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B

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Preregistration for Quantitative Research in Psychology Template

Orange = heading

Not all of the following are relevant for every study; registries will make fields required or not as relevant

T=Title		
Title and title page		
Label	Name	Description
T1	Title	Leaders as role models: Effects of leader job crafting on team and employee job crafting. Lina Marie Mülder, Johannes Gutenberg-University Mainz Germany, Department of Work, Organizational, and Business Psychology, https://orcid.org/0000-0002-2288-0593
T2	Contributors, Affiliations, and Persistent IDs (recommend ORCID iD)	Thomas Rigotti, Johannes Gutenberg-University Mainz Germany, Department of Work, Organizational, and Business Psychology and Leibniz Institute for Resilience Research Mainz Germany, https://orcid.org/0000-0001-9189-0018 Miriam Arnold, Leibniz Institute for Resilience Research Mainz Germany, https://orcid.org/0000-0002-1506-3309
T3	Date of Preregistration	15/3/2021
T4	Versioning information	
T5	Identifier	
T6	Estimated duration of project	2 Years
T7	IRB Status (Institutional Review Board/Independent Ethics Committee/Ethical Review Board/Research Ethics Board)	Ethics Committee Johannes Gutenberg-University Mainz, Institute of Psychology: 2020-JGU-psychEK-S025 The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.
T8	Conflict of Interest Statement	job crafting, leadership, role models, team crafting, emotional exhaustion, cognitive irritation
T9	Keywords	yes
T10	Data accessibility statement and planned repository	Data available upon email request by member of scientific community
T11	Optional: Code availability	yes

A=Abstract Abstract (150 words)		
Label	Name	Description/Instructions: See instructions in relevant sections below
A1	Background	(See introduction I1)
A2	Objectives and Research questions	(See introduction I2)
A3	Participants	(See methods M4)
A4	Study method	(See methods M10-14)

I=Introduction Introduction (no word limit)		
Label	Name	Description/Instructions
I1	Theoretical background	<p>Job crafting is a well-known construct, which defines the proactive behavior of employees to shape, mold, and change their jobs (Tims, Bakker & Derks, 2012; Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001). While Wrzesniewski and Dutton (2001) refer to the three dimensions (1) task crafting (2) social, and (3) cognitive crafting, Tims and colleagues (2010) have applied the construct to the Job Demands-Resources Model and indicate four dimensions. The four dimensions are (1) increasing structural job resources, (2) increasing social job resources, (3) increasing challenging job demands, and (4) decreasing hindering job demands. Our research takes a closer look at Tim's and colleagues' (2010) conceptualization. Meta-Analysis showed, that Job Crafting as a whole is positively related to work engagement, job satisfaction, job performance, person-job-fit, meaningfulness, psychological well-being, and other constructs (Rudolph et al., 2017, Lichtenthaler & Fischbach, 2019, Wang et al., 2020, Frederick & VanderWeele, 2020). In addition, job crafting is negatively connected with burnout, job strain, negative affect, and psychological distress (Zhang et al., 2019; Hu et al., 2020). Some studies already focused on team and leadership relations. For example, there are indications that employees reproduce the job crafting behaviors of their leaders (Xin et al., 2020). The study focused on the social learning theory and examined the effects of 64 teams. The team leaders' job crafting showed a positive link to team members' job crafting. Moreover, empowering leadership was used as a mediator, to explain these effects. But it resulted, that against prediction, this leadership style does not support predictions based on social learning theory, in</p>

increasing job crafting behavior of team members, but decreases this behavior. These inconsistent findings should be addressed in further research (Xin et al., 2020). The result, that job crafting is a socially learned behavior, which can be reproduced by the employees is a very important finding but must be studied in more detail. One question that has remained unanswered is whether all four dimensions of job crafting are equally adopted from leaders, or whether this relationship differs within the job crafting dimensions. For example, it is conceivable that social resources are learned better or differently than the decreasing of hindering job demands. Furthermore, it is conceivable that not only leadership styles as a whole can influence model learning, but also very specific factors. An interesting angle is to look at identity leadership style (van Dick, 2018). In this context, the first dimension in particular, identity prototypicality, could be of importance, as it reflects the extent to which the individual team member considers the leader as representative and as a model member of the group. This characteristic of leaders might foster model learning.

I2	Objectives and Research question(s)	The aim of the study is to analyze the interrelationships of job crafting by leaders and their teams. The focus is on the four job crafting dimensions according to Tims and Bakker (2010) and the time-spatial crafting according to Wessels (2017). Based on a study by Xin et al. (2020), it is assumed that each dimension of job crafting (Tims & Bakker, 2010) shown by leaders is positively related to the team members' job crafting. Moreover, the leadership identification is tested as a moderator. It is examined if prototypicality of the leader moderates these relationships.
I3	Hypothesis (H1, H2, ...)	H1: Leaders Job Crafting (a) increasing structural resources, (b) increasing social resources, (c) decreasing hindering demands, (d) increasing challenging demands, (e) increasing time crafting, (f) increasing spatial crafting is positively related to team members job crafting on the matching dimensions H2: The relationship between leaders' job crafting (a-f) and team members matching job crafting (a-f) is moderated by identity leadership. With high identity the relationship is stronger.
I4	Exploratory research questions (if applicable; E1, E2,)	

M=Method	Method	
Label	Name	Description/Instructions

M1	Time point of registration	Registration prior to accessing the data
M2	Proposal: Use of pre-existing data (re-analysis or secondary data analysis) Sampling Procedure and Data Collection	no 1) Target size: 200 teams with a total of around 700 participants. 2) Simulation studies suggest that the sample size at Level 2 is more relevant than the average group size for estimating statistical power (Scherbaum & Ferreter, 2009; Snijders, 2005). Results of simulation studies are consistent that size of 100 or more units at Level 2 leads to unbiased estimates for the calculation of more complex hypotheses (Moineddin et al., 2007; Scherbaum & Ferreter, 2009). Therefore, a minimum of 100 teams at the third time point is targeted for the present study. This will be achieved by recruiting a minimum of 200 teams to participate in the study and attending the first survey time point. Due to the complex design involving a large number of surveys for a single individual, some dropout is to be expected. Griffin and Patrick (2015) report that approximately 50-70% of individuals who completed the entry questionnaire at the beginning of each survey week participated in subsequent diary questionnaires. (a) Recruitment through cold calling to companies and authorities in Germany (b) age: 18-70 years, German-speaking, at least 50% part-time. (e) Participants will be provided with a report on the results after completing the study. Participating companies with a high participation rate will be offered feedback on the results of the characteristics of work in the context of a risk assessment of mental stress. As an incentive, 1 euro will be donated to the Irrsinnig Menschlich e.V. association for each complete participation at all three survey dates.
M3	Sample size, power and precision	
M4	Participant recruitment, selection, and compensation	
M5	How will participant drop-out be handled?	The data of participants who do not fit the criteria will be deleted from the dataset. Pseudonymized storage for employees and leaders. A coding list is kept on which the e-mail addresses of all participants are recorded with a code for the person and a code for the team affiliation. Based on this, a participant-specific URL is created for each of the three surveys. The responses are anonymized, and the e-mail address is not associated with the data collected. The coding list is stored for a period of three months, so that over this period the data are available in pseudonomized form. Once the coding list is deleted, the data is available in anonymized form and will be stored for at least 10 years after the end of the survey (until 2031).
M6	Masking of participants and researchers	

M7	Data cleaning and screening	Participants with more than 50% of missing values will be removed from the analyses.
M8	How will missing data be handled?	The remaining missing data will not be imputed, but Full-Maximum Likelihood procedures will be considered for multi-wave analyses.
M9	Other information (optional)	
Label	Name	Description/Instructions
	Conditions and design	
M10	Type of study and study design	This is a longitudinal questionnaire survey using an online tool (SoSci Survey) with a nested data design (teams and their leaders). The survey will take place at three-time points with an interval of 4 weeks.
M11	Randomization of participants and/or experimental materials	<p>Hypotheses 1a-d are tested using the Job Crafting Scale at leadership level (independent variable) and at employee level (dependent variable)(Tims, Bakker & Derks, 2012 - German version: Lichtenthaler & Fischbach, 2016) with the different dimensions.</p> <p>Hypotheses 1e-f are tested using the time-spatial crafting items at leader level (independent variable) and employee level (dependent variable) by Wessels et al. (2017).</p> <p>Regarding the moderation hypotheses 2a-f the Identity Leadership Inventory by Van Dick et al. (2018) with the dimension Identity prototypicality (moderator) is used.</p> <p><u>Additional Analyses are planned using the following questionnaires:</u></p>
M12	Measured variables, manipulated variables, covariates	<p>Autonomy: Morgeson & Humphrey (2006), German version: Stegmann (2010);</p> <p>cognitive demands: Bova et al., 2015; De Jonge et al., 2004;</p> <p>time pressure: Semmer et al., 1998;</p> <p>emotional demands: VanVeldhoven & Meijman (1994), Van Veldhoven et al., 2002;</p> <p>feedback from others: Morgeson & Humphrey (2006), German version: Stegmann (2010),</p> <p>social support from colleagues: Rimann & Udris, 1997;</p> <p>role conflict: Bowling et al. (2017); role ambiguity: Bowling et al. (2017);</p> <p>flexibilization Poethke et al. (2019);</p> <p>initiated interdependence: Morgeson & Humphrey (2006), German version von Stegmann (2010); received interdependence: Morgeson & Humphrey (2006), German version von Stegmann (2010)</p>
M13	Study Materials	

M14	Study Procedures	The longitudinal survey is conducted at three points in time, each one month apart. The questionnaire consists of about 200 items at all time points. The objective is to survey leaders at different hierarchical levels as well as their team members from various companies, authorities and offices in Germany. At t1 a sample of 1000 700 persons (level 1) from different 200 teams (level 2) is to be reached. After dropouts in the course of the longitudinal survey, we expect a final sample of 500 persons.
M15	Other information (optional)	

AP=Analysis Plan	Analysis plan (NOTE: If this varies by hypothesis, repeat analysis plan for each)	
Label	Name	Description/Instructions
AP1	Criteria for post-data collection exclusion of participants, if any	Participants must be employed and working at least 50% part-time. Participants who do not meet these requirements will be excluded. Participants with more than 50% of missing values will be removed from the analyses.
AP2	Criteria for post-data collection exclusions on trial level (if applicable).	If the information provided for weekly hours is implausible (e.g. 100 hrs/week) or if different and contradictory information is provided across time points, the participants will be excluded.
AP3	Data preprocessing	First, the scales will be conducted as preferred in the provided scales.
AP4	Reliability analysis (if applicable).	The reliability will be conducted via cronbachs alpha. We use the hierarchically structured data with teams as level 1 and leadership as level 2 and use the full-information likelihood method. To make the best use of the collected data, we use multilevel structural equation modeling (MSEM) (Preacher et al., 2016) to compute. To further test the moderation hypotheses, we adopt the remedy that uses random latent moderated structural equations (LMS) for unbiased tests of multilevel moderation and use the doubly latent sampling of person method. We will compute the hypotheses using Mplus, version 7.4 (Muthén & Muthén, 1998-2015).
AP5	Statistical models (provide for each hypothesis if varies).	
AP6	Inference criteria	For each hypothesis the p values will be used. A p value below .05 will be considered significant.
AP7	Exploratory analysis (optional)	Several exploratory analyses are performed to confirm further reinforcing or buffering effects. In the process, further moderation is added to the hypotheses specified in b). These concern the variables specified in M12.
AP8	Other information (optional)	
O=Other	Other information, optional (NOTE: If needed, multiple lines with other information can be included)	

Label	Name	Description/Instructions
O1	Other information (optional)	
	References	<p>Bova, N., De Jonge, J., & Guglielmi, D. (2015). The demand-induced strain compensation questionnaire: A cross-national validation study. <i>Stress and Health</i>, 31(3), 236-244.</p> <p>Bowling, N. A., Khazon, S., Alarcon, G. M., Blackmore, C. E., Bragg, C. B., Hoepf, M. R., ... & Li, H. (2017). Building better measures of role ambiguity and role conflict: The validation of new role stressor scales. <i>Work & Stress</i>, 31(1), 1-23.</p> <p>de Jonge, J., Le Blanc, P. M., Peeters, M. C., & Noordam, H. (2008). Emotional job demands and the role of matching job resources: A cross-sectional survey study among health care workers. <i>International Journal of Nursing Studies</i>, 45(10), 1460-1469.</p> <p>Dempster, A. P., Laird, N. M., & Rubin, D. B. (1977). Maximum likelihood from incomplete data via the EM algorithm. <i>Journal of the Royal Statistical Society: Series B (Methodological)</i>, 39(1), 1-22.</p> <p>Frederick, D. E., & VanderWeele, T. J. (2020). Longitudinal meta-analysis of job crafting shows positive association with work engagement. <i>Cogent Psychology</i>, 7(1), 1746733.</p> <p>Griffin, J. & Patrick, M. E. (2015). Understanding participation in a web-based measurement burst design: Response metrics and predictors of participation. <i>Survey Practice</i>, 8(2). https://doi.org/10.29115/SP-2015-0011</p> <p>Hu, Q., Taris, T. W., Dollard, M. F., & Schaufeli, W. B. (2020). An exploration of the component validity of job crafting. <i>European Journal of Work and Organizational Psychology</i>, 29(5), 776-793.</p> <p>Lichtenthaler, P. W., & Fischbach, A. (2016). The conceptualization and measurement of job crafting. <i>Zeitschrift für Arbeits-und Organisationspsychologie A&O [Journal of Industrial- and Organizational Psychology]</i>. 60(4), 173-186.</p> <p>Lichtenthaler, P. W., & Fischbach, A. (2019). A meta-analysis on promotion-and prevention-focused job crafting. <i>European Journal of Work and Organizational Psychology</i>, 28(1), 30-50.</p> <p>Moineddin, R., Matheson, F. I., & Glazier, R. H. (2007). A simulation study of sample size for multilevel logistic regression models. <i>BMC medical research methodology</i>, 7(1), 1-10.</p> <p>Morgeson, F. P., & Humphrey, S. E. (2006). The Work Design Questionnaire (WDQ): developing and validating a comprehensive measure for assessing job design and</p>

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