag M (eds) Sozialkapital: Theoretische Grundlagen und empirische Befunde. Special issue of *Kölner Zeitschrift für Soziologie und Sozialpsychologie* S47: 183–210.

Felstead A, Jewson N, Phizacklea A and Walters S (2002) The option to work at home: Another privilege of the favoured few? *New Technology, Work and Employment* 17(3): 204–223.

Foa EB and Foa UG (1980) Resource theory: Interpersonal behavior as exchange. In: Gergen, KJ, Greenberg MS and Willis RH (eds) *Social Exchange: Advances in Theory and Research*. New York, NY: Plenum Press, 77–94.

Fuller S and Hirsh CE (2019) "Family-friendly" jobs and motherhood pay penalties: The impact of flexible work arrangements across the educational spectrum. *Work and Occupations* 46(1): 3–44.

Godard J (2001) High performance and the transformation of work? The implications of alternative work practices for the experience and outcomes of work. *Industrial and Labor Relations Review* 54(4): 776–805.

Golden T (2007) Co-workers who telework and the impact on those in the office: Understanding the implications of virtual work for co-worker satisfaction and turnover intentions. *Human Relations* 60(11): 1641–1667.

Guzzo RA and Noonan KA (1994) Human resource practices as communications and the psychological contract. *Human Resource Management* 33(3): 447–462.

Haar JM (2004) Work–family conflict and turnover intention: Exploring the moderation effects of perceived work–family support. *New Zealand Journal of Psychology* 33(1): 35–39.

Hox JJ (2017) *Multilevel Analysis: Techniques and Applications* (3rd ed). London: Routledge Academic.

Kelliher C and Anderson D (2010) Doing more with less? Flexible working practices and the intensification of work. *Human Relations* 63(1): 83–106.

Kelly EL, Ammons SK, Chermack K and Moen P (2010) Gendered challenge, gendered response: Confronting the ideal worker norm in a white-collar organization. *Gender & Society* 24(3): 281–303.

Kinman G and Jones F (2008) A life beyond work? Job demands, work–life balance and wellbeing in UK academics. *Journal of Human Behavior in the Social Environment* 17(1/2): 41–60.

Konrad AM and Yang Y (2012) Is using work–life interface benefits a career-limiting move? An examination of women, men, lone parents, and parents with partners. *Journal of Organizational Behavior* 33(8): 1095–1119.

Kossek EE (2016) Managing work–life boundaries in the digital age. *Organizational Dynamics* 45(3): 258–270.

Kossek EE, Lautsch BA and Eaton SC (2006) Telecommuting, control and boundary management: Correlates of policy use and practice, job control and work–family effectiveness. *Journal of Vocational Behavior* 68(2): 347–367.

Lambert SJ and Haley-Lock A (2014) The organizational stratification of opportunities for work–life balance. *Community, Work & Family* 7(2): 179–195.

Lind EA and Tyler TR (1988) *The Social Psychology of Procedural Justice.* New York, NY: Plenum Press.

Lippe T van der and Lippényi Z (2019) Co-workers home-based working and individual and team performance. *New Technology, Work and Employment* 35(1): 60–79.

Lippe T van der, Ruijter J de, Ruijter E de and Raub W (2011) Persistent inequalities in time use between men and women: A detailed look at the influence of economic circumstances, policies and culture. *European Sociological Review* 27(2): 164–179.

Lott Y and Abendroth A-K (2020) The non-use of telework in an ideal worker culture: Why women perceive more cultural barriers. *Community, Work & Family* 23(5): 593–611.

Lott Y and Chung H (2016) Gender discrepancies in the outcomes of schedule control on overtime hours and income in Germany. *European Sociological Review* 32(6): 752–765.

Lott Y and Klenner C (2018) Are the ideal worker and ideal parent norms about to change? The acceptance of part-time and parental leave at German workplaces. *Community, Work & Family* 21(5): 564–580.

Mackeben J, Ruf K, Grunau P and Wolter S (2018) LPP – Linked Personnel Panel 1617 – Arbeitsqualität und wirtschaftlicher Erfolg: Längsschnittstudie in deutschen Betrieben (Datendokumentation der dritten Welle), *FDZ-Datenreport* 4/2018, Nuremberg: Research Data Centre (FDZ) of the German Federal Employment Agency.

Messenger J, Vargas Llave O, Gschwind L, Boehmer S, Vermeylen G and Wilkens M (2017) *Working Anytime, Anywhere: The Effects on the World of Work.* Luxembourg: Publications Office of the European Union.

Meyer JP and Allen NJ (1991) A three-component conceptualization of organizational commitment: Some methodological considerations. *Human Resource Management Review* 1(1): 61–89.

Rousseau DM (1995) *Psychological Contracts in Organizations: Understanding Written and Unwritten Agreements.* Thousand Oaks, CA: Sage.

Schaufeli WB (2006) The balance of give and take: Toward a social exchange model of burnout. *Revue international de psychologie sociale/International Review of Social Psychology* 19(1): 75–119.

Siegrist J and Theorell T (2006) Socio-economic position and health: The role of work and employment. In: Siegrist J and Marmot M (eds) *Social Inequalities in Health: New Evidence and Policy Implications.* Oxford: Oxford University Press, 73–97.

Snir R and Harpaz I (2012) Beyond workaholism: Towards a general model of heavy work investment. *Human Resource Management Review* 22: 232–243.

Thompson CA, Beauvais LL and Lyness KS (1999) When work–family benefits are not enough: The influence of work–family culture on benefit utilization, organizational attachment and work–family conflict. *Journal of Vocational Behavior* 54(3): 392–415.

Wang P and Walumbwa FO (2007) Family-friendly programs, organizational commitment and work withdrawal: The moderating role of transformational leadership. *Personnel Psychology* 60(2): 397–427.

White M, Hill S, McGovern PG, Mills C and Smeaton D (2003) "High-performance" management practices, working hours and work–life balance. *British Journal of Industrial Relations* 41(2): 175–195.

Williams JC, Blair-Loy M and Berdahl JL (2013) Cultural schemas, social class and the flexibility stigma. *Journal of Social Issues* 69(2): 209–234.

Appendix

Table A1: Variables of the Analysis of Commitment, part 1

Variable	Percent (Mean*)	Std. Dev.	Min	Max
Home-based working	15.87		0	1
Work commitment	0.63*	0.23	0	1
Experiences with home-based working				
Blurring boundaries	8.38		0	1
Improved work-life balance	7.83		0	1
Perceived managerial trust	7.57*	1.77	2	10
Perceived managerial fairness	75.44		0	1
Female employees	24.17		0	1
Wite collar employees	59.77		0	1
Leadership position	31.2		0	1
Contractual working time	36.31*	6.07	4	90
Wages above the collectively agreed pay scale	22.18		0	1
Pre-tax monthly wages	3781.55*	10575.07	399	500,000
Fixed-term contracts	3.04		0	1
Functional areas				
Production	46.64		0	1
Sales/marketing	10.07		0	1
Cross-divisional function/administration	13.88		0	1
Services	30.39		0	1
Sector				
Manufacturing industries	32.77		0	1
Metal/electronics/automotive industries	39.11		0	1
Retail/transport/media sectors	10.79		0	1
Business services/financial services	11.04		0	1
Information, communications, other services	6.26		0	1
Region				
North	15.71		0	1
East	21.16		0	1
South	28.78		0	1
West	34.33		0	1
Establishment size				
0–99 employees	10.67		0	1
100-249 employees	24.76		0	1
250-499 employees	25.61		0	1
>=500 employees	38.95		0	1
Living with a partner in one household	82.38		0	1
Number of children				
No child	57.75		0	1
One child	23.45		0	1
Two children	16.00		0	1
Three and more childeren	2.79		0	1
Age of youngest child (0-3 years)	11.04		0	1
Age of youngest child (4 to 5 years)	16.46		0	1

Table A1: Variables of the Analysis of Commitment, part 2

Variable	Percent (Mean*)	Std. Dev.	Min	Max
Education				
Primary school	25.57			
Secondary education	44.32		0	1
University/ applied sciences	30.10		0	1
Age	44.92*	9.41	18	65
Migration background	18.71		0	1

Note: LPP 2014/15; N=2,362

Source: Author's estimations

WSI

Authors:
Dr. Yvonne Lott
WSI of the Hans-Böckler-Foundation
yvonne-lott@boeckler.de

Prof. Dr. Anja Abendroth
University of Bielefeld
anja.abendroth@uni-bielefeld.de