Resource Leverage, Resource Depletion

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Resource Leverage, Resource Depletion:

A Multilevel Perspective on Multiple Team Membership

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Abstract

Multiple team membership (MTM) is a complex phenomenon that poses significant challenges for organizational research and practice. In this article, we delve into the multilevel nature of MTM, which has not received adequate research attention to date. We develop a resource-based framework that advances our understanding of the antecedents and productivity consequences of firm MTM, and the synergistic effects of individual MTM and firm MTM on an individual's emotional exhaustion. Using a sample of 19,803 employees from 145 German organizations, our analyses reveal that MTM is most prevalent in knowledge-intensive and understaffed firms, and that firm MTM has an inverted *U*-shaped (rather than a positive linear) relationship with subsequent firm productivity. In addition, we find that individual MTM and firm MTM interactively shape individual stress perceptions, such that positive linkages between individual MTM and emotional exhaustion are significant only in firms with higher (but not lower) firm MTM. Together, these findings suggest that MTM has the potential to lead to firm-level productivity gains but, at the same time, may take a toll on individual employees' well-being.

Keywords: multiple team membership (MTM), firm productivity, emotional exhaustion, multilevel modeling

Firms increasingly assign their employees to more than one team at the same time, a work practice formally termed multiple team membership (MTM; O'Leary et al., 2011). Today, MTM is practically ubiquitous across a wide range of firms, industries, and countries (e.g., Chen et al., 2019; Maynard et al., 2012; Mortensen & Gardner, 2017). At the same time, there is growing concern that working in multiple teams may deplete individuals' personal resources (van de Brake et al., 2018) and therefore lead to feelings of emotional exhaustion (Halbesleben et al., 2014). Indeed, empirical research has shown that MTM may substantially increase an employee's stress levels (Pluut et al., 2014). Taken together, these considerations raise an important—yet, to date, unaddressed—question: Why do firms increasingly adopt MTM, even though it is often an exhausting experience for individual employees?

To further complicate matters, the above question points to MTM as a multilevel phenomenon: whereas *individual MTM* depicts an employee's unique experiences across multiple teams (O'Leary et al., 2011), *firm MTM* represents a structural characteristic that shapes the work context of all employees in a given firm (Wageman et al., 2012). Therefore, a multilevel perspective seems indispensable to provide a comprehensive answer to the above question (Klein & Kozlowski, 2000), and to explain (a) why firms introduce MTM, (b) whether such decisions translate into anticipated firm outcomes (increased productivity; O'Leary et al., 2011), and (c) how individual and firm MTM shape an employee's perception of emotional exhaustion.

In the present study, we integrate the macro-level resource-based view (RBV) of the firm (Barney, 1991) with micro-level conservation of resources (COR) theory (Hobfoll, 1989) to examine the potential tradeoffs between firm and individual MTM. Our theoretical framework is guided by the notion that firms introduce MTM to leverage *firm* resources, but at the same time may deplete *individual* resources from their employees (see Figure 1). Rooted in this framework, we predict that firm knowledge intensity and firm understaffing, as suggested (but not examined

empirically) in prior research (e.g., Cummings & Haas, 2012; O'Leary et al., 2011; van de Brake et al., 2018), represent the key antecedents of firm MTM. We also expect that, owing to a more effective leverage of a firm's human resources, firm MTM is positively related to firm productivity (Barney, 1991). Finally, our model accounts for MTM's potential negative side for single employees by anticipating that individual and firm MTM interactively shape an employee's perception of emotional exhaustion.

--- Insert Figure 1 about here ---

We test these propositions in a multisource dataset comprising 19,803 employees from 145 German firms. In doing so, we aim to bridge the "apparent disconnect" between MTM's positive consequences for firms and downsides for individuals (O'Leary et al., 2011, p. 472), thus contributing to the scarce multilevel literature on MTM (cf. Cummings & Haas, 2012). Since firm-level research on MTM is nonexistent, we also seek to create insights into the antecedents and consequences of MTM at the level of the firm. Indeed, lower-level research (e.g., Crawford et al., 2019; Cummings & Haas, 2012) does not explain why firms adopt MTM, and attempts to extrapolate from these studies' findings may lead to erroneous conclusions on its productivity consequences for entire firms (Wageman et al., 2012). As such, we consider our study as an important step to empirically scrutinize widespread assumptions about MTM's firm-level antecedents (cf. O'Leary et al., 2011) and explore whether MTM's beneficial team-level consequences replicate at the firm level (cf. Cummings & Haas, 2012). Finally, by examining the novel cross-level interaction between individual and firm MTM, we aim to demonstrate that a more complete understanding of the drawbacks of MTM for single employees requires a theoretical and empirical approach that cuts across different levels of analysis.

Toward a Multilevel Theory of Multiple Team Membership

In line with prior work, we define *individual* MTM as an employee's number of concurrent

team memberships (van de Brake et al., 2018), and *firm* MTM as the average number of team memberships held by all employees of a firm (Crawford et al., 2019). Hence, firm MTM represents a "common team-based organizational configuration" (Crawford et al., 2019, p. 343), in which a firm's human resources are divided and shared across multiple teams.

MTM at the Firm Level: A Resource-Based View

We draw on the RBV to explain (a) why firms differ in the extent to which they use MTM, and (b) how this shapes their productivity. According to the RBV, a firm's competitive advantage depends on its ability to leverage those resources (e.g., physical, organizational, or human resources; Barney, 1991) that are particularly valuable (i.e., at the core of a firm's value creation) and scarce (i.e., available to a limited extent) (Sirmon et al., 2007). Notably, most existing studies on MTM have been conducted in "knowledge-intensive environments" and in contexts in which employees are "an especially scarce resource" (O'Leary et al., 2011, p. 462), based on the assumption that such firms are particularly MTM-prone (e.g., Bertolotti et al., 2015; Crawford et al., 2019). As such, there are good reasons to expect that the value and scarcity of a firm's *human* resources determine the levels of MTM in an organization. In knowledge-intensive firms, human resources are particularly valuable (as opposed to physical resources, for example), as the knowledge of employees represents the core of these firms' value creation (Starbuck, 1992). In understaffed firms, human resources are particularly scarce, as there are fewer employees than needed to fulfill the firm's essential functions (Hudson & Shen, 2015). Hence, we focus on firm knowledge intensity and firm understaffing as key antecedents of firm MTM.

Firm Knowledge Intensity and Firm MTM

Firm knowledge intensity refers to the extent to which a firm relies on a well-educated, qualified workforce to achieve competitive advantage (von Nordenflycht, 2010). Accordingly, knowledge-intensive firms are likely to adopt human resource management practices that allow

them to leverage their employees' knowledge as effectively as possible (Sirmon et al., 2007). MTM researchers (e.g., O'Leary et al., 2011) have noted, in this regard, that MTM may represent a worthwhile strategy for utilizing employees' knowledge across multiple teams at the same time. By recruiting team members on a part-time basis, expert knowledge is made accessible to two, five, or more teams instead of a single project (Mortensen & Gardner, 2017). In addition, these firms may use MTM to benefit from knowledge exchange across concurrent teams, as multiteamers jump back and forth between their different projects (Bertolotti et al., 2015). Therefore, it seems only logical that knowledge-intensive firms are highly likely to utilize MTM. By contrast, the competitive advantage of firms with lower levels of knowledge intensity is less dependent on the effective combination of expert knowledge (Starbuck, 1992). Hence, these firms are less likely to implement MTM, and will rather try to leverage other resources (e.g., physical resources such as production machinery; Barney, 1991). Therefore, we propose:

Hypothesis 1: Firm knowledge intensity is positively related to firm MTM.

Firm Understaffing and Firm MTM

Firm understaffing is a situation in which there are fewer employees than needed to fulfill a firm's essential functions (Ganster & Dwyer, 1995). The RBV suggests that, when faced with human resource scarcity (Wright et al., 1994), firms are likely to adopt more efficient human resource management practices (Sirmon et al., 2007). MTM, in particular, may help to mitigate the detrimental consequences of understaffing (O'Leary et al., 2011), such as having to delay or cancel projects, neglecting client relationships, or ignoring interesting tenders, by allowing firms to fully utilize their human resources (Sirmon et al., 2007). Similarly, the understaffing literature has noted that "having too few employees" may result in each individual having to take on more projects than usual to "make up for missing personnel" (Hudson & Shen, 2018, p. 86). Hence, it seems plausible that understaffed firms will first try to increase their employees' team and project

load, before scaling down strategically important project portfolios (O'Leary et al., 2011). By contrast, overstaffed firms, where the number of employees exceeds the setting capacity (Hudson & Shen, 2015), do not face pressure to stretch their rich human resources pools via MTM. Hence:

Hypothesis 2: Firm understaffing is positively related to firm MTM.

Firm MTM and Firm Productivity

The RBV also suggests that firm MTM, as a particularly efficient and effective human resource management practice (Mortensen & Gardner, 2017), has the potential to enhance a firm's productivity (i.e., outputs, such as sales, generated by a given level of inputs, such as the number of employees; Huselid, 1995). Indeed, O'Leary et al. (2012) have noted that higher levels of firm MTM may lead to greater firm productivity by stimulating boundary spanning and cross-team coordination. For example, multiple concurrent teams may benefit from the exchange of best practices and tacit knowledge about certain clients that would not be as readily available in low-MTM firms (Bertolotti et al., 2015). This, in turn, ensures compatibility across teams (e.g., in work methods and outputs) and also prevents high-MTM firms from wasting resources on duplication of efforts (Wright et al., 1994). Moreover, multiteamers have the opportunity to "offset the ebbs of one team's work with the flows of another team's work" (Crawford et al., 2019, p. 344). Therefore, in high-MTM firms, employees' idle time (i.e., involuntary downtime during which a specific team's tasks cannot be done; Brodsky & Amabile, 2018) may be reduced substantially. On a firm-wide scale, this results in significant increases in output and thus, again, leads to higher firm productivity (Kim & Ployhart, 2014). Finally, prior research at lower levels of analysis has also demonstrated that MTM may lead to increased productivity (e.g., Bertolotti et al., 2015; Cummings & Haas, 2012; van de Brake et al., 2020), further supporting our above

arguments (for a notable exception, see Crawford et al., 2019).[1] Therefore, we predict:

Hypothesis 3: Firm MTM is positively related to firm productivity.

MTM at the Employee Level: A Conservation of Resources Perspective

Through the lens of RBV theory, firm MTM appears to be a useful strategy for utilizing a firm's human resources as productively as possible (O'Leary et al., 2012). Yet, as highlighted by microfoundations researchers (e.g., Coff & Kryscynski, 2011), a mere focus on macro-level processes carries the risk of neglecting important processes at the micro level of the firm. We therefore complement our resource-based framework with COR theory (Hobfoll, 1989) to investigate how MTM, as a multilevel concept, may relate to individuals' emotional exhaustion.

Individual MTM and Emotional Exhaustion

COR theory posits that individuals are motivated to protect and obtain resources (i.e., valued states, conditions, or energies that can be used to achieve personal goals; Hobfoll, 1989), and that emotional exhaustion occurs when existing resources or anticipated resource gains are threatened (Halbesleben et al., 2014). Specific resources that are important in work settings include employees' energy resources, such as time and attention, their social resources, such as support and admiration, and their personal resources, including skills and knowledge (Hobfoll, 2001). Individual MTM, in particular, may rapidly deplete the energy resources of employees, as they regularly have to switch between different work practices, social settings, and technologies (van de Brake et al., 2018). In addition, multiteamers have to invest finite resources, such as attention and effort, in one team, which then become unavailable for other teams. Thus,

[1] O'Leary et al. (2011) theorized an inverted *U*-shaped relationship between MTM and productivity at the individual and team levels of analysis. However, this is not supported by most empirical studies to date (e.g., Crawford et al., 2019; Cummings & Haas, 2012; van de Brake et al., 2020). Indeed, only one study by Bertolotti et al. (2015) found an inverted *U*-shaped relationship at the team level, such that a small subset of the teams in the sample were subjected to very high levels of MTM beyond the optimal productivity level. Yet, the majority of teams and, thus, the firm "seen as a whole" (Wageman et al., 2012, p. 310) still benefited from the pronounced use of MTM structures. In all, we therefore expect a linear relationship at the level of the firm.

multiteamers are under constant pressure to favor one team over the other (O'Leary et al., 2011), and this pressure may threaten anticipated gains of social resources (e.g., establishing positive relationships) and personal resources (e.g., acquiring new skills) in other teams (Hobfoll, 1989). Employees with lower MTM, by contrast, are less likely to experience these resource threats, as their demands are confined to a relatively low number of teams. Therefore, we propose:

Hypothesis 4: Individual MTM is positively related to emotional exhaustion.

The moderating role of firm MTM

Although individual MTM has the potential to threaten and deplete individuals' resources, there are good reasons to expect that this potential is not equally realized in all contexts. Indeed, COR theory specifies that the organizational context may "create fertile or infertile ground for creation, maintenance, and limitation of resources" (Hobfoll et al., 2018, p. 107). Firms with higher average MTM, in particular, represent highly complex and demanding organizational environments (Mortensen & Gardner, 2017). As such, it seems plausible that an employee's individual MTM may matter more for his or her emotional exhaustion in firms where MTM is, on average, higher (rather than lower).

In high-MTM firms, employees with higher individual MTM have to coordinate work efforts with team members who are also involved in multiple concurrent teams and, as such, have to deal with similar claims on their resources (Hobfoll, 2001). Such employees may, then, find that their coworkers are less flexible in rescheduling a specific team's deadlines or resolving urgent matters (O'Leary et al., 2012) and, thus, are more likely to experience scheduling issues and interpersonal conflict (Pluut et al., 2014). Multiteamers in low-MTM firms, by contrast, collaborate predominantly with people who are not subjected to additional claims on their time and attention and, hence, may be more flexible when asked to adjust their schedules or renegotiate responsibilities (Mortensen, 2014). Therefore, multiteamers may find it relatively

easy to resolve incompatible claims on their resources in firms with lower (rather than higher) MTM, making it less likely that they suffer from the resource threats outlined above. In addition, a multiteamer in a low-MTM firm may even gain (rather than lose) resources from his or her MTM, such as prestige and admiration (van de Brake et al., 2018), as he or she is one of the few individuals who controls information flows between teams (Burt, 1992). For example, being a member of multiple teams may allow him or her to transfer useful methods, work materials, and ideas that are otherwise not available (Hansen, 1999). In high-MTM firms, by contrast, individual employees may find it much harder to obtain additional resources via their MTM, because they are less likely to be in a unique position that allows them to control and get credit for information flows between different teams (Mortensen & Haas, 2018). Altogether, the above reasoning suggests the following cross-level interaction pattern between individual and firm MTM:

> *Hypothesis 5: Firm MTM moderates the positive relationship between individual MTM and emotional exhaustion. The relationship is more pronounced when firm MTM is higher, and less pronounced when firm MTM is lower.*

Methods

Research Setting and Sample

Data for this study were collected in small to medium-sized private-sector companies from Germany in two successive years (2016 and 2017) as part of a larger benchmarking project (the present study is the first publication generated from this dataset). Within each company, we collected survey data from two sources, (a) the HR head and (b) the employees, using a standardized data collection protocol across all firms. In addition, we drew from the *ORBIS* database and the German *Unternehmensregister* database to obtain objective information on firm productivity. In line with official regulations at the University of St. Gallen, the study was reviewed by the University's research committee and declared to comply with the University's

ethical and legal principles and guidelines. Consequently, the study was determined to be exempt from further review by the University's ethics committee.

Overall, 145 firms participated in the project. Participating firms had operated for an average of 53 years, ranged in size from 50 to 5,000 employees (mean = 354 employees; *SD* = 495 employees), and belonged to three different industry sectors (58% service, 30% production and manufacturing, and 12% trade). On average, 206 employees per firm replied to the survey (*SD* = 251), yielding a total sample size of 19,803 individuals and an average within-firm response rate of 68%. Participants were on average 40.01 years old (*SD* = 11.40), 59% were men, and respondents had an average tenure of 9.3 years (*SD* = 8.81).[2]

Measures

Individual-Level Measures

Most companies in our sample did not track their employees' team assignments. Therefore, we asked each employee to reflect on the past six months and indicate his or her average number of team memberships during that period (cf. Bertolotti et al., 2015; Cummings & Haas, 2012; Mortensen, 2014). Hence, *individual MTM* was measured as a continuous variable ranging from one to 10 team memberships. To capture employees' *emotional exhaustion*, we used the five-item subscale of the Maslach Burnout Inventory (Schaufeli et al., 1996; see also Whitman et al., 2014). In addition, we controlled for individuals' *education* (1 = university degree; 0 = no university degree), *tenure* (indexed as years since hire date), *job level* (1 = apprentice/trainee; 2 = staff; 3 = lower management; 4 = middle management), and *working hours* (weekly average).[3]

Firm-Level Measures

In line with our definition of *firm knowledge intensity* as the reliance on an intellectually

[2] Appendix A in the online supplement contains more details on the data collection and our handling of missing data.
[3] Appendix B in the online supplement contains further details on the origin, reliability, and validity of the measures.

skilled workforce (von Nordenflycht, 2010), we firm-mean aggregated the education levels of the firms' employees (1 = university degree; 0 = no university degree) to reflect the proportion of highly educated employees in an organization. To measure *firm understaffing*, we asked the HR executives to reply to the one-item understaffing measure developed by Ganster and Dwyer (1995; see also Huettermann & Bruch, 2019). In line with prior research (cf. Crawford et al., 2019; Cummings & Haas, 2012), *firm MTM* was captured by aggregating employees' individual MTM at the firm level. Finally, we operationalized *firm productivity* as the natural logarithm of firm annual sales (in EUR) divided by the firm's number of employees (Huselid, 1995; Kim & Ployhart, 2014). In addition, we controlled for *firm size* (measured as the natural logarithm of the number of employees; Huettermann & Bruch, 2019), *firm region* (1 = West Germany; 0 = East Germany), and *industry affiliation* (industry dummies; reference = service), as these properties may impact firms' design choices, such as MTM, as well as their productivity (Penrose, 1959).

Aggregation Tests

To support the aggregation of firm knowledge intensity and firm MTM, we calculated interrater reliabilities and tested whether average scores differed across firms, as indicated by an *F* test from a one-way ANOVA (LeBreton & Senter, 2008). We obtained strong support for the aggregation of firm knowledge intensity (ICC_1 = .21; ICC_2 = .97; $p < .001$) and moderate support for the aggregation of firm MTM (ICC_1 = .09; ICC_2 = .93; $p < .001$). Yet, while firm membership explained only 9% of the variance in MTM, the *F* test shows that our sample firms varied significantly in their use of MTM (Bliese et al., 2018). We also computed *ICC* scores for emotional exhaustion. As expected (i.e., emotional exhaustion represents an individual state; Schaufeli et al., 1996), firm membership explained only a small (yet significant) percentage of variance in emotional exhaustion (ICC_1 = .05; ICC_2 = .88; $p < .001$). Finally, as firm knowledge intensity is defined as a firm's reliance on an intellectually skilled workforce *among all*

employees (von Nordenflycht, 2010), we computed interrater agreement for this variable, yielding good support for aggregation (r_{WG} = .91; $AD_{M(J)}$ = .38) (LeBreton & Senter, 2008).

Analytical Strategy

We applied multilevel modeling techniques to account for the nested data structure (Raudenbush & Bryk, 2002). To probe the predicted cross-level relationships, we conducted a stepwise analysis of (a) a null model, (b) a random intercept and fixed slope model, (c) a random intercept and random slope model, and (d) a cross-level interaction model (Aguinis et al., 2013), examining model improvement based on model deviances (LaHuis & Ferguson, 2009). These analyses were run in *R* using the "lmer" function within the "lme4" package (Bates et al., 2019). We grand-mean centered firm knowledge intensity, firm understaffing, firm MTM, and firm-level control variables, and firm-mean centered individual MTM and individual-level controls (Aguinis et al., 2013). To examine the cross-level interaction, we used pick-a-point and Johnson–Neyman procedures and plotted the interaction form (Gardner et al., 2017).

Results

Table 1 reports descriptive statistics and bivariate correlations. Similar to prior MTM studies (e.g., Crawford et al., 2019; Mortensen, 2014; Pluut et al., 2014), the employees worked in 1.75 teams on average (*SD* = 1.52), which translates into an average firm MTM of 1.86 (*SD* = 0.51). Firm MTM correlated positively with firm knowledge intensity (r = .50; p < .001), firm understaffing (r = .25; p < .01), and firm productivity (r = .20; p < .05). Meanwhile, individual MTM and emotional exhaustion were not significantly correlated (r = .01; n.s.).[4]

--- Insert Table 1 about here ---

We began our analyses by estimating the measurement model. Fit indices for the multilevel

[4] Appendix C in the online supplement contains further information on the prevalence of MTM in our sample.

confirmatory factor analysis suggested a good overall fit [χ^2 (30) = 1307.09, $p < .001$; *CFI* = .978; *TLI* = .962; *RMSEA* = .039; $SRMR_{within}$ = .023; $SRMR_{between}$ = .049] and, together with alternative model comparisons, underlined the validity of our constructs at both levels of analysis.[5]

Then, we turned to the hypothesis tests. Table 2 reports the results of the firm-level analyses. We find support for Hypotheses 1 and 2, as indicated by a positive and significant relationship between firm knowledge intensity and firm MTM (*B* = 1.12, *SE* = .18, $p < .001$), and between firm understaffing and firm MTM (*B* = .11, *SE* = .05, $p < .05$). Firm knowledge intensity and firm understaffing explained 24% of the variance in firm MTM ($\Delta R^2 = .24$; $p < .001$). Contrary to our expectations, there was no significant linear relationship between firm MTM and firm productivity in our data (*B* = .61, *SE* = .31, n.s). Hence, Hypothesis 3 is not supported.

--- Insert Table 2 and Table 3 about here ---

Table 3 reports the results of individual- and cross-level analyses. First, we included only individual-level controls in the regression model of emotional exhaustion. Second, specifying the effects of individual MTM and firm MTM, we estimated a random intercept and fixed slope model ($\Delta Deviance$ = 12.90, *df* = 2; $p < .01$). Third, we estimated a random intercept and random slope model to examine whether the relationship between individual MTM and emotional exhaustion varied significantly between firms (Snijders & Bosker, 2012). Deviance comparisons indicated that allowing the slopes to vary across firms led to a significant improvement in model fit ($\Delta Deviance$ = 12.80, *df* = 2; $p < .01$). In models with fixed slopes (*B* = .02, *SE* = .01, $p < .001$) or with random slopes (*B* = .02, *SE* = .01, $p < .01$), individual MTM yielded a positive and significant effect on emotional exhaustion, thus supporting Hypothesis 4.

In the next step, we entered the cross-level interaction term between individual MTM and

[5] Appendix C in the online supplement contains additional details on the measurement model and related analyses.

firm MTM into the regression model ($\Delta Deviance$ = 10.90, df = 1; $p < .001$). In support of Hypothesis 5, we observed a positive and significant effect of the cross-level interaction term on emotional exhaustion (B =.04, SE = .01, $p < .001$). Simple slope tests indicated that the positive effect of individual MTM on emotional exhaustion was limited to firms with higher (+1 *SD* and +2 *SD*) levels of firm MTM, but not statistically significant at mean or lower (-1 *SD*) levels (see Figure 2). In addition, we calculated exact regions of significance for the cross-level interaction, showing that individual MTM had a significant and positive effect on emotional exhaustion for grand-mean centered values of firm MTM of .001 (B = .01) and above, and reached conditional effects of up to B = .07 for maximum levels of grand-mean centered firm MTM in our data (= 1.47). As such, the positive effect of individual MTM on emotional exhaustion was statistically significant in 59 of the 145 firms in our sample (41%), corresponding to 6,004 individual employees (31%). Hypothesis 5 is therefore supported.

--- Insert Figure 2 about here ---

Contrary to our expectations, we did not find a positive relationship between firm MTM and firm productivity, for which we considered two post hoc explanations. First, the omission of a cross-level relationship between emotional exhaustion and firm productivity may have biased our estimates (Taris & Schreurs, 2009). As shown in Table 4, however, we found no evidence for an effect of aggregated emotional exhaustion on firm productivity. Second, it is possible that the "more is better" assumption inherent to our RBV framework may have led us to misspecify the relationship between firm MTM and firm productivity (Pierce & Aguinis, 2013). Specifically, there is some evidence in prior research that MTM yields a curvilinear (inverted *U*-shaped) effect on team performance (Bertolotti et al., 2015). To examine whether such a pattern exists in our data, we entered the squared term of firm MTM into the regression model of firm productivity.

--- Insert Table 4 and Figure 3 about here ---

As can be seen in Table 4, the squared term of firm MTM was negative and significant ($B = -1.05$, $SE = .43$, $p < .05$), suggesting an inverted *U*-shaped relationship (see Figure 3). More specifically, increasing firm MTM from lower (−1 *SD*) to mean levels is associated with an increase in sales of EUR 153,000 per employee (30% of mean annual sales). An additional increase from mean to higher levels (+1 *SD*) of firm MTM also leads to higher firm productivity, corresponding to an increase in sales of EUR 102,000 per employee (20% of mean annual sales). However, an increase from one to two standard deviations above the mean of firm MTM is associated with a decrease in sales of EUR 71,000 per employee (14% of mean annual sales).[6]

Discussion

The present study integrated the RBV and COR theory to examine the firm-level antecedents and multilevel consequences of MTM. In a sample of 145 German SMEs, we found that firm knowledge intensity and firm understaffing predict firm MTM. We also discovered an inverted *U*-shaped relationship between firm MTM and firm productivity, suggesting that optimal productivity is achieved at moderate, rather than higher, levels of MTM. Finally, our results show that firm MTM moderates the relationship between individual MTM and emotional exhaustion, such that working in a higher number of teams is exhausting only in high-MTM firms.

Theoretical and Managerial Implications

The existing literature cannot explain why MTM is such a ubiquitous phenomenon in today's firms, as it has focused almost exclusively on MTM's individual and team (rather than organizational) antecedents and consequences. This study extends prior research by showing that MTM is not only a consequence of individual attributes (e.g., experience and organizational rank; Cummings & Haas, 2012) but is also determined by firm characteristics. Specifically, we found

[6] We conducted several further analyses to examine the robustness of our findings (contained in Appendix C in the online supplement), including a no-controls model and further checks for curvilinearity at the individual level.

support for the common assumption that MTM is especially pronounced in knowledge-intensive and understaffed firms, as these firms face strong pressure to leverage their valuable and scarce human resources (Sirmon et al., 2007).

Our study also supplements prior research into MTM's productivity consequences for individuals (van de Brake et al., 2018), teams (Bertolotti et al., 2015), and work units (Crawford et al., 2019). Importantly, we found that MTM's firm-level productivity benefits are realized up to a certain level of firm MTM only (2.4 team memberships, on average, in our sample). While a curvilinear pattern was not anticipated in our resource-based framework, this finding corresponds with parts of the existing literature (Bertolotti et al., 2015; O'Leary et al., 2011). In line with these authors' suggestions, it seems plausible that employees in a (very) high-MTM firm may spend a great deal of time moving between teams rather than working productively on their teams (O'Leary et al., 2012), thus impairing the firm's productivity. Clearly, our post hoc analyses and theorizing on this matter (THARKing; Hollenbeck & Wright, 2017) suggest that the complex relationship between MTM and firm productivity deserves further consideration in future work.

In addition, our findings demonstrate that macro-level theorizing, which predicts that MTM may be a worthwhile strategy for utilizing human resources more productively (Barney, 1991), fails to account for its downsides for individual employees (cf. Foss, 2011). Prior research (e.g., Mortensen & Gardner, 2017; Pluut et al., 2014) has consistently highlighted that MTM may induce stress and exhaustion. Our study extends this work by showing that a more complete understanding of the relationship between MTM and emotional exhaustion requires research to move beyond the level of the individual. Specifically, our results point to firm MTM as a system-level contingency factor that critically shapes individual employees' experiences across multiple teams (Wageman et al., 2012). As such, our research illustrates that the positive relationship between individual MTM and exhaustion is not universal (i.e., applicable to all firm contexts) but

depends on a firm's overall level of MTM.

The results of this research also have several practical implications. In particular, our study suggests that firms should exercise caution when trying to solve understaffing issues by simply increasing employees' project load. Although this may represent a short-term solution that allows existing project portfolios to be maintained, we found that individuals suffer from emotional exhaustion as their MTM increases. Similar caution is advised in knowledge-intensive firms, in which it can be tempting to maximize employees' MTMs in order to facilitate knowledge exchange across teams (Bertolotti et al., 2015). Importantly, the detrimental consequences of MTM are not limited to the individual level, as our findings show that, at a certain inflection point, firm MTM harms the productivity of entire firms. Rather than fully abandoning MTM and its associated benefits, we advise decision makers to restrict the number of multiteamers to a reasonable minimum by, for example, assigning a handful of high-MTM employees in an otherwise low-MTM firm. Notably, our findings suggest that such a strategy, which is designed to hold firm MTM at an intermediate level, will also benefit firm productivity.

Limitations and Future Research

Although our study has several noteworthy methodological strengths, there are limitations that should be noted. First, our finding of a positive relationship between individual MTM and emotional exhaustion has to be interpreted in light of the large individual-level sample size, as well as a nonsignificant bivariate correlation. To examine the level of uncertainty associated with this finding, we computed cumulative probabilities in models with fixed slopes (= 93%) and with random slopes (= 88%), which provided support to the observed power of our analyses (cf. Bliese & Wang, 2020).[7] Second, our sample consisted of German SMEs with relatively stable work

[7] Appendix C in the online supplement contains further information on the computation of cumulative probabilities.

teams, potentially limiting the generalizability of our results. Moreover, given that our data were cross-sectional (except for the firm productivity measure), we cannot rule out reverse causality issues entirely. We hope that future studies will replicate our findings with different research methods (e.g., cross-lagged panel designs) and in different contexts (e.g., settings that are more dynamic). Finally, although our survey measure of MTM is in line with most empirical studies to date (e.g., Bertolotti et al., 2015; Cummings & Haas, 2012), we acknowledge that firm record data may provide more accurate information on individuals' MTM and, as such, help to avoid potential issues of recollection accuracy (cf. Crawford et al., 2019; van de Brake et al., 2018). On a related note, aggregating individual MTM scores at the firm level yielded only moderate interrater reliability. Future research could advance the measurement of firm MTM, for example, by asking individuals about the average MTM of all other employees in the firm, and then aggregating these scores at the firm level (i.e., a referent-shift consensus model; Chan, 1998).

Beyond these limitations, our study offers several directions for future research. For example, studies could investigate antecedents of MTM across different levels of analysis. In particular, it remains unclear to what extent firms' decisions to adopt MTM are made by staffing managers, and to what extent they emerge autonomously when individuals decide to contribute to multiple teams to obtain greater influence and enhance their career opportunities (Mortensen et al., 2007). Future research could also examine the mediating mechanisms that link individual and/or firm MTM to emotional exhaustion (e.g., threats to social or energy resources; Hobfoll, 2001) and to firm productivity (e.g., coordination, idle time; O'Leary et al., 2011). Finally, the literature would benefit from further examination of moderators that may shape the MTM–exhaustion linkage. For example, firms that employ HR practices aimed at maintaining and promoting employee well-being may mitigate some of MTM's downsides (Huettermann & Bruch, 2019). Similarly, future research could examine personal strategies (e.g., boundary

management; Kossek & Lautsch, 2012) that help multiteamers to avoid stress and exhaustion.

Conclusion

This research suggests that MTM has the potential to increase a firm's productivity but, at the same time, may take a toll on the employees' well-being. Organizations need to be aware of these complex tradeoffs to manage more effectively and holistically the opportunities and risks of MTM. We hope that our work will stimulate further research into the antecedents, boundary conditions, and consequences of MTM across different levels of analysis.

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Table 1
Descriptive Statistics and Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Individual level																		
1. Gender (Male)	--																	
2. Age	.04*	--																
3. Education	.07*	.05*	--															
4. Tenure	.01	.55*	-.11*	--														
5. Job Level	.15*	.27*	.12*	.20*	--													
6. Working Hours	.32*	.02*	.13*	-.06*	.29*	--												
7. Individual MTM	.15*	.02*	.23*	-.00	.22*	.20*	--											
8. Emotional Exhaustion	.03*	-.11*	-.06*	.01	-.05*	.10*	.01	--										
Firm level																		
9. Production Industry	.14*	.08*	-.06*	.16*	-.01	-.01	.08*	-.01	--									
10. Service Industry	-.09*	-.00	.20*	-.08*	-.02*	.00	.03*	-.04*	-.76*	--								
11. Trade Industry	-.04*	-.09*	-.19*	-.07*	.04*	.00	-.12*	.06*	-.24*	-.44*	--							
12. Firm Size	-.04*	-.04*	-.16*	-.00	.10*	-.03*	-.11*	.06*	-.09	-.05	.19*	--						
13. Region (West Germany)	.10*	.01	.02*	.06*	.03*	.06*	.04*	-.04*	-.02	-.00	.04	.03	--					
14. Firm Knowledge Intensity	-.01	.01		-.09*	-.04*	.08*	.20*	-.06*	-.28*	.41*	-.22*	-.17*	-.00	--				
15. Firm Understaffing	.03*	-.00	.12*	-.16*	.01	.07*	.10*	-.02*	.07	.01	-.11	-.11	-.10	.17*	--			
16. Firm MTM	.14*	.02	.27	-.06*	-.03*	.11*		-.04*	.07	.07	-.19*	-.19*	.13	.50*	.25*	--		
17. Firm Productivity	.08	.10*	.02	.12*	-.01	.06*	.05*	.00	-.06	-.08	.20*	-.10	.07	.08	-.07	.20*	--	
Cross-level interaction																		
18. Firm MTM × Individual MTM	.16*	.03*	.29*	-.02*	.18*	.19*	.95*	.01	.11*	.05*	-.18*	-.17*	.06*	.30*	.16*	.51*	.07*	--
Mean	.59	40.01	.37	9.30	2.31	40.95	1.75	2.34	.30	.58	.12	5.41	.92	.39	3.37	1.86	5.24	3.27
Standard Deviation	.49	11.40	.48	8.81	.74	8.00	1.52	.90	.46	.50	.33	.91	.28	.24	.71	.51	1.37	3.59

Note. N = 12,525–19,803 employees in 110–145 firms. For correlations between individual-level variables (including the cross-level interaction) and firm-level variables, firm scores were assigned to individuals; significance levels should be interpreted cautiously. * $p < .05$

Table 2
Results of Firm-Level Analyses

	Model							
	Firm MTM				Firm Productivity			
	Step 1		Step 2		Step 1		Step 2	
Variable	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Intercept	1.65***	.14	1.53**	.13	4.78***	.50	4.97***	.50
Firm Size	-.12**	.05	-.05	.04	-.28	.16	-.23	.16
Region (West Germany)	.26	.15	.26*	.13	.31	.50	.14	.50
Production Industry	.02	.09	.25**	.09	.19	.33	.10	.32
Trade Industry	-.25	.13	.02	.12	1.03*	.43	1.00*	.42
Firm Knowledge Intensity			1.12***	.18	.95	.64	.34	.70
Firm Understaffing			.11*	.05	-.21	.20	-.30	.20
Firm MTM							.61	.31
R^2	.10		.34		.10		.13	
ΔR^2			.24***				.03	

Note. N = 110–145 firms.

*** $p < .001$ ** $p < .01$ * $p < .05$

Table 3
Results of Individual-Level and Cross-Level Analyses

	Model							
	Null (Step 1)		Random Intercept and Fixed Slope (Step 2)		Random Intercept and Random Slope (Step 3)		Cross-Level Interaction (Step 4)	
Level and Variable	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Individual Level								
Intercept	2.26***	.02	2.26***	.02	2.26***	.02	2.26***	.02
Education	-.05**	.02	-.06**	.02	-.06**	.02	-.06**	.02
Tenure	.00*	.00	.00*	.00	.00*	.00	.00*	.00
Job Level	-.11***	.01	-.11***	.01	-.11***	.01	-.11***	.01
Working Hours	.01***	.00	.01***	.00	.01***	.00	.01***	.00
Individual MTM			.02***	.01	.02**	.01	.01	.01
Firm Level								
Firm MTM			-.04	.04	.00	.04	-.05	.04
Cross-level Interaction								
Individual MTM × Firm MTM							.04***	.01
Model Comparison								
Deviance (*-2 log likelihood*)	31,773.80		31,760.90		31,748.10		31,737.20	
Δ Deviance			12.90**		12.80**		10.90***	

Note. Dependent variable: Emotional Exhaustion. N = 12,525–19,803 employees in 145 firms.

*** $p < .001$ ** $p < .01$ * $p < .05$

Table 4
Post-Hoc Analyses of the Relationship between Firm MTM and Firm Productivity

	Model					
	Hypothesized		Alternative 1		Alternative 2	
Variable	*B*	*SE*	*B*	*SE*	*B*	*SE*
Intercept	4.97***	.50	4.96***	.51	5.57***	.55
Firm Size	-.23	.16	-.23	.16	-.24	.15
Region (West Germany)	.14	.50	.15	.50	-.17	.50
Production Industry	.10	.32	.09	.33	-.07	.32
Trade Industry	1.00*	.42	.99*	.42	1.01*	.42
Firm Knowledge Intensity	.34	.70	.39	.71	.13	.69
Firm Understaffing	-.30	.20	-.29	.20	-.35	.20
Firm MTM	.61	.31	.61	.31	1.18**	.38
Emotional Exhaustion (firm-mean)			.20	.57		
Firm MTM (squared)					-1.05*	.43
R^2	.13		.13		.18	
ΔR^2 (compared to Hypothesized Model)			.00		.05*	

Note. Dependent Variable: Firm Productivity. N = 110 firms.

*** $p < .001$ ** $p < .01$ * $p < .05$

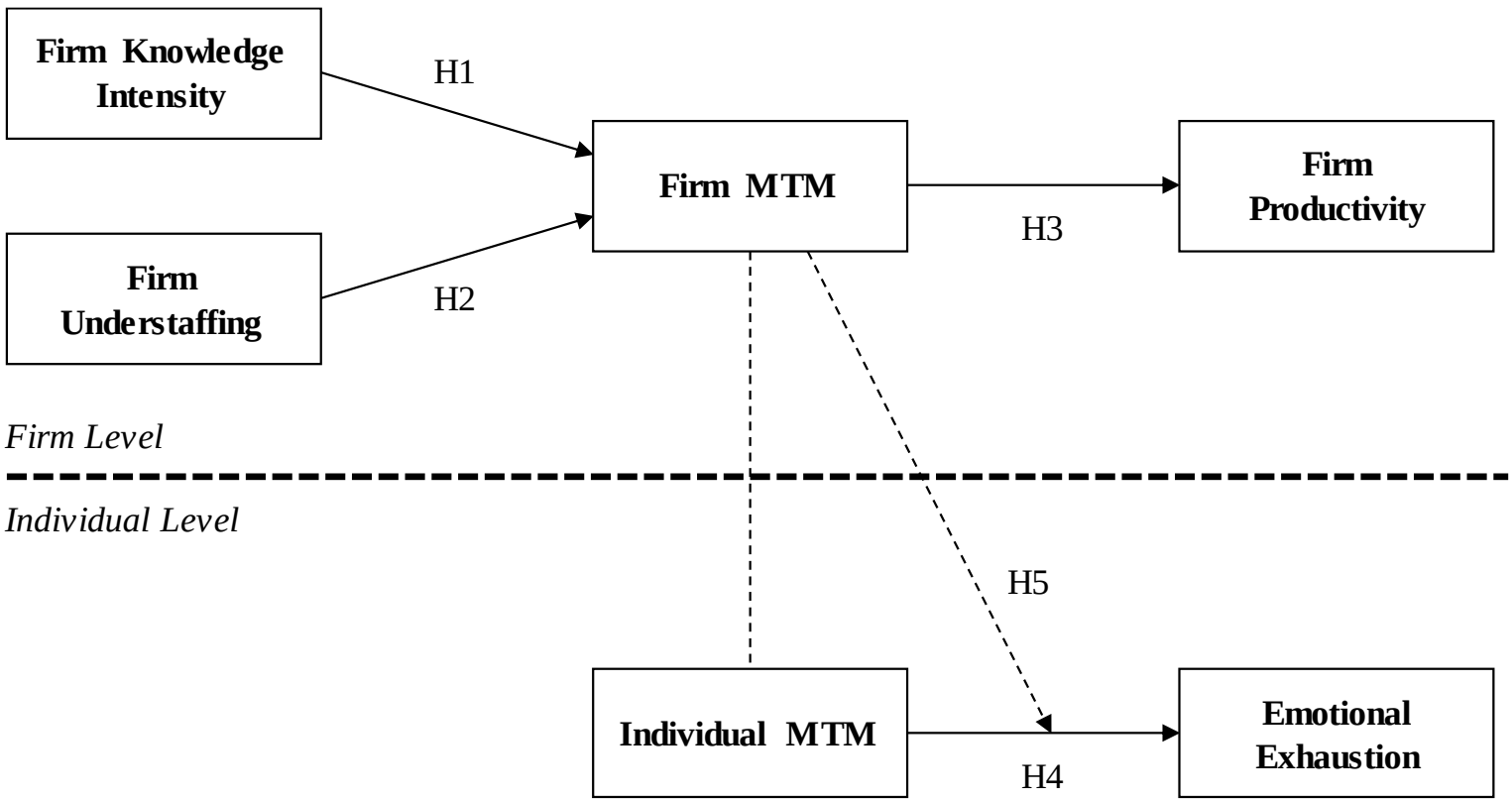

Figure 1. Hypothesized Model. Dotted lines represent cross-level relationships. Covariates are not shown.

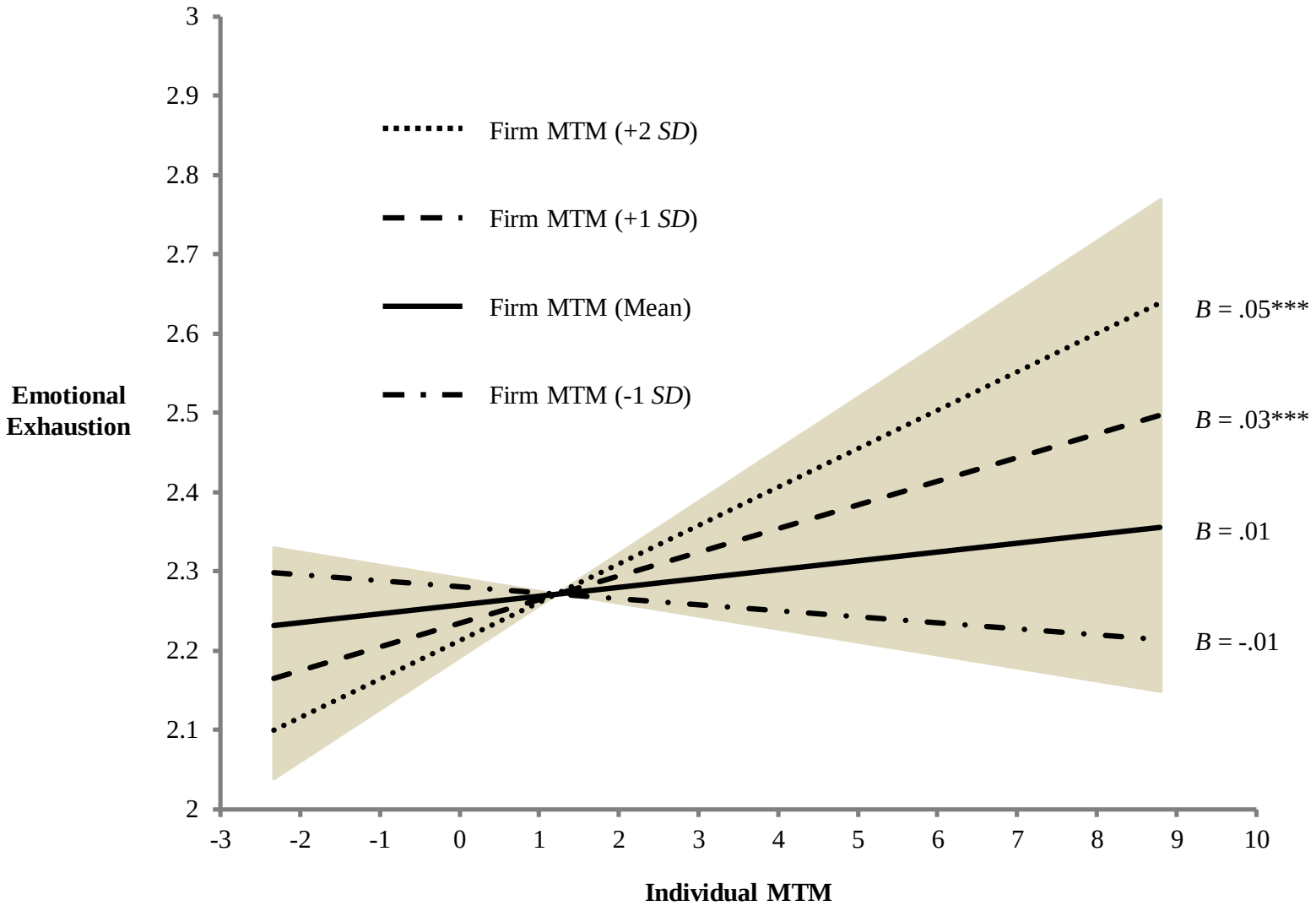

Figure 2. Individual MTM and Firm MTM Interaction Form on Emotional Exhaustion. Firm MTM was grand-mean centered and individual MTM was firm-mean centered. Shaded area in the figure represents the range of the observed sample values. Simple slope tests are displayed to the right of the interaction form. *** $p < .001$ ** $p < .01$ * $p < .05$

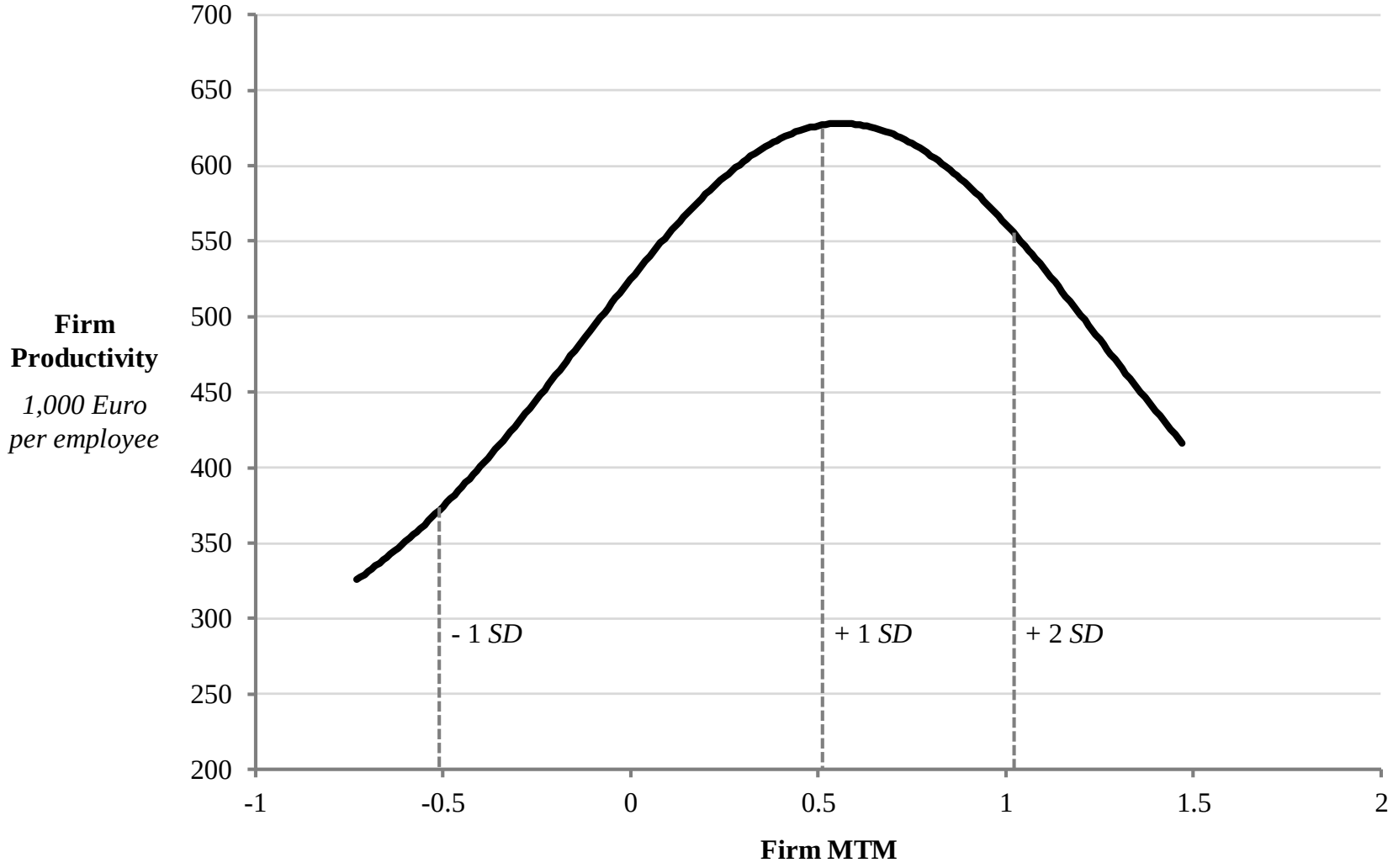

Figure 3. Curvilinear Effect of Firm MTM on Firm Productivity. N = 110 firms. Firm MTM was grand-mean centered. Predictions are based on regression analyses using log-transformed firm productivity values. To increase interpretability (cf. Becker et al., 2019), we re-transformed firm productivity into raw values (antilog-transformation). The plot shows the range of observed firm MTM values in the sample. Standard deviations (*SD*) are indicated by dotted lines.