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Article — Published Version

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New Technology, Work and Employment

Provided in Cooperation with:

John Wiley & Sons

Suggested Citation: Mergener, Alexandra; Trübner, Miriam (2022) : Social relations and employees' rejection of working from home: A social exchange perspective, New Technology, Work and Employment, ISSN 1468-005X, Wiley, Hoboken, NJ, Vol. 37, Iss. 3, pp. 469-487, <https://doi.org/10.1111/ntwe.12247>

This Version is available at:

<https://hdl.handle.net/10419/287920>

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RESEARCH ARTICLE

Social relations and employees' rejection of working from home: A social exchange perspective

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Abstract

Why do employees prefer working on-site rather than working from home (WfH)? This article examines how personal concerns at the level of social relationships affect rejection of WfH. Using a large-scale representative survey of employees in Germany ($N = 4448$), we apply logistic regression analyses to examine, first, the association between employees' social relationships at work and rejection of WfH and, second, the moderating effects of social relations in the private sphere. Results indicate that the quality of the working atmosphere with colleagues and the supervisor is a motive for rejecting WfH, more so for people living alone than for couples and families. Changes in working culture due to widespread use of new technology and digital mobile devices and, not least, the extensive experiences with WfH during the Covid-19 pandemic, highlight the relevance of considering employees' workplace preferences in future research.

KEYWORDS

living arrangements, logistic regression, remote work, SET, social exchange theory, social integration, WfH, working from home

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INTRODUCTION

The widespread job-related use of digital information and communication technologies (ICT) often allows access to work content and contact with colleagues from any location. Thus, opportunities to work outside the employer's premises and instead from home are becoming increasingly common — not least during the Covid-19 pandemic. In public discussions on this topic, it is often assumed that working from home (WfH) is an attractive job quality feature for every employee and that previously untapped WfH potential should be exploited (e.g., Brenke, 2016). Despite alleged WfH advantages, for example, higher ability to concentrate (e.g., Biron & van Veldhoven, 2016), job satisfaction (e.g., Wheatley, 2017), or better work–life balance (e.g., Felstead et al., 2002), pre-Covid-19 data for Germany has revealed that about one-third of all employees with untapped WfH potential do not want to work from home (Mergener, 2020a). Hence, even if the occupational tasks, the technological equipment, and the employer would allow it, there are reasons why employees reject this flexible work arrangement.

Already known motives for unused WfH include technical barriers (e.g., lack of technical feasibility), cultural barriers (e.g., concerns about a negative signal effect) (Lott & Abendroth, 2020), and professional isolation (e.g., worse career opportunities) (Cooper & Kurland, 2002; Golden et al., 2008). These motives focus on work- and career-related aspects, and personal concerns on a social level have gone largely unaddressed in previous research. To fill this study gap, this paper focuses on how social relationships are associated with employees' rejection of WfH.

Research on social aspects of on-site working, such as the feeling of belonging to a group (Baumeister & Leary, 1995) and the support and recognition of colleagues and supervisors (Evans & Repper, 2000), has already shown that it cannot be fully experienced at physical distance. In this context, it is argued that social isolation is a key challenge for employees who WfH (e.g., Choi, 2018). WfH may increase the risk of becoming invisible in the workplace, missing out on office gossip (Bailey & Kurland, 2002), losing social interactions and support (Charalampous et al., 2019; Cooper & Kurland, 2002; Sardeshmukh et al., 2012) and, thus, worsening the quality of relations with coworkers (Wöhrmann & Ebner, 2021). This is supported by recent research during the Covid-19 pandemic in 2020, when many employees were WfH, but had already reported wanting to return to the on-site workplace as soon as possible, mainly for the above-mentioned reasons (Kunze et al., 2020; Shockley et al., 2020).

However, it seems that the perceived quality of personal interactions is also decisive for preferring on-site work (Wright & Silard, 2021). Supportive colleagues can increase employees' job satisfaction or organizational commitment (Chiaburu & Harrison, 2008), and negative working atmosphere can lead to job dissatisfaction, higher stress level (Winnubst & Schabracq, 1996), or perceived loneliness at work (Wright & Silard, 2021). Accordingly, spatial distance due to WfH can actually be beneficial for employees who experience negative atmosphere and unsupportive relationships at work by buffering them from the downsides of their jobs (Collins et al., 2016; Golden & Gajendran, 2019).

Moreover, the importance of social relationships at work differs by private social life of remote workers, as people without strong social networks outside of work might value social interactions at work more. Thus, teleworkers living together with their families are less likely to feel socially isolated than those living alone, suggesting that they may compensate to a certain degree for lack of social interactions with coworkers through interactions with spouses or children (Feldman & Gainey, 1997; Recchi et al., 2020; Shockley et al., 2020).

According to social exchange theory (SET), individuals seek utility when interacting with others. The type of exchange relationship differs depending on the role of the exchange partner

(e.g., coworker, supervisor, intimate partner) and the benefits received. Spending time with friends and acquaintances usually brings intrinsic utility—the joy of being with someone you like—while working in a team at work is mainly, but not only, associated with extrinsic benefits in the form of approval or praise.

Against this theoretical backdrop, we expect social aspects to be a potential motive for employees' rejecting WfH, which have not been investigated so far. To enhance prior research, this study focuses on how social relationships at work and in private are associated with employees' decisions not to work from home, posing the research question: *To what extent do aspects of workplace social relations affect employees' WfH rejection and how important are living arrangements in this context?*

We performed analyses based on the probability-based 2018 German Employment Survey of the Federal Institute for Vocational Education and Training (BIBB) and the Federal Institute for Occupational Safety and Health (BAuA). The BIBB/BAuA Employment Survey 2018 (Hall et al., 2020) is an outstanding data set that offered unique potential for addressing our research question. Compared to other datasets, especially panel studies, it is the only large-scale survey that includes employee preferences when not WfH, a variety of aspects regarding relationships with colleagues and supervisors, information on personal living situations, and a large number of socio-demographics and job-related items. This allowed us, strongly relying on theory and prior knowledge, to include relevant variables to avoid confounding bias (Elwert & Winship, 2014) and to estimate the causal effect of workplace social relations on WfH rejection as closely as possible. In a first step, we used logistic regression models to reveal the association between the quality of the social relationship between employees and their colleagues or supervisors and the preference for rejecting WfH. In a second step, we examined how private social relationships moderate these effects by integrating interaction effects of private and work-related relationships in the model.

Our study examined employees in Germany, which is representative in that WfH shares have so far been roughly in line with the European average (Alipour et al., 2020), but there is great potential for an increase due to many jobs containing a high degree of cognitive tasks allowing for WfH (Mergener, 2020b). Thus, German policy makers have been calling for a legal right to push WfH usage forward, even before the COVID-19 pandemic. This also brings the motives for nonuse of WfH into the public and political spotlight and makes it even more important to study reasons for employees' self-selected WfH rejection due to aspects of social relations.

In addition to the public and policy implications, this article also contributes to research in four major ways. Our study is the first to examine the relevance of yet undiscovered mechanisms for the preference of the workplace. Apart from the fact that WfH preferences in general have not been widely researched, we go beyond career-centered aspects and examine the role of social aspects at work for the preference of working on-site rather than from home. Second, by integrating the moderating effect of the private background into our analyses, we highlight the importance and interrelation of private living arrangements on work-related preferences, which go beyond the extensively researched aspects of balancing private and work responsibilities. Third, in this context, we demonstrate the possibility of applying SET in the actual context of working conditions in the digital age and, thus, contributing to a further deepening of the understanding of the theory. As a result, fourth, we are able to give indications on how varying needs of employees' can be met more adequately by employers especially in light of a changing work culture due to the experiences of the Covid-19 pandemic.

A SOCIAL EXCHANGE PERSPECTIVE ON REASONS FOR THE REJECTION OF WFH: THEORETICAL FRAMEWORK AND HYPOTHESES

Employees' rejection of WfH due to aspects of social relationships can be framed within the SET. Although there are several branches of this theory, SET can be summed up to actions initiated by self-interested individuals who are seeking utility from interacting with others, eventually leading to exchange relationships when reciprocal transactions follow in return (Blau, 1964; Emerson, 1976; Homans, 1958; Thibaut & Kelley, 1959). These interactions are characterized by the exchange of elements of a tangible nature like money or time but also of an intangible nature like approval and support (Blau, 1964). These interactions are characterized by different forms of benefits actors receive from exchange relationships: Extrinsic benefits are defined by recognition and approval, intrinsic benefits are less specific and defined by positive feelings when spending time with people we like as is often the case with friends and family members (Blau, 1964). Extrinsic relationships are means to get something specific in return, but intrinsic relationships are rewarding in themselves. Hence, commitment to an intrinsic relationship serves the means to receive equal commitment by the counterpart to make the relationship last (Blau, 1964). Relationships between team members in companies are commonly of extrinsic nature, as daily work life is mainly determined by work-related exchanges and feedback from coworkers. However, it is also possible that collaboration among team members can develop into friendships, which eventually generate intrinsic benefits (Berman et al., 2002). Hence, exchange relationships at the workplace can lead to intrinsic and extrinsic benefits.

The nature of these exchange relationships is further divided into negotiated and reciprocal exchange by Molm (1994). In a negotiated exchange, it is decided jointly beforehand who is contributing what into a relationship, for example, the distribution of tasks among employees in a department. In contrast, in a reciprocal exchange relationship, one actor supports another actor without prior consultation and without expecting to receive something immediately in return. Hence, in reciprocal exchange relationships, supportive actions are performed sequentially, and relationships evolve gradually. Reciprocal relationships are common among family and friends but also among employees when supportive actions are unrelated to preallocated tasks (Molm et al., 2012). However, both negotiated and reciprocal exchange relationships are generated through conversation (Dowd, 1981) and share the notion of interdependence (Molm, 1994), meaning that outcomes are dependent on both actors and not just one actor—leading to social integration, balanced power relations (Blau, 1964), and relational solidarity (Molm et al., 2012). In turn, the more benefits someone receives from the time spent with someone else, the higher the desire to interact with the counterpart. In the case of work relationships, this means that employees who receive benefits from exchange relationships with their coworker(s) desire more contact. Reciprocal exchange eventually leads to trust and solidarity, which can but does not necessarily have to develop into private friendships (Molm et al., 2012).

By expanding SET, relational cohesion theory (RCT) assumes that people within the same hierarchical position of an exchange network without power imbalances, such as employee–employee relationships, are more prone to spend time with each other, because they perceive it as enjoyable. Thus, repeated positive encounters are likely to result in the perception of the relationship as a positive cohesive unit that ought to be continued (Lawler et al., 2000). Research revealed that teamwork among employees not only creates social ties

during the time of the shared project work but also contributes to long-lasting informal relationships (Yakubovich & Burg, 2019).

In terms of WfH, research has indicated that social interactions with colleagues are less intense when people WfH (e.g., Shockley et al., 2020; Taylor & Kavanaugh, 2005). WfH may increase the risk of losing a sense of community (Wöhrmann et al., 2020) by, for example, missing out on office gossip with colleagues (Bailey & Kurland, 2002). Thus, we assume that social relations with colleagues are decisive for rejecting WfH. As these social relations, however, seem to be crucial for preferring on-site work only when they are supportive, WfH can be attractive if employees experience an unsupportive working atmosphere with colleagues (Collins et al., 2016; Golden & Gajendran, 2019), and we expect that:

The better the working atmosphere with colleagues, the higher the probability that employees reject WfH (H1a).

Social interaction between employees in the workplace consists not only of interaction between team members, but also of interaction between supervisors and employees (Banks et al., 2014). Accordingly, a supportive working atmosphere can exist not only between colleagues at the same hierarchical level, but also in the relationship between employee and supervisor. Employees who experience a high-quality relationship with their supervisor, characterized by, for example, support and appreciation, show less deviant behavior (El Akremi et al., 2010) and high job satisfaction, as their extrinsic needs are more likely to be fulfilled (Stringer, 2006). In contrast, low-quality relationships characterized by experiences of bullying by the supervisor are shown to have negative effects on employees' attitudes toward the organization (Parzefall & Salin, 2010). In terms of employees' reasons for rejecting WfH, research has shown that employees' concerns about their career advancement being affected by WfH are not related to managerial support, that is, the relationship between the employees and their direct supervisor (Lott & Abendroth, 2020). However, according to the SET, we expect that the relationship at the personal, social level may well influence employees' workplace preference. As the risk of receiving less social support at work in high-quality relationships increases when people WfH (Charalampous et al., 2019), we assume that:

The better the working atmosphere with the supervisor, the higher the probability that employees reject WfH (H1b).

If one person is more dependent on the relationship due to fewer alternatives than the other person with plenty of alternatives, power imbalances can occur in employee–employee relationships (Blau, 1964). Accordingly, Molm (2003) argued that larger social exchange networks have to be considered to completely grasp the full spectrum of social relationships. Other potential exchange partners create opportunities to terminate an exchange relationship and substitute it for another. Thus, strong social networks beyond work can reduce feelings of social isolation from work (Wang et al., 2020). Thereby, studies showed that not the quantity of alternatives matters but the value of the benefits expected (Cook & Yamagishi, 1992; Willer, 1992). In turn, it can be assumed that for employees who are already socially integrated in the private sphere (e.g., by living together with others), social relations at the workplace become less important.

This is supported by research indicating that teleworkers living together with their families are less likely to feel socially isolated than those living alone. It suggests that they may

compensate social interactions with colleagues through interactions with spouses or children (Feldman & Gainey, 1997; Recchi et al., 2020; Shockley et al., 2020). In turn, we expect the benefits of good social relations with colleagues to be higher for employees who live alone, that is, without possibilities to compensate for missing interactions at work in their private home. Thus, they would prefer to work on-site with colleagues rather than WfH to avoid feelings of social isolation. Based on these arguments, we derive the following hypothesis:

The positive effect of a good working atmosphere with colleagues on the probability of rejecting WfH is larger for employees living alone than for those who do not live alone (H2a).

Good social relations with the supervisor are predominantly characterized by support and recognition for the work. This appreciation on a professional level can hardly be replaced by private contacts, such as spouses or children. Since social support may be less when people WfH, we assume that both employees living with their families and those living alone prefer to work on-site, that is, reject WfH, if they have high-quality, supportive social relationships with their supervisor. This leads to the prediction:

The positive effect of a good working atmosphere with the supervisor on the probability of rejecting WfH is unrelated to the living arrangements of employees (H2b).

EMPIRICAL STRATEGY

Data and method

We used data from the German BIBB/BAuA Employment Survey 2018 (Hall et al., 2020), a large-scale representative survey of persons working at least 10 h per week, excluding apprentices. With detailed information on both workplace and personal characteristics, it is an outstanding and unique data set for research on employees in Germany. The strength of the data for the given purpose is that it includes employees' preferences when not using WfH, a variety of aspects regarding relationships with colleagues and supervisor, information on personal living situation, and a large number of socio-demographics and job-related items. Since no other data set, especially no panel study, contains information of comparable detail, the BIBB/BAuA Employment Survey 2018 offers unique potential for addressing the hypotheses raised in this paper. We focused on employees who did not work from home at the time of the survey but who held jobs with WfH potential, that is, employees who assessed that their occupational tasks can theoretically be done from home at least partly or temporarily (Mergener, 2020b). Thus, our analyses based on 4448 employees with untapped WfH potential (excluding freelancers, assisting family members, and the self-employed), aged 18–65 years.

We applied logistic regression models, first, revealing the association between social relationships at work and the dichotomized outcome variable WfH rejection and, second, examining how private social relationships are moderating these effects by considering interactions between private and work-related relations. To interpret the regression coefficients, we computed average marginal effects (AME) and average discrete changes (ADC). To approximate the causal effect as closely as possible, we conditioned on relevant variables in our analyses, strongly derived from theory and prior knowledge, to avoid confounding bias (Elwert & Winship, 2014).

Measures

WfH rejection

The dependent variable WfH rejection distinguishes between employees who stated that they would not work from home in the future, even if their employer allowed them to (1), and employees who would work from home in the future if their employer allowed them to (0). Although we do not know explicitly why WfH is not offered by the employer, this item captures the employee's basic attitude towards wanting to accept a WfH offer or rejecting it. In our sample, 31.6% reject WfH.

Workplace social relations

We applied a principal component analysis (PCA) to reduce a set of related variables about the workplace social relations to two components, working atmosphere with colleagues and working atmosphere with supervisor. These components were identified based on Eigenvalue >1 and explain 60.9% of the variance. The Kaiser–Meyer–Olkin measure yielded 0.79, indicating that sampling is adequate. After varimax rotation,¹ the factor *working atmosphere with colleagues* resulted from items on ‘how often employees feel as part of a community’, ‘how often they perceive the cooperation with their colleagues as good’ and ‘how often they receive help and support for their work from colleagues when needed’ (retrieved factor ranges from -8.92 [‘bad’] to 1.28 [‘good’]). The second factor *working atmosphere with the supervisor* has high loadings on items that provide information about ‘how often employees receive help and support for their work from their supervisor when needed’, ‘how often they receive praise and recognition for good work from their supervisor’ and ‘how satisfied they are with the supervisor’ and ‘the working atmosphere at all’ (retrieved factor ranges from -5.07 [‘bad’] to 2.17 [‘good’]). Details of the PCA are presented in Tables A1 and A2, which are available online as data supplements.

Living arrangement

The moderating variable distinguishes between employees living alone and employees living with others in the same household, that is, in couples and/or with children.² Our sample contained 29.5% employees who lived alone.

Confounders

Already known motives for unused WfH are cultural and technical barriers (Lott & Abendroth, 2020), and professional isolation (e.g., Cooper & Kurland, 2002; Golden et al., 2008), which can as well affect the working atmosphere with colleagues and supervisors. To account for aspects of cultural barriers at the workplace associated with anticipated job disadvantages and stigmatizations when using flexible work arrangements (e.g., Chung, 2020; Leslie et al., 2012), we considered employees' career aspirations (strong vs. not strong). In addition, employees in high-status positions may be less likely to face cultural barriers as WfH possibilities are

primarily offered to employees in high-status positions rather than to all employees (e.g., Felstead et al., 2002; Golden, 2008). Thus, we accounted for employees' management position (no, lower, middle, or upper management level), educational level (no vocational degree, vocational education, further vocational education, or university degree), and the total number of hours worked per week. Moreover, research has indicated that women are more likely to face cultural barriers and flexibility stigma than men (Chung & van der Horst, 2020), which is why we also included sex as control variable.

Confounding factors due to unobserved technical barriers related to occupational tasks were not of importance in our study because we only investigated employees who confirmed the feasibility of WfH in their specific jobs (Mergener, 2020b). However, technical barriers can also emerge through company structures. Large companies and specific industries (e.g., IT, financial or other service sectors) more often have advanced technical infrastructures that enable employees to work remotely. Thus, we included company size (number of employees) and sector (based on the German Classification of Economic Activities, Edition 2008 (WZ 2008)) in our analysis. Moreover, the technical feasibility of WfH can also depend on the infrastructure at the employees' place of residence. As in Germany broadband coverage still differs significantly between rural and urban regions (European Commission, 2020), making Internet use cumbersome for many residents of rural areas, we controlled for the rurality of employees' place of residence based on NUTS-2 level.³

Professional isolation can influence employees' demand for WfH because it hinders professional development within the field or company (Cooper & Kurland, 2002). In addition, if there is a tendency towards professional isolation in the workplace, this also has an impact on the working atmosphere. To avoid related confounding bias, we included the item on how often employees do not receive all the information they need to perform their jobs adequately as a proxy for professional isolation.

Social relationships at work tend to be more familiar and closer among senior workers, as they typically have a long tenure with the company. In addition, workplace preferences correlate with employee age, resulting in high proportion of middle-aged employees choosing WfH (e.g., Vilhelmson & Thulin, 2016). For this reason, we controlled for the age of employees in our analyses.

Further, we accounted for employees' commuting activity as previous studies found positive relationships between commuting distance and WfH preferences (e.g., Mergener & Mansfeld, 2021; Vos et al., 2018). Moreover, commuting-related stress affects workplace social relations, reflected in lower satisfaction at work (e.g., Amponsah-Tawiah et al., 2016; Stutzer & Frey, 2008). We included the approximated commuting distance in kilometres as the spatial distance between the central point of the district in which the company is located and the central point of the district in which the employee's place of residence is located (measured at the level of small-scale official district codes, that is, German *Gemeindegemeinschaften*).

Finally, we assume that the rejection of WfH, perceived working climate, and living conditions depend on employees' personality. As personality traits are not part of the 2018 BIBB/BAuA Employment Survey, but were asked in a follow-up survey with only a reduced number of participants, we did not include them in our main analyses. However, to test the robustness of our results, we replicated our analyses with the follow-up study controlling for the personality dimensions extraversion, agreeableness, conscientiousness, neuroticism, and openness (see section *Supplemental analyses considering employees' personality traits*).

RESULTS

The descriptive distributions in Table 1 indicate that the working atmosphere with colleagues or supervisors was on average rated better by employees who rejected WfH than among those who did not reject WfH. These differences between the two groups are each significant for working climate with colleagues and supervisor. In addition, employees who rejected WfH were significantly more often living alone (32%) compared to employees who would prefer WfH (28%). Applying logistic regression models that consider possible confounders, these correlations are examined in the next step to test our hypotheses. The main results of these models are shown in Tables 2 and 3. Table A3 in the online appendix contains the complete logistic regression models including confounders.

In H1a, we assume that the social relationships with colleagues at the workplace affect employees' decision to reject WfH. The results from model M1a (Table 2) reveal that there was a statistically significant positive effect of working atmosphere with colleagues on WfH rejection, that is, that the better the working atmosphere with colleagues, the higher the average probability that employees did not want to WfH. This is in line with our argumentation of the impact of the intrinsic benefits from social relationships at work and thus confirms H1a.

Model M1b (Table 2) was used to estimate the assumptions made in H1b about the effect of working atmosphere with supervisors and employees' decision to reject WfH. Again, we found a statistically significant positive effect of working atmosphere with supervisors on WfH rejection. This result supports H1b indicating that the average likelihood of employees rejecting WfH is higher when the working atmosphere with supervisors is better.⁴

Furthermore, the results from models M1a and M1b suggest that employees who lived alone indicated a preference for working on company premises, as they have, on average, a 4-percentage-point higher probability of rejecting WfH than employees who lived with a partner and/or children. In H2a, we assume that the benefit from social relationships with colleagues is stronger for employees living alone leading to higher rejection rates of WfH when the working atmosphere with colleagues is good compared to rejection rates by employees who did not live alone. In H2b, however, we indicated the expectation that the positive effect of the working atmosphere with supervisors on WfH rejection is not affected by personal living arrangements. We applied several approaches to examine these assumptions.

In model M2 (Table 2), we considered interactions between persons living alone and working atmosphere with colleagues and with the supervisor as multiplicative terms in the odds metric (Buis, 2010). Referring to the coefficient of the product term of working atmosphere with colleagues and living alone (OR = 1.094), it indicates that the effect of

TABLE 1 Distributions of working atmosphere and living alone by WfH rejection (mean values, *t*-test)

	WfH rejection (<i>N</i> = 1406)	No WfH rejection (<i>N</i> = 3042)	Mean differences
Working atmosphere with colleagues	0.090	-0.042	0.131**
Working atmosphere with supervisors	0.156	-0.072	0.228***
Living alone	0.319	0.284	0.035*

Note: Sample includes employees aged 18–65 years.

Source: BIBB/BAuA Employment Survey 2018. Authors' own calculations.

p* < 0.05; *p* < 0.01; ****p* < 0.001.

TABLE 2 Logit models of rejecting WfH by working atmosphere with colleagues and with supervisor

	M1a		M1b		M2	
	OR	AME/DC	OR	AME/DC	OR	AME/DC
Working atmosphere with colleagues	1.064* (0.027)	0.013* (0.005)	-	-	0.988 (0.036)	-
Working atmosphere with supervisor	-	-	1.106*** (0.027)	0.021*** (0.005)	1.129*** (0.037)	-
Living alone (<i>Ref. Living not alone</i>)	1.220** (0.091)	0.042** (0.016)	1.216** (0.091)	0.041** (0.016)	1.224** (0.092)	-
Working atmosphere with colleagues × Living alone	-	-	-	-	1.094 (0.063)	-
Working atmosphere with supervisor × Living alone	-	-	-	-	0.916 ⁺ (0.049)	-
Controls	yes		yes		yes	
Observations	4448		4448		4448	
Log. lik.	-2672.135		-2666.487		-2664.422	
Pseudo R ²	0.037		0.039		0.040	

Note: Standard errors in parentheses. Logistic models of rejection of WfH controlling for employees' sex, age, education, working hours, leading position, career aspiration, professional isolation, rurality of place of residence, distance between home and company's location, as well as company size and sector. Sample includes employees aged 18–65 years. Source: BIBB/BAuA Employment Survey 2018. Authors' own calculations.

⁺ $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

TABLE 3 Average discrete changes of rejecting WfH by working atmosphere with colleagues and with supervisor for persons living alone and living not alone (based on M2)

	<u>Working atmosphere with colleagues</u>		<u>Working atmosphere with supervisor</u>	
	ADC	Second difference	ADC	Second difference
Living alone	0.017 ⁺ (0.010)	0.019 (0.012)	0.007 (0.009)	-0.018 (0.011)
Living not alone	-0.002 (0.007)		0.025 ^{***} (0.007)	
Controls	yes		yes	
Observations	4,448		4,448	

Note: Standard errors in parentheses. AME of logistic model of rejection of WfH controlling for employees' sex, age, education, working hours, leading position, career aspiration, professional isolation, rurality of place of residence, distance between home and company's location, as well as company size and sector. Sample includes employees aged 18–65 years.

⁺ $p < 0.1$; ^{***} $p \leq 0.001$.

Source: BIBB/BAuA Employment Survey 2018.

Authors' own calculations.

working atmosphere with colleagues is higher for employees living alone than for those not living alone. Considering the working atmosphere with supervisors, we found that a one-unit increase in the factor variable was associated with a 1.129-times increase in the odds of rejecting WfH for employees not living alone. In addition, the coefficient of the product term shows that the effect of working atmosphere with supervisors differs between persons living alone and not living alone. The effect of working atmosphere with supervisors for employees living alone is smaller, 0.916 times than that of those not living alone.

However, considering only the coefficient of the product term is incomplete or even improper for drawing conclusions about statistically significant interaction effects in logit models (Mize, 2019; Mustillo et al., 2018). Thus, we used tests for group differences between employees living alone and not living alone in the marginal effects of the working atmosphere on the probability of rejecting WfH. We focused on ADC as the first and second differences in the predicted probability metric (Long & Mustillo, 2018; Mize, 2019).

The results in Table 3 reveal that for employees living alone, on average, each increase in the value of the working atmosphere with colleagues was associated with a statistically significant increase of 0.017 in the predicted probability of rejecting WfH (at 10% level). For employees not living alone, we found no effect of working atmosphere with colleagues on workplace preferences but there was an effect of working atmosphere with supervisors. On average, each improvement in the working atmosphere with the supervisor was associated with a statistically significant 0.025 increase in the predicted probability of rejecting WfH (at 0.1% level) among employees who did not live alone. However, the working atmosphere with supervisors did not affect the rejection of WfH for employees living alone. Moreover, when calculating group differences in the effect of the working atmosphere (as second differences), we found no significant difference in the average effect of the quality of the working atmosphere with colleagues and with supervisors between employees living alone and those not living alone.

These results, based on marginal effects on probabilities, only provide information on whether the average effects of working atmosphere on the rejection of WfH are equal or different across groups, but not on detailed group differences in the marginal effects for each value of working atmosphere. Thus, as suggested by Long and Mustillo (2018), Figure 1

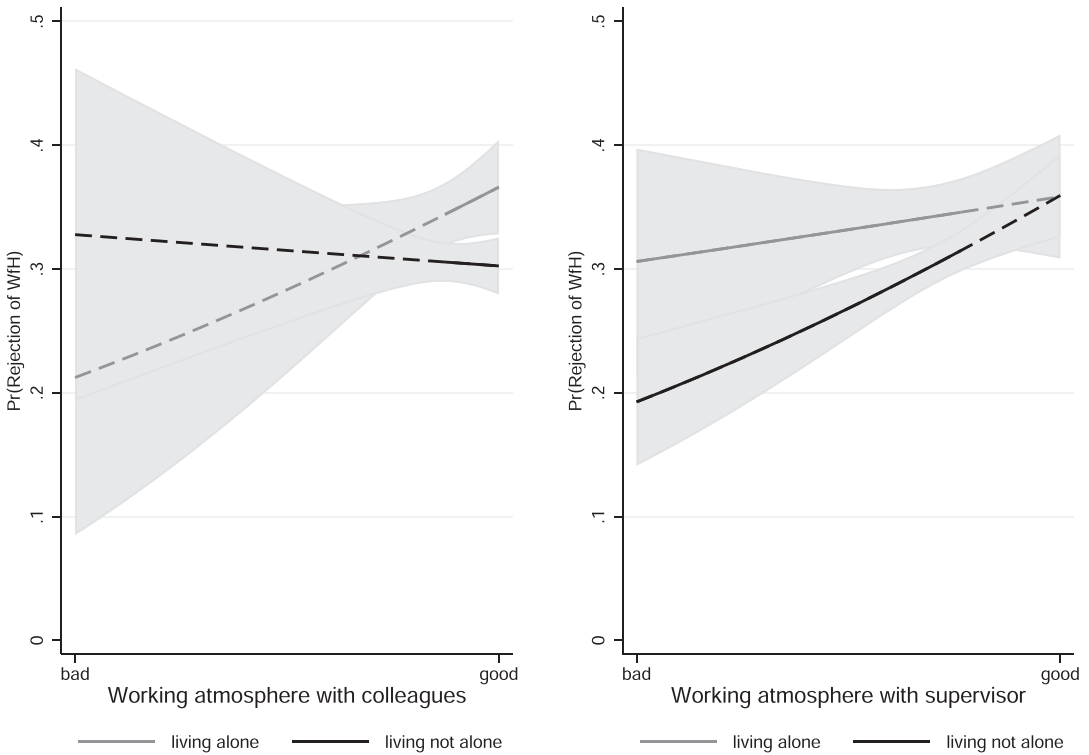


FIGURE 1 Group comparisons of probabilities and marginal effects of rejecting working from home by working atmosphere with colleagues and supervisor between employees living alone and not living alone (results based on M2). Group difference (living not alone vs. living alone) is significant ($p < 0.05$) when lines are solid. Sample includes employees aged 18–65 years.

Source: BIBB/BAuA Employment Survey 2018. Authors' own calculations.

additionally presents group differences in probabilities of rejecting WfH between employees living alone and not living alone for each value of working atmosphere with colleagues and supervisors.

The results suggest, on the one hand, that statistically significant differences between employees living alone and not living alone are only evident when the working atmosphere with colleagues is good (see solid lines in Figure 1). Then, people living alone are more likely to prefer to work at the employer's premises, that is, to reject WfH. This finding partly supports H2a as private living arrangements have a significant effect on rejecting WfH only when working atmosphere is good. On the other hand, considering social relations with supervisors, there are statistically significant differences between employees living alone and not living alone when working atmosphere is bad or normal (average)—with people living alone having a higher probability of rejecting WfH—but no differences when the atmosphere is good. Thus, H2b only finds partial support as the effect of the working atmosphere with the supervisor on the preference of WfH is only unrelated to private living arrangements when the working atmosphere is positive.

Overall, the findings can only partly confirm our assumptions regarding different effects of working atmosphere on the rejection of WfH between people living alone and people not living alone. Even though we found that an average improvement in the working atmosphere with

colleagues was associated with a higher probability of rejecting WfH for employees living alone, an average improvement in the working atmosphere with supervisors was not. Furthermore, we found no statistically significant group difference of the average overall effect between people living alone and those not living alone. However, we find that a bad and normal working atmosphere with supervisors and a good working atmosphere with colleagues was associated with a higher probability of rejecting WfH for employees living alone than for employees who did not live alone.

Supplemental analyses considering employees' personality traits

To test the robustness of our results, we replicated our analyses using a follow-up study to the BIBB/BAuA Employment Survey 2018, which allowed us to consider employees' personality dimensions as additional confounders. The BIBB Follow-Up Survey on Personality Traits (Rohrbach-Schmidt & Ebner, 2020) contains information about the dimensions extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience, according to the five-factor model (McCrae & Costa, 2008; McCrae & John, 1992). These dimensions were measured by a short scale with 15 questions, the BIG Five Inventory Short Version (Gerlitz & Schupp, 2005). The follow-up survey was conducted at the same time as the BIBB/BAuA Employment Survey, allowing information from both surveys to be merged [for more details to the follow-up survey and the five personality items see Rohrbach-Schmidt et al. (2020)].

Forty percent of the participants from the main survey took part in the follow-up survey, leaving 60% of participants with missing data for the personality dimensions in our initial analytical sample. To ensure comparability, we decided to base our robustness checks on our analytical sample of the main survey with imputed values for the personality dimensions for those respondents who did not participate in the follow-up survey. Hence, missing cases were handled by using multiple imputation by chained equations (MICE) (Azur et al., 2011), which produced a set of 20 imputed data sets. As such, our estimates were able to incorporate the uncertainty that resulted from imputation into the standard error (Acock, 2005). The imputation equation integrated all variables of the analysis including the outcome variable WfH rejection (White et al., 2011).

The supplemental analyses revealed that the effects of our focal variables working condition with colleagues and supervisor yielded similar results compared to the main analyses, supporting the robustness of our main results. In particular, there is a statistically significant positive effect of working atmosphere with colleagues and working atmosphere with the supervisor on WfH rejection. Effect size and magnitude of the coefficients of our supplementary and main analyses are almost identical, thus not influenced by personality traits. In terms of the moderating effect of living arrangement, we also found similar results. Only the effect of working atmosphere with supervisors on workplace preferences for employees not living alone is slightly larger than in our main analyses, implying that living not alone is indeed positively correlated with personality traits, but does not bias the results when left out of the analyses (see Table A4). Analyses of group differences in probabilities of rejecting WfH between employees living alone and not living alone for each value of working atmosphere with colleagues and supervisors lead also to results almost identical to those from the main analyses (see Table A5). Finally, a look at the personality traits of employees showed that neuroticism and agreeableness had a significantly negative effect on the rejection of WfH, meaning that employees having high values in both of these traits were less likely to reject WfH.

CONCLUSION AND DISCUSSION

Although previous research has already offered insights into employees' career-related motives for rejecting WfH, the role of interpersonal relationships at work and in personal lives have not been examined yet. Hence, the purpose of this study was to examine whether social relations at work affect the rejection of WfH and whether these effects are different depending on the hierarchy level of the team members. Additionally, we tested the moderating effect of private living arrangements on these associations.

Drawing on the BIBB/BAuA Employment Survey from 2018, we used the working atmosphere with colleagues and the working atmosphere with supervisors as predictors of WfH rejection in logistic regression models. First, our analyses validated our theoretical assumptions derived from SET that the rejection of WfH is associated with the quality of the relationships at the workplace. The better the working atmosphere with colleagues and supervisors, the higher the average probability that employees reject WfH. In this case, the workplace in the employer's premises constitutes a social space where employees' needs for contacts and social exchange can be satisfied, which would not be possible to the same extent when WfH. Second, by integrating interaction effects of private living arrangements and working atmosphere, it is revealed that a good working atmosphere with colleagues has only a positive effect on the probability of rejecting WfH when employees are living alone. This highlights the importance of social networks beyond social relations at work as argued by Molm (2003). In contrast, for people who do not live alone working atmosphere with colleagues is unrelated to WfH. This means that especially people living alone are benefitting from the presence of colleagues and a warm working environment. As people generally have a need to belong to social groups (Baumeister & Leary, 1995), colleagues seem to be able to fulfill this intrinsic need when it is not sufficiently met in the private living space. These results highlight that—from a SET perspective—the exchange relations between colleagues are not only negotiated but also reciprocal by nature. Hence, even when employees prefer WfH, contact between colleagues should be supported as it generates long-term trust and solidarity (Molm et al., 2012), which is ultimately not only beneficial for the individual but for the company as a whole.

Third, in contrast to the working atmosphere with colleagues, we observed that the working atmosphere with the supervisor only affected the rejection of WfH among employees who did not live alone. Employees who shared their household with a partner and/or children were less likely to reject WfH when the atmosphere with the supervisor is bad. This finding can be explained by the different intrinsic or extrinsic nature of exchange elements (Blau, 1964). For these employees, not getting extrinsic benefits from the supervisor or in the worst case experiencing costs when a bad working atmosphere manifests in psychological distress, drives them away from the workplace and towards the home environment. Here, household members might be able to not only supplement for intrinsic benefits—such as the joy of being together—but also extrinsic benefits in the form of approval and validation, which the employee is not getting from the supervisor. In contrast, when the workplace atmosphere is good, the probability of rejecting WfH is similar between employees with different living arrangements. Hence, a good working atmosphere with the supervisor and the related extrinsic benefits are valued by all employees unrelated to the living conditions.

These findings highlight assumptions made by SET drawing on Blau's (1964) differentiation between intrinsic benefits, such as the joy of working together, and extrinsic benefits, such as approval and recognition received by team members, and provide a more nuanced understanding of teamwork and related diverging motives for employees' working preferences. Furthermore, it turns out that negative external relationships outside the family, such as the

relationships with a supervisor at work, necessitate that intimate relationships compensate for the lack of extrinsic benefits at work. Hence, the private sphere is a place where both forms of benefits, intrinsic and extrinsic, can be experienced as implied by Blau (1964).

As a practical implication for employers seeking to provide employee-friendly working conditions and ultimately improve team performance, the study points out the importance of considering that employees' need for WfH or preferences for on-site work may also vary depending on their life situations.

Despite these novel insights, some limitations that might motivate further research must be mentioned. In our model, we focused on the effect of personal aspects on employees' preference for not WfH by using working atmosphere with colleagues and the supervisor as indicators for the quality of the social relations at work. For work-related aspects, such as cultural barriers and professional isolation, the quality of social relations are just as crucial but would be expected to have the opposite effect. As our main focus lies on the personal aspects, we controlled in our analyses for a range of variables identified by research as being related to cultural barriers and professional isolation. However, it is very likely that these contradicting aspects also intersect, confronting employees with a dilemma when deciding for or against WfH. The intersection of work-related and personal motives for not WfH is worth exploring in further research, which should also consider the moderating effect of employees' gender and presence of children in the household, as research has shown that especially mothers are affected by the flexibility stigma (Williams et al., 2013).

While we emphasize the relevance of personal, home circumstances on work-related preferences, in our analyses, we only operationalize these circumstances with living arrangements. Due to data restrictions, we are not able to include information on the quality of the relationships at home nor do we have information on the private circle of friends, which are likely to mitigate examined effects, especially for people living alone. Moreover, it also has to be taken into consideration that the quality of interpersonal relations at work is likely to be affected by the number of team members and the supervisor regularly working on-site (Golden & Fromen, 2011; Golden, 2007) or from home (van der Lippe & Lippényi, 2019), but could not be controlled for in our analyses. Social aspects might become less relevant for the decision to WfH when a large part of the team is already WfH and not physically present during working hours.

Last, it is very likely that the experiences during the compulsory phases of remote work of the Covid-19 pandemic will affect future preferences for or against WfH. The public debate mainly saw benefits in the expansion of remote work options, for example, regarding an increase in work productivity (Kelliher & Anderson, 2010) or a better work-life balance with greater time sovereignty and flexibility by reducing commute time (e.g., Eurofound and the International Labour Office, 2017). However, there is a risk of WfH being promoted as a panacea (Hodder, 2020). Studies conducted during the pandemic revealed that people especially reported loneliness and social isolation as key drawbacks of WfH (e.g., Kunze et al., 2020; Shockley et al., 2020). However, as the pandemic period was also accompanied by a general decrease of contacts, feelings of isolation might not only be related to WfH, but of a general nature. As alternative communication channels were also implemented in the course of physical distance, only future research will be able to shed light on how the working experience during the pandemic will have influenced or will continue to affect workplace preferences in the long term. In this context, it is also worth mentioning that our study only considered the preference for WfH as an either/or option. Most employees, however, would prefer a hybrid model of WfH and on-site work, with the ideal ratio of WfH to office work appearing to be 2–3 days per week (evidence for Germany, see Frodermann et al. [2021], for the US Barrero et al. [2021]). Future research should, therefore, additionally consider the employee-preferred quantity of WfH, on which we had no data available.

In brief, this study highlights the relevance of interpersonal relationships in both the private and professional spheres for rejecting WfH, which make an independent explanatory contribution to the question of why people reject WfH, beyond workplace-related aspects. Our results also emphasize that WfH is not a universal solution for all employees. Conceptualized within the context of SET, our study deepens the understanding of complex and intertwining relationships in the professional and private sphere, knowledge of which helps to facilitate better working conditions in accordance to the social needs of employees in the digital age.

ACKNOWLEDGEMENTS

The authors had not received funding for this study. Open Access funding enabled and organized by Projekt DEAL.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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ENDNOTES

- ¹ Results are almost identical when oblique or oblimin rotation is used alternatively.
- ² It could be assumed that in the moderating role of private social contacts at home, it makes a difference whether the employee lives with adults or 'only' with children, as the need for social relations might vary accordingly. Within the group of employees who do not live alone, there are 7.2% single parents ($n = 226$) and 92.8% live with at least one adult in the household. To avoid bias due to single-parent households, we also conducted all our analyses excluding this group, that is, we examined the moderating effect only for employees living with an adult partner. The results do not differ in terms of main and interaction effects from the results reported in the paper (all analyses are available upon request).
- ³ The rurality index was matched from official statistics of the German Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR, 2020).
- ⁴ When working atmosphere with colleagues and working atmosphere with supervisors were simultaneously integrated into a model, the effect of working atmosphere with colleagues was no longer significant but remained positive compared to M1a and the effect of working atmosphere with supervisor remained almost identical compared to M1b (results not shown).

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Mergener, A. & Trübner, M. (2022) Social relations and employees' rejection of working from home: a social exchange perspective. *New Technology, Work and Employment*, 37, 469–487. <https://doi.org/10.1111/ntwe.12247>