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RESEARCH REPORT

On the Asymmetry of Losses and Gains: Implications of Changing Work Conditions for Well-Being

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There is sample evidence that work conditions affect employees' well-being. Losses in work quality (increased job stressors and reduced job resources) are thought to be related to deteriorations in well-being, whereas gains in work quality (reduced job stressors and increased job resources) are believed to improve well-being. The way most previous studies tested linkages between work conditions and well-being assumes that as much as a loss in work quality harms well-being, a gain in work quality results in an improvement. However, Hobfoll's conservation of resources (COR) theory argues that losses have a stronger impact than gains do. To date, this assumption still awaits a thorough empirical test. Using data from three longitudinal studies (*N*s = 10,756, 579, and 2,441), we investigated the effects of changes in work conditions on well-being. Changes in work conditions were related to changes in well-being, and these relationships were weaker with longer time lags. Moreover, in line with COR theory, our analyses suggested that the effect of a loss in work quality was generally stronger than the effect of a gain. Interestingly, however, we found a more consistent pattern for the effect of certain stressors (e.g., social stressors) than others (e.g., workload). By testing a central principle of COR theory, this research advances theoretical understanding of how work affects well-being. Furthermore, by revealing that previous studies may have underestimated the detrimental effects of deteriorating work conditions and overestimated the positive effects of improved work conditions on well-being, this research also has implications for organizational interventions.

Keywords: stressors, resources, well-being, conservation of resources

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Over the past decades, many studies have shown that individuals' work conditions affect their well-being. Employees facing high job stressors and low job resources tend to report impaired well-being such as depressive symptoms, poor sleep quality, and low job satisfaction (e.g., Ford et al., 2014; Nielsen et al., 2017; Sonnentag & Frese, 2013). Similarly, research on changes in employees' work conditions suggests that losses in work quality (e.g., increased workload, reduced autonomy) correlate with deteriorations in well-being (e.g., Schaufeli et al., 2009), whereas gains in work quality improve well-being (Semmer, 2011). The concept of losses and gains plays a pivotal role in several theories (e.g., Hobfoll, 1989; Kahneman & Tversky, 1979; see also Baumeister et al., 2001). One of the most prominent theories applied to the work context is Hobfoll's (1989) conservation of resources (COR) theory which argues that losses have a stronger impact on individuals' well-being than gains do.

However, previous studies on work stress have largely ignored this central tenet of COR and thus the assumption about the differential effects of losses and gains. In doing so, prior research on the effects of work conditions on well-being may only tell half of the story. Empirical support for the loss aversion effect at work would entail several implications for common work stress theories (e.g., job demands–resources theory; Bakker & Demerouti, 2017; effort-reward imbalance; Siegrist, 2002). Studies based on these theories have mainly looked at the effects of high versus low levels of job stressors and resources and assume equally weighted processes. If the loss aversion effect holds true, our research not only draws attention to the relevance of experienced changes in work quality for employee well-being, but also qualifies the meaning of such changes.

This article aims to test this central tenet of COR theory by investigating the loss aversion effect to broaden our understanding of the effect of changes in work conditions on well-being. To this end, we use three longitudinal studies to examine whether deteriorations in

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work conditions have a stronger effect on employee well-being than corresponding improvements do. The present research contributes to the literature on work stress in three ways. First, we test Principle 1 of COR theory in the context of work stress. It suggests that a loss is disproportionately more salient than a gain. Although this notion is featured in a few psychological theories, research rarely focuses on how changes in the environment affect individuals and whether there is a different quality to such changes. To test this principle, previous research mainly used an indirect approach and compared the effects of stable job stressors with the effects of stable job resources (Lee & Ashforth, 1996). Extending this line of research, our study examines actual changes in the quality of work and thereby offers a rigorous test of the first principle of COR theory. If Principle 1 of COR can be supported, we have established evidence for this imbalance which then enables future theorizing to move to why this phenomenon occurs, ultimately improving the quality of our theoretical frameworks (e.g., Cucina & McDaniel, 2016).

Second, taking a potential loss aversion effect into account, the present study may offer a more precise estimate of the effects of changes in work conditions on employees' well-being. If there is indeed a loss aversion effect that previous studies have not accounted for, their findings likely provide an inflated, overly optimistic estimate of the positive effects of improved work conditions. At the same time, these studies likely underestimate the detrimental effects of a deterioration of work conditions. Failing to account for a potential loss aversion effect results in a fundamentally inaccurate understanding of the drivers of employee well-being. Hence, such a finding has theoretical implications in terms of providing direction for how to incorporate changes over time in theory. In terms of practical implications, support for the loss aversion indicates that increasing resources cannot offset the impact of deteriorations, and we would have to give greater priority to primary prevention.

Third, although a substantial body of research on the link between work conditions and employee well-being exists, we lack a thorough understanding of which specific work conditions relate to which specific indicators of well-being. Therefore, we pay attention to different types of work conditions (i.e., social vs. task-related) and test their relationships with four well-being indicators—depressive mood, emotional exhaustion, sleep problems, and job satisfaction. The four indicators include affective and physiological aspects and may differ in their sensitivity to changes in work conditions. By examining different work conditions and well-being indicators, we offer a fine-grained test of the loss aversion effect, which in turn may advance our understanding of pathways from work conditions to well-being.

Work Conditions and Well-Being

Prominent work stress theories (e.g., Bakker & Demerouti, 2017; Karasek, 1979) postulate that work conditions affect employees, assuming that high stressors and low resources are detrimental to individual well-being. Job stressors such as workload and organizational constraints refer to work conditions that must be coped with and therefore require the expenditure of effort. Job resources such as job control and social support enable employees to cope with job stressors and facilitate learning (e.g., Demerouti et al., 2001; Hobfoll, 2001). Meta-analyses demonstrate that employees confronted with high stressors and low resources report poorer psychological and somatic well-being (e.g., Lee & Ashforth, 1996; Nixon et al., 2011; Theorell et al., 2015). This body of knowledge is translated into practice as many organizations try to improve employee well-being (and performance) by work-ameliorating interventions aimed at reducing job stressors and increasing job resources. The general idea is that as much as a loss in work quality may harm employee well-being, a gain in work quality should result in an enhancement. However, COR suggests that losses have different magnitudes of effects on individuals' well-being and behavior than the effects of corresponding gains.

Loss Versus Gain

Resources within COR theory can be broadly defined as anything that may help attaining goals such as performing well at work (Halbesleben et al., 2014) and consist of good personal relationships, good health, and favorable working conditions (Hobfoll, 2001). Hobfoll (2001) mentions two explanations for why losses have a stronger impact on individuals' well-being than gains: First, it may occur because it is deeply learned and part of individuals' automatic responding; second, the primacy of loss may be inborn and stems from evolutionary processes, because the loss of a key resource threatens the survival of an individual or a group. In line with the primacy of loss, a study among military personnel demonstrated that only deployment-related resource losses (e.g., difficulties with keeping up relationships with friends), but not gains, related to well-being (Hobfoll et al., 2012). Similarly, deteriorations in the relationship with the supervisor were shown to have a stronger effect on negative affect compared to the effects of improvements in the relationship on positive affect (Dimotakis et al., 2022). These two studies directly compared the impact of losses and gains on the same set of resources. In contrast, most research on work stress has taken an indirect approach. Instead of comparing actual losses and gains in work quality over time, scholars have compared the effects of stable job stressors—which are supposed to cause a loss of personal resources—with the effects of stable job resources—which are supposed to cause a gain in personal resources (Lee & Ashforth, 1996).

According to Halbesleben et al. (2014), resources help individuals to attain their goals and satisfy their needs, which in turn are positively related to well-being. In the present research, we focus on high-quality work conditions—characterized by the presence of few job stressors and many job resources (Bakker & Demerouti, 2017)—as a crucial resource that helps employees to attain their work goals. Consequently, we expect a reduction in work quality to show a stronger impact on employee well-being than a corresponding gain in work quality.

> *Hypothesis 1:* A deterioration in work quality (i.e., increase in job stressors and decrease in job resources) has a stronger effect on individual well-being than a corresponding increase in work quality (decrease in job stressors and increase in job resources).

The Present Study

This research aims to test whether a deterioration in work conditions has a greater impact on employee well-being than an improvement does. We used data from three longitudinal studies to assess the impact of loss or gain in work conditions on four indicators of well-being. Depressive mood reflects (low) affective well-being, and

various studies have shown that adverse work conditions are positively related to depressive mood and symptoms (Bonde, 2008). Exhaustion is considered a core dimension of burnout (Demerouti et al., 2001) that results from prolonged exposure to low-quality work (Bakker & Demerouti, 2017) and has often been studied in the context of COR theory (e.g., Halbesleben, 2006). Sleep problems represent a psychosomatic indicator of well-being (Schat et al., 2005) that has been linked to different job stressors (Nixon et al., 2011). Last, job satisfaction is the overall evaluative judgment about one's job (Spector, 1997) and the result of the quality of one's work (Podsakoff et al., 2007). Based on the theory and previous empirical evidence, we did not expect indicator-specific effects (e.g., stronger loss aversion effects for exhaustion than for depression). However, using multiple indicators allows us to examine whether a loss aversion effect replicates across different outcome variables, strengthening the confidence in the overall pattern of results.

Although all three studies include the same well-being indicators, the studies differ regarding the assessment of the work conditions. In Study 1, quality of work conditions was assessed using a global measure. Studies 2 and 3 assessed specific job stressors (workload, social stressors, and organizational constraints) and job resources (job control and social support). Based on COR theory, we did not have specific assumptions about the different work characteristics. However, other stress theories suggest that some characteristics have a stronger impact on well-being than others. More specifically, the challenge-hindrance stressor framework (Cavanaugh et al., 2000) postulates that some stressors (e.g., social stressors) are more detrimental for employee well-being than others (e.g., workload). With the aim of offering a fine-grained examination of the loss aversion effect, we, therefore, tested our hypothesis with different job stressors and resources.

Method

Transparency, Openness, and Ethics Policy

For all three studies, we describe our sampling plan, all data exclusions (if any), all manipulations, and all measures, and we adhered to the *Journal of Applied Psychology* methodological checklist. Data from Study 1 are available from FORS at https://forscenter.ch/projects/swiss-household-panel; data from Studies 2 and 3 and the analysis code can be found at the Open Science Framework (https://osf.io/w8ksv/?view_only=168787686e7f47318159bf792bc26144). Study designs and analyses were not preregistered. For Studies 2 and 3, no institutional procedure for ethical approval for questionnaire studies existed at the time of data collection; however, the studies followed the APA ethics policy regarding the treatment of participants and data was handled in accordance with European guidelines (General Data Protection Regulation).

In terms of previous publications, Study 1 is a public data set; a list of publications can be found online (https://forscenter.ch/projects/swiss-household-panel/scientific-activities/). Data from Study 2 has been used by Bianchi et al. (2021), Keller et al. (2020), Kuster et al. (2012, 2013), Meier and Cho (2019), Meier and Spector (2013), and Orth et al. (2016, 2021). Data from Study 3 have been used by Brauchli et al. (2013). Of importance, none of the previous publications examined the loss aversion effect and hence addressed different research questions using different analytical approaches.

Participants and Study Characteristics

Study 1

Our first sample consisted of individuals from the Swiss Household Panel, a longitudinal study of Swiss households. We used data from 12 annual waves from 2004 to 2015. We used 52,982 observations from 10,756 individuals between ages 16 and 65 years (52% female, 48% male; age: $M = 41.01$, $SD = 14.16$) for whom information about changes in work conditions and well-being were available for at least two consecutive years. Less than one percent did not completed the mandatory 9 years of schooling, 12% had completed the mandatory years of schooling, 66% had completed secondary education, and 22% had a higher education degree (for more details, see Tillmann et al., 2016).

Study 2

The second study is a five-wave longitudinal study with time lags of 2 months. The sample included 663 individuals in various occupations. For our analyses, we used a subsample of individuals for whom data were available for at least two consecutive waves. Wave 1 included 579 participants (53% female, 47% male), Wave 2 included 536 participants, Wave 3 included 472, Wave 4 included 411, and Wave 5 included 385. The mean age of the individuals was 32.91 ($SD = 10.55$, range: 17–62). Eight percent had completed the mandatory 9 years of schooling, 51% had completed secondary education, and 41% had a higher education degree. On average, organizational tenure was 4.92 years ($SD = 5.61$).[1]

Study 3

The third study is a three-wave longitudinal study with time lags of 1 year. The sample consists of individuals from eight medium- or large-sized organizations operating in diverse sectors. This sample included 2,441 (64% male, 36% female) individuals of whom all participated in Wave 2, 1,947 participated in Wave 1, and 1,753 participated in Wave 3. The mean age of the individuals was 39.24 ($SD = 10.83$, range: 16–64). Nine percent had completed their mandatory years of schooling, 53% had completed secondary education, and 38% had a higher education degree. On average, organizational tenure was 8.60 years ($SD = 9.18$; see Footnote 1).

Measures

Measures are presented in Table 1.

Statistical Analyses

To test our hypothesis, we followed the analytical strategy used by Boyce et al. (2013). Given that we have repeated and hence nested measures, we analyzed the data with multilevel random

[1] To investigate the potential impact of attrition in Studies 2 and 3, we compared individuals who were included in the final sample (i.e., for whom we had data from at least two consecutive waves) with individuals who were not included, using the study variables from Wave 1. No significant differences emerged for any of our study variables in Study 2. In Study 3, participants who were not included in the final sample reported more stressors, fewer resources, and poorer well-being, with small to medium differences (Cohen's *d*s between .08 and .32).

Table 1
Measures for the Three Studies

Study	Source	Sample item	No. of items	Scaling	Reliability
Change in work conditions					
Study 1	Tillmann et al. (2016)	How have your work conditions evolved since [date of last survey]?	1	−5 (*greatly deteriorated*) to +5 (*greatly improved*), 0 indicating no change.	—
Workload					
Study 2	Semmer et al. (1995)	At work, how often is a rapid pace of work required?	4	1 (very *rarely/never*) to 4 (*very often/constantly*)	.80–.86
Study 3	Semmer et al. (1995)	At work, how often is a rapid pace of work required?	4	1 (very *rarely/never*) to 4 (*very often/constantly*)	.82–.84
Social stressors					
Study 2	Blau and Andersson (2005)	How often have you been ignored or excluded from professional camaraderie at work?	7	1 (*never*) to 7 (*very often*)	.84–.90
Study 3	Frese and Zapf (1987)	Coworkers put you down for almost nothing here.	10	1 (*strongly disagree*) to 5 (*strongly agree*)	.85–.87
Organizational constraints					
Study 2	Spector and Jex (1998)	How often do you find it difficult or impossible to do your job because of poor equipment or supplies?	11	1 (very *rarely/never*) to 5 (*very often/constantly*)	.83–.89
Study 3	Semmer et al. (1995)	Which of the described workplaces resembles yours the most? Person *A* has documents and information at his/her disposal, which are always accurate and up-to-date. Person *B* has documents that often contain incomplete or out-of-date information.	4	1 (*exactly like A*) to 5 (*exactly like B*)	.72–.75
Job control					
Study 3	Semmer et al. (1995)	Considering your work in general, how many opportunities do you have to make your own decisions?	6	1 (*little/not at all*) to 7 (*very much*)	.86–.87
Social support					
Study 3	Frese (1989)	How much can you rely on your direct supervisor in difficult situations at work?	3	1 (*not at all*) to 7 (*a lot)*	.68–.71
Depressive mood/symptoms					
Study 1	Tillmann et al. (2016)	Do you often have negative feelings such as having the blues, being desperate, suffering from anxiety or depression?	1	0 (*never*) to 10 (*always*)	—
Study 2	Radloff (1977)	I felt depressed	20	1 (*rarely or none of the time*) to 4 (*most or all of the time*)	.88–.89
Study 3	Warr (1990)	Thinking of the past few weeks, how much of the time has your job made you feel depressed?	3	1 (*never*) to 5 (*all of the time*)	.80–.84
Exhaustion					
Study 1	Tillmann et al. (2016)	How strongly are you exhausted after work to do things you would like to do?	1	0 (*not at all*) to 10 (*very strongly*)	—
Study 2	Demerouti et al. (2001)	During my work, I often feel emotionally drained	5	1 (*never*) to 5 (*very often*)	.88–.91
Study 3	Demerouti et al. (2001)	During my work, I often feel emotionally drained	5	1 (*never*) to 5 (*very often*)	.81–.84
Sleep problems					
Study 1	Tillmann et al. (2016)	During the last 4 weeks, have you suffered from difficulty in sleeping, or insomnia?	1	1 (*not at all*) to 3 (*very much*)	—
Study 2	Jenkins et al. (1988)	I had trouble falling asleep	4	1 (*not at all*) to 7 (*completely*)	.82–.86
Study 3	Bastien et al. (2001)	Please rate the current (i.e., last 2 weeks) severity of your possible sleep-related problem(s): Difficulty falling asleep	3	1 (*none*) to 5 (*very severe*)	.73–.74
Job satisfaction					
Study 1	Tillmann et al. (2016)	Can you indicate your degree of satisfaction with your job in general?	1	0 (*not at all satisfied*) to 10 (*completely satisfied*)	—
Study 2	Baillod and Semmer (1994)	In general, how satisfied are you with your work?	4	1 (*extremely unsatisfied/never*) to 7 (*extremely satisfied/always*)	.82–.86
Study 3	Baillod and Semmer (1994)	In general, how satisfied are you with your work?	1	1 (*extremely unsatisfied*) to 7 (*extremely satisfied*)	—

coefficient models with the program HLM (Raudenbush et al., 2004). We predicted *well-being* at a particular time point (WB_T), controlling for well-being at the previous time point (WB_{T-1}). As such, we captured each employee's change in well-being.

In Study 1, the main predictor was perceived *change* in work conditions reported at T (C_T). This predictor, however, simply tests whether there is a linear effect of change on well-being and does not inform us about whether deteriorations in work conditions have a stronger effect than improvements. To differentiate between deteriorations and improvements in work conditions, we included a dummy variable to indicate that the change was due to deteriorations ($D_T = 1$ if $C_T < 0$, otherwise $D_T = 0$). Moreover, we interacted this deterioration dummy with the change variable ($D_T \times C_T$). This gives the regression model shown in Equation 1:

$$WB_T = B_0 + B_1 WB_{T-1} + B_2 C_T + B_3 D_T + B_4 C_T \times D_T + r. \quad (1)$$

By adding the dummy and the interaction variable, we get separate estimates for the effects of a deterioration and an improvement in work conditions as well as a formal test whether these two effects differ from each other. More specifically, the interaction term (B_4) indicates whether the effect of improved work conditions differs from the effect of a deterioration in work conditions and hence informs our hypothesis. For a more detailed explanation of the equation, please see Appendix.

In Studies 2 and 3,[2] we used a very similar approach. In these studies, however, change in work conditions was not captured through employee recollections; instead, we calculated the change from the previous year for each job stressor (C_T = Job stressor_{T-1} − Job stressor_T) and job resource (C_T = Job resource_T − Job ressource_{T-1}). As in Study 1, a positive value in this change variable reflects an improvement in one's work conditions, and a negative value reflects a deterioration in one's work conditions. As a robustness check, we conducted additional analyses in which we predicted well-being at $T + 1$ with changes in work conditions between $T - 1$ and T.

Results

Descriptive statistics are presented in Tables 2–4. Table 5 presents the findings from the multilevel analyses for the four outcomes. In Study 1, improvements in work conditions predicted changes in depressive mood, sleep problems, and job satisfaction (significant B_2s), but not in exhaustion. Of importance, however, a corresponding deterioration in one's work conditions resulted in a stronger change in well-being, reflected by significant interaction effect (B_4). For example, whereas an improvement in work conditions by one unit resulted in a decrease in depressive mood by −0.02, a deterioration in work conditions by one unit resulted in an increase in depressive mood by 0.24.[3] Table 6 provides an overview of the effect sizes, with standardized coefficients (β) for loss and gain effects. We found the same pattern for all four well-being indicators (see Figure 1), supporting our hypothesis that a deterioration in working conditions has a greater impact on well-being than an improvement.

In Study 2, we tested our hypothesis with three different stressors, namely workload, social stressors, and organizational constraints. For workload, we found no support for our hypothesis (for depressive symptoms, exhaustion, and sleep problems, B_4s were nonsignificant). In contrast to our assumption, only a decrease in workload was related to a change in job satisfaction ($B_4 = -0.30$, $p = .006$; $\beta_{Gain} = .08$, $p = .031$; $\beta_{Loss} = .07$, $p = .126$, see Table 5; a similar pattern was found for sleep problems). For social stressors, however, results generally supported our hypothesis. More specifically, an increase in social stressors predicted an increase in depressive symptoms ($\beta_{Loss} = .22$, $p < .001$), exhaustion ($\beta_{Loss} = .11$, $p = .003$), and sleep problems ($\beta_{Loss} = .15$, $p < .001$); a decrease in social stressors, however, was unrelated to a change in these outcomes (for depressive symptoms, $\beta_{Gain} = -.04$, $p = .301$; for exhaustion, $\beta_{Gain} = -.01$, $p = .735$; for sleep problems, $\beta_{Gain} = -.001$, $p = .999$). No difference emerged for job satisfaction ($B_4 = 0.14$, $p = .237$). For organizational constraints, we found a similar pattern. An increase in organizational constraints had a stronger effect on well-being than a corresponding decrease had: depressive symptoms ($B_4 = -0.13$; $\beta_{Loss} = .20$, $p < .001$; $\beta_{Gain} = -.05$, $p = .241$), exhaustion ($B_4 = -0.43$; $\beta_{Loss} = .24$, $p < .001$; $\beta_{Gain} = -.07$, $p = .052$), and job satisfaction ($B_4 = 0.49$; $\beta_{Loss} = -.23$, $p < .001$; $\beta_{Gain} = .06$, $p = .152$). No differences emerged for sleep problems ($B_4 = -0.15$, $p = .397$).

In sum, we found some support for our hypothesis that a deterioration in work conditions (increase in job stressors) had a stronger negative effect on employee well-being than an equivalent improvement in work conditions (decrease in job stressors). In line with the results from Study 1, this effect emerged across different well-being indicators. It is noteworthy, however, that the pattern was not equally clear for all stressors. In particular, we found no evidence for a loss aversion effect for workload; in contrast, the findings support the assumption of a loss aversion effect for social stressors and organizational constraints. Thus, the strength of a loss aversion effect may depend on the type of job stressors.

In Study 3, we aimed to test whether these differences among stressors can be replicated. In addition, we included measures of job control and social support to test the loss aversion effect for prominent job resources. For workload, we found limited support for our hypothesis, matching the findings from Study 2. Increases and decreases in workload had equally strong effects on depressive mood, exhaustion, and job satisfaction (B_4s were nonsignificant). Only for sleep problems ($B_4 = -0.13$, $p = .014$), an increase in workload had a stronger effect ($\beta_{Loss} = .16$, $p < .001$) than a corresponding decrease ($\beta_{Gain} = -.06$, $p = .027$). For social stressors, however, results clearly supported our hypothesis, matching again the findings from Study 2. For all outcomes, an increase in social stressors had a stronger effect than a corresponding decrease (for all B_4s, $p < .001$). For organizational constraints, results were mixed. No difference emerged for sleep problems ($B_4 = -0.06$, $p = .268$). In contrast, an increase in organizational constraints had a stronger effect than a decrease on job satisfaction had ($B_4 = 0.21$, $p = .005$; $\beta_{Loss} = -.23$, $\beta_{Gain} = .10$, both ps $< .001$). The results were similar for depressive mood ($\beta_{Loss} = .19$, $\beta_{Gain} = -.12$, both ps $< .001$) and exhaustion ($\beta_{Loss} = .20$, $\beta_{Gain} = -.12$, both ps $< .001$); these differences, however, were not significant (for depressive mood, $B_4 = -0.09$, $p = .088$; for exhaustion, $B_4 = -0.06$, $p = .054$).

[2] In Study 3, employees worked in eight different organizations. Taking this into account, we tested our hypothesis with three-level random coefficient models (Level 3: organization; Level 2: individual; Level 1: measurement occasion).

[3] To calculate the (simple slope) effect of a loss using the procedure outlined by Aiken and West (1991), we omitted the effect of B_3. In most analyses across the three studies, B_3 was negligible. For exhaustion as outcome, B_3 was sometimes significant and positive, as such, the reported loss effect is underestimated, at least for a one-unit change from 0 to −1.

Table 2
Means, Standard Deviations, and Correlations of the Measures (Study 1)

Variable	*M*	*SD*	Range	1	2	3	4	5	6
1. Change in work conditions	0.47	1.50	−5–5	—					
2. Exhaustion	4.48	2.49	0–10	−.05*	—				
3. Depressive mood	1.98	1.92	0–10	−.07*	.31*	—			
4. Sleep problems	1.41	0.62	1–3	−.06*	.18*	.37*	—		
5. Job satisfaction	7.99	1.44	0–10	.23*	−.26*	−.31*	−.13*	—	
6. Gender[a]	0.52	—	0 and 1	<.01	<.01	.18*	.15*	.03*	—
7. Age	41.01	14.16	16–65	−.27*	.01	.01	.10*	.14*	<.01

Note. Correlations are based on the aggregate measures across measurement occasions.
[a] 0 = male; 1 = female.
* $p < .05$. Two-tailed tests.

Regarding the effects of job resources, results clearly supported our hypothesis for job control. For all outcomes, a decrease in job control had a stronger effect than a corresponding increase had (for all B_4s, $p < .03$). For social support, two out of the four well-being indicators were in line with our hypothesis. A decrease in social support had a disproportionally stronger effect on sleep problems ($B_4 = -0.09$, $p = .033$; $\beta_{Loss} = .08$, $p < .001$; $\beta_{Gain} = <.01$, $p = .902$) and on exhaustion ($B_4 = -0.06$, $p = .022$; $\beta_{Loss} = .16$, $p < .001$; $\beta_{Gain} = -.07$, $p = .011$). The effects were similar for depressive mood ($\beta_{Loss} = .16$, $p < .001$; $\beta_{Gain} = -.07$, $p = .006$) and job satisfaction ($\beta_{Loss} = -.16$, $p < .001$; $\beta_{Gain} = .07$, $p = .009$), but the differences were not significant (for depressive mood, $B_4 = -0.08$, $p = .062$; for job satisfaction, $B_4 = 0.11$, $p = .060$).

Analyses With Lagged Well-Being as Outcome

To check the robustness of the findings, we conducted analyses in which we predicted well-being at $T + 1$ with changes in work conditions between $T - 1$ and T (see Table 7). For Study 2 (with a time lag of 2 months), we found largely the same pattern as in the analyses with well-being at *T*, namely, loss aversion effects for social stressors (for depressive symptoms: $B_4 = -0.14$, $p = .023$; for exhaustion: $B_4 = -0.31$, $p = .040$; for sleep problems: $B_4 = -0.40$, $p = .013$) and organizational constraints (for depressive symptoms: $B_4 = -0.18$, $p = .022$; for job satisfaction: $B_4 = 0.48$, $p = .025$), but not for workload. For Studies 1 and 3 (with time lags of 1 year), overall, the effects of changes in work conditions on well-being were smaller and related to that, we found fewer loss aversion effects. In Study 1, there was only a loss aversion effect for depressive mood ($B_4 = -0.07$, $p = .024$). In Study 3, there were no loss aversion effects for workload and job control, but some evidence for loss aversion effects for organizational constraints (for exhaustion: $B_4 = -0.12$, $p = .043$) and social support (for sleep problems: $B_4 = -0.16$, $p = .038$). Moreover, in line with the results from Study 2 and the findings reported above with well-being measured at *T*, there was a consistent loss aversion effect for social stressors for all well-being indicators (for depressive mood: $B_4 = -0.23$, $p = .020$; for exhaustion: $B_4 = -0.15$, $p = .037$; for sleep problems: $B_4 = -0.30$, $p = .007$; for job satisfaction: $B_4 = 0.38$, $p = .015$).

Discussion

The objective of this research was to test a central position of COR theory (Hobfoll, 2001), which assumes that a loss in work quality has disproportionately greater impact than a gain does. To this end, we examined whether deteriorations in work conditions (i.e., increases in job stressors, decreases in job resources) have a stronger effect on employee well-being than corresponding improvements (i.e., decreases in job stressors, increases in job resources). More specifically, we investigated the effects of changes in different job stressors and resources on several indicators of employee well-being in three large-scale longitudinal studies. In line with COR theory, we found that the effect of a loss in work quality (i.e., deterioration of work conditions) was generally stronger than the effect of a gain (i.e., improvement of work conditions), but the findings were more consistent for some work conditions (e.g., social stressors) than for others (e.g., workload).

Theoretical Implications

Hobfoll's COR theory is arguably one of the most significant and widely used theories in studies aiming to understand employee stress and well-being (Hobfoll et al., 2018), but empirical tests for some of the theory's key assumptions, such as the primacy of loss principle, are largely lacking. Advancing the literature on stress in general and COR theory in particular, our findings generally support the idea that a loss in work quality has a stronger impact on employees' well-being than a corresponding gain.

The loss aversion effect emerged for job stressors as well as for job resources. Interestingly, however, we found a more consistent pattern for the effect of some job stressors than for others. More specifically, we found particularly strong support for a loss aversion effect for social stressors. Thus, an increase in social stressors had a more pervasive impact on employee well-being than a corresponding reduction. In contrast, we found only weak evidence for a loss aversion effect for workload; it, therefore, seems that increases and decreases in workload have about the same impact on well-being. Hobfoll (2001) speculated that the primacy of loss may stem from evolutionary processes. From an evolutionary perspective, social stressors may be more relevant than, for example, workload, because social stressors may signal that one's group membership is threatened. Belonging to a group can be more important for survival as compared to workload, because the group offers protection against threats.

In addition, this pattern aligns with previous research on job stressors in the context of the challenge-hindrance stressor framework (Cavanaugh et al., 2000; LePine et al., 2005; see also O'Brien & Beehr, 2019). According to this framework, two different

Table 3

Means, Standard Deviations, and Correlations of the Measures (Study 2)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. WL1	3.08	0.86	.80																			
2. WL2	3.05	0.90	.67*	.85																		
3. WL3	2.93	0.89	.57*	.66*	.86																	
4. WL4	2.89	0.90	.60*	.70*	.73*	.86																
5. WL5	2.96	0.91	.51*	.60*	.60*	.69*	.85															
6. CON1	2.03	0.61	.40*	.28*	.21*	.29*	.25*	.83														
7. CON2	2.03	0.61	.30*	.37*	.27*	.27*	.24*	.70*	.85													
8. CON3	2.02	0.65	.21*	.27*	.32*	.28*	.28*	.63*	.74*	.88												
9. CON4	1.98	0.64	.24*	.32*	.31*	.39*	.34*	.57*	.67*	.72*	.89											
10. CON5	2.01	0.63	.20*	.25*	.25*	.29*	.38*	.54*	.63*	.65*	.76*	.88										
11. SST1	1.83	0.75	.18*	.12*	.12*	.14*	.10	.41*	.33*	.31*	.30*	.31*	.84									
12. SST2	1.76	0.73	.11*	.17*	.15*	.17*	.10	.33*	.45*	.39*	.40*	.36*	.55*	.85								
13. SST3	1.70	0.68	.15*	.20*	.19*	.11*	.14*	.28*	.34*	.42*	.34*	.34*	.54*	.65*	.85							
14. SST4	1.66	0.69	.13*	.20*	.20*	.21*	.18*	.29*	.37*	.39*	.47*	.47*	.57*	.62*	.65*	.86						
15. SST5	1.68	0.80	.09	.12*	.14*	.13*	.14*	.29*	.32*	.39*	.42*	.54*	.46*	.54*	.58*	.69*	.90					
16. DEP1	1.56	0.40	.20*	.10*	.11*	.11*	.13*	.33*	.26*	.29*	.29*	.29*	.40*	.31*	.27*	.30*	.31*	.88				
17. DEP2	1.55	0.41	.13*	.16*	.10*	.05	.11*	.29*	.37*	.37*	.32*	.30*	.28*	.42*	.32*	.32*	.33*	.66*	.89			
18. DEP3	1.53	0.41	.13*	.17*	.18*	.14*	.06	.24*	.31*	.39*	.31*	.29*	.20*	.33*	.36*	.31*	.38*	.58*	.70*	.89		
19. DEP4	1.51	0.42	.04	.14*	.13*	.18*	.12*	.22*	.27*	.34*	.38*	.38*	.19*	.35*	.28*	.36*	.33*	.56*	.67*	.73*	.89	
20. DEP5	1.54	0.41	.05	.11*	.11*	.14*	.19*	.29*	.28*	.31*	.35*	.41*	.25*	.33*	.32*	.39*	.47*	.55*	.60*	.63*	.69*	.88
21. EXH1	2.86	1.12	.44*	.29*	.24*	.19*	.15*	.40*	.33*	.32*	.28*	.28*	.31*	.22*	.22*	.25*	.18*	.55*	.39*	.37*	.32*	.33*
22. EXH2	2.79	1.20	.33*	.39*	.29*	.23*	.21*	.37*	.46*	.44*	.35*	.35*	.28*	.30*	.30*	.28*	.24*	.44*	.52*	.43*	.36*	.38*
23. EXH3	2.71	1.15	.25*	.30*	.39*	.27*	.19*	.33*	.38*	.47*	.38*	.30*	.25*	.25*	.34*	.31*	.26*	.48*	.50*	.62*	.50*	.46*
24. EXH4	2.64	1.18	.20*	.30*	.31*	.41*	.31*	.27*	.33*	.36*	.46*	.43*	.26*	.24*	.26*	.40*	.30*	.42*	.39*	.48*	.59*	.49*
25. EXH5	2.69	1.22	.15*	.25*	.28*	.34*	.41*	.33*	.38*	.42*	.48*	.50*	.25*	.26*	.32*	.39*	.40*	.46*	.43*	.41*	.53*	.64*
26. SLP1	2.79	1.41	.23*	.11*	.06	.09	.09	.27*	.23*	.23*	.20*	.14*	.30*	.22*	.18*	.20*	.20*	.62*	.43*	.38*	.35*	.35*
27. SLP2	2.76	1.32	.12*	.12*	.03	.04	.10	.21*	.29*	.29*	.26*	.23*	.20*	.28*	.22*	.22*	.24*	.47*	.57*	.47*	.47*	.41*
28. SLP3	2.70	1.33	.12*	.10*	.08	.12*	.05	.27*	.25*	.31*	.30*	.23*	.20*	.19*	.24*	.26*	.29*	.47*	.42*	.58*	.50*	.41*
29. SLP4	2.63	1.35	.08	.10	.09	.18*	.11*	.19*	.22*	.30*	.32*	.26*	.21*	.28*	.28*	.30*	.28*	.43*	.42*	.51*	.64*	.42*
30. SLP5	2.66	1.37	.05	.04	.07	.17*	.15*	.19*	.21*	.23*	.29*	.28*	.15*	.24*	.25*	.28*	.31*	.44*	.37*	.40*	.52*	.60*
31. JS1	4.64	1.27	−.21*	−.13*	−.09*	−.13*	−.09	−.42*	−.36*	−.36*	−.31*	−.23*	−.32*	−.22*	−.24*	−.19*	−.10	−.46*	−.37*	−.33*	−.29*	−.20*
32. JS2	4.50	1.27	−.15*	−.15*	−.10*	−.05	−.08	−.42*	−.49*	−.43*	−.35*	−.26*	−.25*	−.34*	−.30*	−.22*	−.10	−.36*	−.47*	−.37*	−.30*	−.25*
33. JS3	4.54	1.33	−.12*	−.15*	−.10*	−.03	−.03	−.33*	−.43*	−.47*	−.35*	−.29*	−.22*	−.22*	−.32*	−.24*	−.19*	−.33*	−.39*	−.46*	−.28*	−.25*
34. JS4	4.53	1.34	−.03	−.09	−.06	−.10	−.05	−.21*	−.29*	−.35*	−.38*	−.32*	−.13*	−.12*	−.18*	−.23*	−.15*	−.30*	−.36*	−.37*	−.46*	−.34*
35. JS5	4.50	1.35	−.05	−.09	−.10	−.10	−.10*	−.20*	−.24*	−.26*	−.34*	−.39*	−.14*	−.11*	−.14*	−.21*	−.29*	−.28*	−.30*	−.26*	−.36*	−.47*
36. Gender[a]	0.53	—	−.09*	−.10*	−.12*	−.09	−.09	−.03	−.02	−.04	−.06	.03	−.02	.02	.01	−.01	.08	.16*	.16*	.09*	.07	.07
37. Age	32.91	10.55	.07	.05	.04	.11*	.09	.02	−.05	−.06	.03	−.02	.07	−.06	−.07	−.02	−.03	−.07	−.11*	−.12*	−.12*	−.14*
38. Job tenure	4.92	5.61	.04	.01	.02	.05	.05	−.04	−.10*	−.12*	.00	−.02	.04	−.04	−.07	−.02	−.03	−.08	−.04	−.08	−.06	−.08

Variable	*M*	*SD*	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
1. WL1	3.08	0.86																	
2. WL2	3.05	0.90																	
3. WL3	2.93	0.89																	
4. WL4	2.89	0.90																	
5. WL5	2.96	0.91																	
6. CON1	2.03	0.61																	
7. CON2	2.03	0.61																	

(*table continues*)

Table 3 (*continued*)

Variable	*M*	*SD*	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
8. CON3	2.02	0.65																	
9. CON4	1.98	0.64																	
10. CON5	2.01	0.63																	
11. SST1	1.83	0.75																	
12. SST2	1.76	0.73																	
13. SST3	1.70	0.68																	
14. SST4	1.66	0.69																	
15. SST5	1.68	0.80																	
16. DEP1	1.56	0.40																	
17. DEP2	1.55	0.41																	
18. DEP3	1.53	0.41																	
19. DEP4	1.51	0.42																	
20. DEP5	1.54	0.41																	
21. EXH1	2.86	1.12	.88																
22. EXH2	2.79	1.20	.67*	.90															
23. EXH3	2.71	1.15	.59*	.72*	.90														
24. EXH4	2.64	1.18	.51*	.63*	.70*	.91													
25. EXH5	2.69	1.22	.51*	.60*	.63*	.78*	.91												
26. SLP1	2.79	1.41	.49*	.33*	.37*	.30*	.36*	.85											
27. SLP2	2.76	1.32	.40*	.47*	.41*	.34*	.40*	.68*	.83										
28. SLP3	2.70	1.33	.38*	.35*	.53*	.42*	.44*	.60*	.67*	.82									
29. SLP4	2.63	1.35	.35*	.31*	.45*	.51*	.46*	.59*	.68*	.72*	.85								
30. SLP5	2.66	1.37	.32*	.26*	.39*	.45*	.58*	.54*	.53*	.61*	.69*	.86							
31. JS1	4.64	1.27	−.46*	−.44*	−.38*	−.34*	−.30*	−.32*	−.24*	−.26*	−.25*	−.21*	.77						
32. JS2	4.50	1.27	−.37*	−.49*	−.39*	−.32*	−.33*	−.25*	−.26*	−.24*	−.21*	−.20*	.67*	.77					
33. JS3	4.54	1.33	−.35*	−.47*	−.49*	−.33*	−.30*	−.24*	−.25*	−.30*	−.20*	−.14*	.63*	.75*	.81				
34. JS4	4.53	1.34	−.28*	−.38*	−.41*	−.50*	−.43*	−.19*	−.25*	−.29*	−.31*	−.27*	.50*	.58*	.69*	.82			
35. JS5	4.50	1.35	−.28*	−.35*	−.34*	−.44*	−.52*	−.17*	−.20*	−.18*	−.24*	−.30*	.44*	.46*	.54*	.71*	.79		
36. Gender[a]	0.53	—	.07	.05	.08	.04	.01	.16*	.14*	.11*	.13*	.07	−.07	−.04	−.04	−.06	−.06	—	
37. Age	32.91	10.55	−.10*	−.10*	−.11*	−.12*	−.08	.05	.03	.06	.03	.01	.13*	.19*	.20*	.14*	.16*	−.08	—
38. Job tenure	4.92	5.61	−.07	−.09	−.09	−.11*	−.02	.05	.01	.01	.01	.04	.11*	.17*	.18*	.10	.10	−.09	.62*

Note. Cronbach α reliabilities are provided on the diagonal. WL = workload; CON = organizational constraints; SST = social stressors; DEP = depressive symptoms; EXH = exhaustion; SLP = sleep problems; JS = job satisfaction; 1–5 = Time 1 to Time 5.

[a] 0 = male; 1 = female.

* $p < .05$. Two-tailed tests.

Table 4

Means, Standard Deviations, and Correlations of the Measures (Study 3)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1. WL1	3.21	0.82	.82																												
2. WL2	3.06	0.82	.64*	.84																											
3. WL3	3.09	0.82	.58*	.66*	.84																										
4. CON1	2.44	0.74	.30*	.23*	.20*	.71																									
5. CON2	2.37	0.75	.20*	.34*	.23*	.55*	.72																								
6. CON3	2.36	0.76	.16*	.29*	.33*	.52*	.66*	.75																							
7. SST1	1.52	0.53	.18*	.10*	.07*	.33*	.22*	.20*	.85																						
8. SST2	1.49	0.55	.13*	.22*	.14*	.25*	.33*	.26*	.56*	.87																					
9. SST3	1.50	0.55	.14*	.15*	.21*	.27*	.30*	.34*	.51*	.64*	.87																				
10. JC1	3.64	0.85	.01	.01	.02	−.18*	−.17*	−.18*	−.27*	−.25*	−.21*	.87																			
11. JC2	3.63	0.84	.03	−.03	.01	−.16*	−.22*	−.21*	−.25*	−.29*	−.27*	.72*	.87																		
12. JC3	3.68	0.83	.04	−.03	−.06*	−.16*	−.21*	−.25*	−.22*	−.24*	−.29*	.71*	.75*	.87																	
13. SSU1	3.92	0.77	−.04	−.03	.02	−.19*	−.13*	−.11*	−.32*	−.24*	−.20*	.14*	.11*	.11*	.68																
14. SSU2	3.93	0.79	−.02	−.09*	−.06*	−.13*	−.21*	−.17*	−.24*	−.37*	−.26*	.11*	.16*	.14*	.45*	.71															
15. SSU3	3.95	0.76	−.05	−.11*	−.14*	−.17*	−.21*	−.26*	−.22*	−.29*	−.36*	.07*	.10*	.16*	.44*	.50*	.68														
16. DEP1	1.71	0.69	.26*	.16*	.16*	.26*	.18*	.17*	.38*	.30*	.29*	−.18*	−.15*	−.11*	−.22*	−.16*	−.18*	.80													
17. DEP2	1.70	0.72	.17*	.28*	.23*	.19*	.30*	.27*	.26*	.47*	.34*	−.13*	−.20*	−.14*	−.13*	−.28*	−.21*	.42*	.83												
18. DEP3	1.72	0.75	.19*	.25*	.31*	.24*	.29*	.39*	.27*	.36*	.47*	−.15*	−.18*	−.21*	−.15*	−.20*	−.26*	.43*	.53*	.84											
19. EXH1	2.69	0.51	.41*	.27*	.27*	.32*	.25*	.22*	.31*	.25*	.27*	−.24*	−.21*	−.15*	−.21*	−.13*	−.17*	.58*	.34*	.34*	.81										
20. EXH2	2.64	0.52	.28*	.44*	.32*	.23*	.36*	.29*	.20*	.33*	.28*	−.18*	−.25*	−.19*	−.13*	−.23*	−.19*	.39*	.54*	.41*	.59*	.82									
21. EXH3	2.63	0.53	.26*	.37*	.48*	.22*	.29*	.38*	.19*	.28*	.37*	−.19*	−.20*	−.26*	−.13*	−.17*	−.24*	.34*	.42*	.57*	.52*	.62*	.84								
22. SLP1	1.05	0.88	.15*	.08*	.12*	.17*	.14*	.12*	.21*	.16*	.13*	−.18*	−.13*	−.10*	−.18*	−.14*	−.12*	.35*	.20*	.22*	.41*	.28*	.26*	.73							
23. SLP2	1.02	0.88	.12*	.20*	.17*	.15*	.22*	.18*	.18*	.25*	.21*	−.16*	−.18*	−.16*	−.17*	−.20*	−.15*	.25*	.36*	.28*	.30*	.43*	.34*	.60*	.75						
24. SLP3	0.99	0.85	.13*	.21*	.25*	.12*	.21*	.23*	.18*	.22*	.24*	−.16*	−.16*	−.20*	−.18*	−.21*	−.21*	.26*	.30*	.38*	.31*	.40*	.46*	.56*	.66*	.74					
25. JS1	5.20	0.98	−.19*	−.11*	−.09*	−.31*	−.23*	−.21*	−.38*	−.28*	−.22*	.21*	.16*	.15*	.25*	.18*	.18*	−.54*	−.30*	−.29*	−.49*	−.29*	−.28*	−.25*	−.18*	−.18*	—				
26. JS2	5.15	1.04	−.08*	−.19*	−.16*	−.22*	−.35*	−.30*	−.23*	−.40*	−.32*	.14*	.22*	.18*	.16*	.28*	.23*	−.29*	−.52*	−.35*	−.27*	−.39*	−.32*	−.14*	−.24*	−.21*	.41*	—			
27. JS3	5.07	1.09	−.13*	−.18*	−.21*	−.24*	−.30*	−.39*	−.25*	−.31*	−.41*	.17*	.20*	.26*	.15*	.20*	.29*	−.30*	−.40*	−.60*	−.28*	−.34*	−.47*	−.17*	−.19*	−.28*	.38*	.48*	—		
28. Gender[a]	0.36	—	.01	−.02	−.01	−.07*	−.05*	−.06*	−.03	−.06*	−.04	−.05*	−.02	.00	−.04	.00	.02	.00	−.05*	−.02	−.02	−.05*	−.01	.03	−.01	.02	−.01	.06*	.07*	—	
29. Age	39.24	10.83	.01	−.04	−.07*	−.04	−.08*	−.10*	−.07*	−.13*	−.17*	.16*	.13*	.11*	−.13*	−.08*	−.10*	−.11*	−.13*	−.17*	−.11*	−.15*	−.15*	.04	.06*	.02	.06*	.10*	.12*	−.03	—
30. JT	8.60	9.18	.05*	.00	−.03	.01	−.01	−.02	.00	−.01	−.06*	.14*	.11*	.09*	−.08*	−.07*	−.09*	.00	−.03	−.06*	.00	−.04*	−.08*	.08*	.06*	.03	−.02	.02	.04	−.11*	.60*

Note. Cronbach α reliabilities are provided on the diagonal. WL = workload; CON = organizational constraints; SST = social stressors; JC = job control; SSU = social support; DEP = depressive mood; EXH = exhaustion; SLP = sleep problems; JS = job satisfaction; JT = job tenure; 1–3 = Time 1 to Time 3.

[a] 0 = male; 1 = female.

* $p < .05$. Two-tailed tests.

Table 5

Multilevel Analyses Showing Differences in the Impact of Deteriorations (Losses) Compared to Improvements (Gains) in Work Conditions on Well-Being at T (All Three Studies)

Predictor	Depressive mood/symptoms			Exhaustion			Sleep problems			Job satisfaction		
	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3
Perceived change in work conditions as predictor												
Intercept (B_0)	1.94* (163.39)	—	—	4.44* (265.26)	—	—	1.39* (339.18)	—	—	7.95* (836.05)	—	—
Well-being at $T-1$ (B_1)	0.38* (67.41)	—	—	0.34* (61.87)	—	—	0.27* (45.62)	—	—	0.31* (57.87)	—	—
Change in work conditions from $T-1$ to T (B_2)	−0.02* (−4.01)	—	—	0.005 (0.52)	—	—	−0.005* (−2.33)	—	—	0.15* (31.73)	—	—
Loss dummy (B_3)	−0.03 (−0.77)	—	—	0.36* (6.64)	—	—	0.01 (0.70)	—	—	−0.05 (−1.27)	—	—
Difference between positive and negative change in work conditions (B_4)	−0.21* (−7.61)	—	—	−0.08* (−2.21)	—	—	−0.04* (−4.35)	—	—	0.25* (8.28)	—	—
Workload as predictor												
Intercept (B_0)	—	1.55* (118.80)	1.71* (47.50)	—	2.75* (84.66)	2.65* (157.32)	—	2.74* (69.48)	0.98* (40.45)	—	4.47* (110.81)	5.06* (87.38)
Well-being at $T-1$ (B_1)	—	0.75* (28.01)	0.49* (32.03)	—	0.79* (46.03)	0.66* (50.21)	—	0.70* (33.79)	0.63* (48.81)	—	0.74* (40.30)	0.46* (28.34)
Change in workload from $T-1$ to T (B_2)	—	−0.07* (−2.85)	−0.11* (−3.83)	—	−0.42* (−6.71)	−0.20* (−10.74)	—	−0.22* (−3.22)	−0.07* (−2.21)	—	0.16* (2.16)	0.17* (3.83)
Loss dummy (B_3)	—	−0.01 (−0.59)	−0.03 (−0.87)	—	−0.07 (−1.12)	−0.02 (−0.72)	—	−0.01 (−0.16)	0.02 (0.56)	—	−0.08 (−1.10)	0.03 (0.65)
Difference between positive and negative change in workload (B_4)	—	0.04 (1.06)	−0.09† (−1.89)	—	0.07 (0.88)	−0.03 (−0.98)	—	0.19† (1.81)	−0.13* (−2.46)	—	−0.30* (−2.76)	−0.01 (−0.14)
Social stressors as predictor												
Intercept (B_0)	—	1.50* (139.04)	1.62* (44.43)	—	2.59* (80.38)	2.59* (137.69)	—	2.61* (69.65)	0.95* (40.54)	—	4.52* (122.04)	5.21* (92.02)
Well-being at $T-1$ (B_1)	—	0.71* (24.51)	0.47* (31.39)	—	0.73* (34.27)	0.60* (44.70)	—	0.70* (33.45)	0.61* (47.15)	—	0.72* (39.31)	0.44* (27.74)
Change in social stressors from $T-1$ to T (B_2)	—	−0.02 (−1.04)	−0.08* (−1.98)	—	−0.02 (−0.34)	−0.05† (−1.93)	—	<0.01 (<0.01)	0.04 (0.85)	—	0.23* (2.83)	0.10 (1.62)
Loss dummy (B_3)	—	0.03 (1.50)	0.01 (0.21)	—	0.20* (3.56)	0.05* (2.57)	—	0.06 (0.91)	0.02 (0.50)	—	0.04 (0.64)	−0.02 (−0.49)
Difference between positive and negative change in social stressors (B_4)	—	−0.12* (−2.89)	−0.55* (−9.65)	—	−0.19* (−2.10)	−0.19* (−4.99)	—	−0.31* (−2.31)	−0.35* (−5.46)	—	0.14 (1.19)	0.67* (7.66)
Organizational constraints as predictor												
Intercept (B_0)	—	1.51* (122.94)	1.71* (47.40)	—	2.63* (74.36)	2.62* (149.92)	—	2.65* (59.20)	1.00* (48.44)	—	4.58* (106.43)	5.12* (92.52)
Well-being at $T-1$ (B_1)	—	0.71* (27.88)	0.49* (31.77)	—	0.74* (36.40)	0.62* (46.42)	—	0.69* (32.37)	0.63* (36.17)	—	0.73* (38.75)	0.46* (28.90)
Change in organizational constraints from $T-1$ to T (B_2)	—	−0.04 (−1.17)	−0.14* (−4.41)	—	−0.18† (−1.95)	−0.09* (−4.63)	—	−0.17 (−1.48)	−0.07* (−2.84)	—	0.18 (1.43)	0.16* (3.40)
Loss dummy (B_3)	—	−0.01 (−0.20)	−0.04 (−1.15)	—	−0.01 (−0.10)	0.03 (1.21)	—	0.02 (0.26)	0.02 (0.71)	—	0.03 (0.41)	0.01 (0.28)
Difference between positive and negative change in organizational constraints (B_4)	—	−0.13* (−2.33)	−0.09† (−1.70)	—	−0.43* (−3.15)	−0.06† (−1.93)	—	−0.15 (−0.85)	−0.06 (−1.17)	—	0.49* (2.74)	0.21* (2.82)
Job control as predictor												
Intercept (B_0)	—	—	1.68* (46.89)	—	—	2.62* (140.44)	—	—	0.98* (39.63)	—	—	5.12* (90.39)
Well-being at $T-1$ (B_1)	—	—	0.48* (31.20)	—	—	0.62* (45.66)	—	—	0.62* (47.95)	—	—	0.46* (28.59)
	—	—	−0.06† (−1.66)	—	—	−0.06* (−2.81)	—	—	−0.03 (−0.74)	—	—	0.14* (2.91)

(*table continues*)

Table 5 (*continued*)

Predictor	Depressive mood/symptoms			Exhaustion			Sleep problems			Job satisfaction		
	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3
Change in job control from $T - 1$ to T (B_2)												
Loss dummy (B_3)	—	—	0.02 (0.67)	—	—	<0.01 (0.17)	—	—	0.02 (0.44)	—	—	−0.01 (−0.20)
Difference between positive and negative change in job control (B_4)	—	—	−0.13* (−2.40)	—	—	−0.12* (−3.60)	—	—	−0.15* (−2.72)	—	—	0.17* (2.20)
Social support as predictor												
Intercept (B_0)	—	—	1.67* (47.89)	—	—	2.62* (140.59)	—	—	0.99* (39.49)	—	—	5.14* (90.42)
Well-being at $T - 1$ (B_1)	—	—	0.49* (31.71)	—	—	0.61* (44.64)	—	—	0.62* (47.29)	—	—	0.45* (27.98)
Change in social support from $T - 1$ to T (B_2)	—	—	−0.07* (−2.75)	—	—	−0.04* (−2.55)	—	—	−0.003 (−0.12)	—	—	0.10* (2.61)
Loss dummy (B_3)	—	—	0.06† (1.65)	—	—	0.02 (0.92)	—	—	<0.01 (0.26)	—	—	−0.06 (−1.17)
Difference between positive and negative change in social support (B_4)	—	—	−0.08† (−1.87)	—	—	−0.06* (−2.29)	—	—	−0.09* (−2.03)	—	—	0.11† (1.88)

Note. Unstandardized coefficients and T values (in parenthesis) are reported.
* $p < .05$. † $p < .10$. Two-tailed tests.

categories of job stressors exist. The first category, hindrance stressors, includes organizational constraints and social stressors that are likely to thwart performance and achievement of goals. At best, overcoming these hindrances results in adequate performance, but does not offer the potential for personal development or a strong sense of accomplishment (Webster et al., 2011). Hindrance stressors do not help employees to build resources; rather, they induce strain and are consistently related to poor well-being (e.g., high exhaustion, low job satisfaction; Podsakoff et al., 2007). The second category, challenge stressors, are stressors (such as a high workload) that also may threaten the achievement of goals yet also create opportunities for personal growth and a sense of accomplishment. Challenge stressors, like hindrance stressors, require energy and hence are related to strains such as exhaustion (e.g., Podsakoff et al., 2007); however, employees may also perceive them as stimulating and enriching, and challenge stressors have been linked to positive outcomes such as learning (Prem et al., 2017) and higher self-esteem (Widmer et al., 2012). As a result, they offer an opportunity to satisfy basic human needs (e.g., the need for competence and self-esteem; see Deci & Ryan, 2000; Tesser, 1988) and hence to build core resources (Hobfoll, 2001).

It is interesting to note that the challenge-hindrance framework has its origins in COR theory. Specifically, Cavanaugh et al. (1998, p. 6) noted that "challenges are work related demands or circumstances that, although potentially stressful, have associated potential gains for individuals" and that "a stressful event may also result in a net gain or an anticipated net gain of resources." It is this "net resource" view that Cavanaugh et al. (1998) derived from COR theory. Based on this reasoning, it is arguable that a high workload can build some resources, and therefore rather weak effects emerge for increases in workload, at least in the short run. In line with that, in our Study 2, an increase in workload (loss) was related only to exhaustion (but not to depressive symptoms, sleep problems, and job satisfaction), with a time lag of 2 months. In contrast, increased workload was related to all four well-being indicators in Study 3, with a time lag of 1 year (see Table 4). Thus, we believe that integrating COR theory and the challenge-hindrance framework is a fruitful approach to better understanding how changes in different aspects on work conditions affect employees' well-being. However, as noted above, we did not hypothesize such stressor-specific effects. We therefore encourage researchers to examine the differential effects of changes in hindrance and challenge stressors more systematically to further develop theory.

Methodological and Practical Implications

The present research findings have significant implications for methodological approaches aiming to test linkages between work conditions and well-being and practice. Our results indicate that analyses that ignore the loss aversion effect may lead to biased estimates of the effects of work changes. More specifically, our findings show that previous research has underestimated the detrimental effect of a deterioration in work conditions and overestimated the positive effect of an improvement on employee well-being. For an empirical example, Study 1 shows that the effects of a gain and a loss in work quality on depressive mood are $\beta = -.02$ and $\beta = .19$, respectively, if the loss aversion effect is taken into account. In contrast, ignoring the loss aversion effect (i.e., in a model without B_3 and B_4), one would assume that the (absolute) effect size of a

Table 6
Simple Slope Effects for Losses and Gains (All Three Studies)

Predictor	Depressive mood/symptoms		Exhaustion		Sleep problems		Job satisfaction	
	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain
Study 1								
General work conditions	0.24 (.19)*	−0.02 (−.02)*	0.07 (.04)*	<0.01 (<.01)	0.05 (.11)*	−0.01 (−.01)*	−0.40 (−.42)*	0.15 (.16)*
Study 2								
Workload	0.03 (.05)	−0.07 (−.11)*	0.34 (.20)*	−0.42 (−.25)*	0.03 (.01)	−0.22 (−.11)*	0.14 (.07)	0.16 (.08)*
Social stressors	0.14 (.22)*	−0.02 (−.04)	0.21 (.11)*	−0.02 (−.01)	0.31 (.15)*	<0.01 (<.01)	−0.38 (−.18)*	0.23 (.11)*
Organizational constraints	0.18 (.20)*	−0.04 (−.05)	0.61 (.24)*	−0.18 (−.07)†	0.33 (.11)*	−0.17 (−.06)	−0.66 (−.23)*	0.18 (.06)
Study 3								
Workload	0.21 (.20)*	−0.11 (−.11)*	0.23 (.31)*	−0.20 (−.27)*	0.20 (.16)*	−0.07 (−.06)*	−0.16 (−.10)*	0.17 (.11)*
Social stressors	0.63 (.42)*	−0.08 (−.05)*	0.24 (.23)*	−0.05 (−.05)†	0.31 (.17)*	0.04 (.02)	−0.77 (−.36)*	0.10 (.05)
Organizational constraints	0.21 (.19)*	−0.13 (−.12)*	0.16 (.20)*	−0.09 (−.12)*	0.13 (.10)*	−0.07 (−.06)*	−0.37 (−.23)*	0.16 (.10)*
Job control	0.18 (.15)*	−0.06 (−.05)†	0.18 (.22)*	−0.06 (−.07)*	0.18 (.12)*	−0.03 (−.02)	−0.32 (−.18)*	0.14 (.08)*
Social support	0.14 (.16)*	−0.07 (−.07)*	0.10 (.16)*	−0.04 (−.07)*	0.09 (.08)*	<0.01 (<.01)	−0.21 (−.16)*	0.10 (.07)*

Note. Unstandardized and standardized (in parentheses) coefficients are reported. We calculated standardized coefficients using the formula $\beta = B \times SDx/SDy$ (Hox, 2010).
* $p < .05$. † $p < .10$. Two-tailed tests.

change in work conditions is $\beta = |.06|$ (result not reported in the tables). We therefore strongly encourage scholars working with longitudinal data to test for loss aversion effects whenever they analyze the impact of changes in work conditions on well-being.

Moreover, our findings suggest that particular emphasis should be placed on primary prevention. It is crucial that workers are not exposed to deteriorating working conditions (losses) in the first place, because subsequent corrections by means of an intervention (gain) are much less effective. Our findings may also help to explain why interventions to improve working conditions are often less effective than one might expect and hope (Biron et al., 2012). Even though a well-planned intervention may well reduce stressors and increase resources, this gain—compared to a loss—unfortunately has a weaker effect on the health of those affected.

Limitations and Directions for Future Research

A first limitation of this research is that work characteristics and well-being were assessed via self-report. Some scholars have noted that stable interindividual differences related to the experience of negative affect (i.e., negative affectivity, NA) have an impact both on the experience and/or the measurement of work conditions and well-being and hence may lead to a biased estimate of their association (e.g., Watson et al., 1987; but see also Spector et al., 2000). To examine the effect of NA on the relation between changes in work conditions and well-being, we ran a set of analyses in Study 1 controlling for neuroticism (measured during the last wave with three items of the Big Five Inventory; John & Srivastava, 1999; see Gerlitz & Schupp, 2005) as a proxy for NA. Including neuroticism did not substantially alter the interpretation of the results. Therefore, we believe the loss aversion effect found in the present research cannot be explained by interindividual differences in NA or shared biases among self-report measures. Nevertheless, we suggest that future research may use other reports of stressors and resources (e.g., coworker reports) and well-being (e.g., physiological indicators such as cortisol).

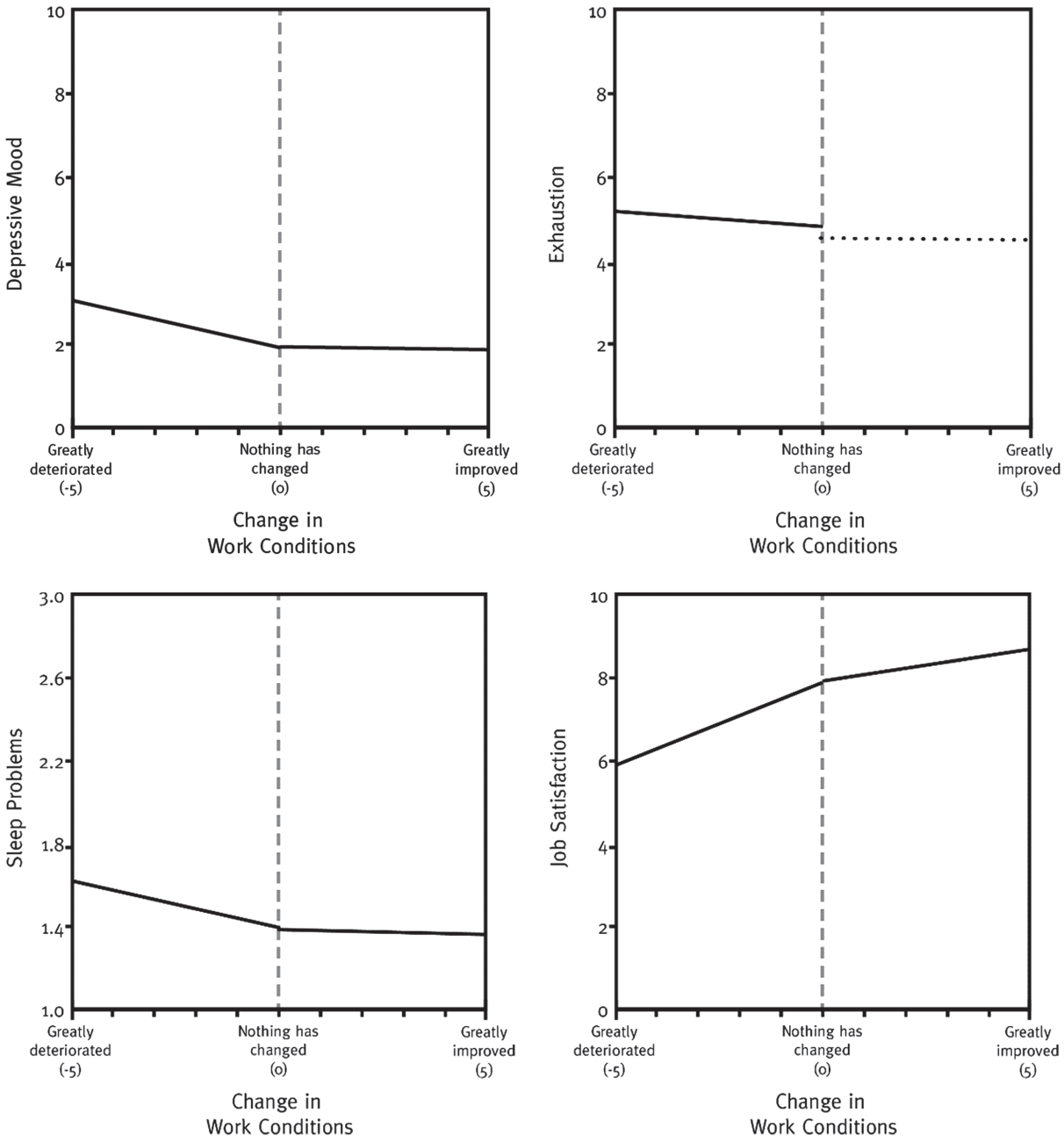
Second, some indicators of well-being had either a rather low (e.g., in the case of depressive symptoms) or a high mean (e.g., job satisfaction). Thus, one might wonder whether floor or ceiling effects limit how much well-being can change in one direction (e.g., in case of a loss) but not in the other (e.g., in case of a gain). It is noteworthy, however, that we also found loss aversion effects for less skewed outcomes in all studies. It is, therefore, unlikely that the reported loss aversion effects can be explained by floor and ceiling effects. Relatedly, issues of scaling and equidistance seem relevant when assuming that some predictors have a more substantial effect on well-being than others. Because analyses based on item response theory (Lang & Tay, 2021) can potentially solve the absence of equidistance, we ran some additional analyses utilizing the partial credit model. Our analyses (see online Supplemental Material) suggested that scale asymmetry may be problematic for social stressors and organizational constraints but less for workload. At the same time, our predictors are the means of the respective scales, mitigating problems of possible lower accuracy of single items at specific scale regions. Given that scaling issues are often overlooked, we encourage future research to probe whether different assumptions about the underlying measurement model and response processes alter substantive conclusions.

Third, although we aimed to cover various aspects of work conditions, our focus was still limited. Future studies may examine additional characteristics, both with regard to stressors (e.g., physical, role, and career-related stressors) and resources (e.g., appreciation, skill variety). Moreover, as discussed above, we encourage other scholars to more explicitly consider both challenge and hindrance stressors to further test whether the loss aversion effect depends on the type of work stressor.

Fourth, research on stress suggests that the size of the effect of work conditions on well-being varies with time (Ford et al., 2014). In line with this, changes in work conditions (between $T - 1$ and T) were more consistently related to well-being at T than $T + 1$. However, our findings suggest that a loss aversion effect can be observed both in the short and long run. Given that we were not able to examine the role of time systematically, we suggest that future studies pay attention to these temporal aspects. As discussed above, it might be fruitful to distinguish among different types of work characteristics. An increase in hindrance stressors may result in a

Figure 1

Well-Being as a Function of Change in Work Conditions (Study 1)



Note. Slopes for deterioration (on the left side of the figures) and slope of improvement in work conditions (on the right side of the figures) for the four outcomes. Solid lines reflect significant simple slopes; dotted lines reflect nonsignificant slopes.

loss of resources in the short and the long run, whereas an increase in challenge stressors may result in some gains (e.g., appreciation) in the short run—and hence may have only a net resource-draining and as a result a detrimental impact on well-being in the long run. In addition, it might also be fruitful to consider the starting point of employees. For example, employees who are continuously exposed to deteriorations of work conditions may not react as strongly to these changes anymore, whereas employees predominately exposed to improving work conditions may react more strongly.

Conclusions

The present research broadens our understanding of how changes in work quality affect employees' well-being by testing the first

Table 7

Multilevel Analyses Showing Differences in the Impact of Deteriorations (Losses) Compared to Improvements (Gains) in Work Conditions on Well-Being at T + 1 (All Three Studies)

Predictor	Depressive mood/symptoms			Exhaustion			Sleep problems			Job satisfaction		
	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3
Perceived change in work conditions as predictor												
Intercept (B_0)	1.97* (119.33)	—	—	4.48* (199.40)	—	—	1.39* (259.87)	—	—	7.90* (598.78)	—	—
Well-being at $T - 1$ (B_1)	0.24* (35.76)	—	—	0.21* (34.07)	—	—	0.18* (25.49)	—	—	0.18* (27.38)	—	—
Change in work conditions from $T - 1$ to T (B_2)	−0.01 (−1.32)	—	—	0.02† (1.66)	—	—	−0.001 (−0.27)	—	—	0.06* (10.21)	—	—
Loss dummy (B_3)	−0.02 (−0.35)	—	—	0.16* (2.74)	—	—	0.002 (0.12)	—	—	−0.10 (−2.43)	—	—
Difference between positive and negative change work conditions (B_4)	−0.07* (−2.25)	—	—	−0.04 (−0.96)	—	—	−0.02 (−1.51)	—	—	−0.01 (−0.48)	—	—
Workload as predictor												
Intercept (B_0)	—	1.53* (88.88)	1.67* (31.61)	—	2.68* (52.57)	2.62* (78.16)	—	2.70* (46.54)	1.01* (22.82)	—	4.51* (71.91)	5.01* (52.19)
Well-being at $T - 1$ (B_1)	—	0.45* (8.17)	0.44* (12.24)	—	0.48* (13.67)	0.60* (23.58)	—	0.53* (15.67)	0.57* (24.40)	—	0.48* (14.53)	0.41* (13.95)
Change in workload from $T - 1$ to T (B_2)	—	−0.06* (−2.30)	−0.07 (−1.38)	—	−0.22* (−3.17)	−0.15* (−4.52)	—	−0.18* (−2.24)	−0.15* (−2.79)	—	0.13 (1.36)	0.19* (2.50)
Loss dummy (B_3)	—	−0.01 (−0.34)	0.09 (1.24)	—	0.03 (0.39)	0.03 (0.75)	—	−0.09 (−0.94)	−0.07 (1.04)	—	−0.18 (−1.91)	−0.01 (−0.09)
Difference between positive and negative change in workload (B_4)	—	0.007 (0.12)	−0.04 (0.38)	—	0.16 (1.16)	−0.05 (0.79)	—	0.09 (0.51)	−0.16† (−1.65)	—	−0.33* (−1.99)	−0.12 (−0.88)
Social stressors as predictor												
Intercept (B_0)	—	1.49* (72.14)	1.62* (31.25)	—	2.56* (46.38)	2.57* (83.37)	—	2.59* (42.61)	0.92* (21.32)	—	4.54* (73.89)	5.17* (56.62)
Well-being at $T - 1$ (B_1)	—	0.45* (7.48)	0.42* (15.87)	—	0.40* (10.75)	0.54* (20.84)	—	0.49* (14.07)	0.55* (23.50)	—	0.45* (12.08)	0.40* (13.47)
Change in social stressors from $T - 1$ to T (B_2)	—	0.01 (0.14)	−0.07 (−1.09)	—	0.09 (0.91)	−0.04 (−0.77)	—	0.09 (0.82)	0.07 (0.93)	—	0.08 (0.71)	0.02 (0.18)
Loss dummy (B_3)	—	0.003 (0.12)	0.13* (2.51)	—	0.08 (0.86)	0.07* (2.10)	—	−0.11 (1.28)	0.08 (1.38)	—	0.04 (0.44)	−0.15* (−2.01)
Difference between positive and negative change in social stressors (B_4)	—	−0.14* (−2.28)	−0.23* (−2.33)	—	−0.31* (−2.06)	−0.15* (−2.09)	—	−0.40* (−2.50)	−0.30* (−2.70)	—	0.23 (1.58)	0.38* (2.43)
Organizational constraints as predictor												
Intercept (B_0)	—	1.50* (89.60)	1.69* (32.80)	—	2.59* (48.37)	2.58* (83.47)	—	2.67* (40.24)	1.00* (22.69)	—	4.52* (68.75)	5.08* (56.43)
Well-being at $T - 1$ (B_1)	—	0.51* (14.36)	0.44* (16.36)	—	0.46* (14.34)	0.56* (21.55)	—	0.52* (15.36)	0.56* (23.80)	—	0.49* (13.24)	0.41* (13.91)
Change in organizational constraints from $T - 1$ to T (B_2)	—	−0.01 (−0.30)	−0.06 (−1.34)	—	−0.08 (−0.74)	−0.03 (−0.75)	—	−0.29* (−1.92)	−0.08 (−1.51)	—	0.32* (2.18)	0.09 (1.25)
Loss dummy (B_3)	—	−0.02 (−0.85)	0.02 (0.40)	—	0.006 (0.07)	0.04 (0.90)	—	−0.14 (−1.46)	−0.02 (−0.33)	—	0.17† (1.69)	−0.05 (−0.54)
Difference between positive and negative change in organizational constraints (B_4)	—	−0.18* (−2.29)	−0.06 (−0.68)	—	−0.24 (−1.11)	−0.12* (−2.03)	—	−0.09 (−0.35)	−0.08 (−0.88)	—	0.48* (2.25)	0.05 (0.40)
Job control as predictor												
Intercept (B_0)	—	—	1.70* (31.48)	—	—	2.63* (156.33)	—	—	1.01* (22.72)	—	—	5.07* (54.54)
Well-being at $T - 1$ (B_1)	—	—	0.43* (16.06)	—	—	0.54* (20.48)	—	—	0.56* (23.90)	—	—	0.41* (13.83)
Change in job control from $T - 1$ to T (B_2)	—	—	−0.06 (−1.00)	—	—	−0.04 (−1.63)	—	—	−0.06 (−0.79)	—	—	0.10 (1.02)
Loss dummy (B_3)	—	—	−0.05 (−0.85)	—	—	−0.05 (−1.33)	—	—	−0.03 (−0.55)	—	—	0.05 (0.54)
Difference between positive and negative change in job control (B_4)	—	—	−0.11 (−1.13)	—	—	−0.07 (−1.50)	—	—	−0.04 (−0.37)	—	—	0.19 (1.27)

(*table continues*)

Table 7 *(continued)*

Predictor	Depressive mood/symptoms			Exhaustion			Sleep problems			Job satisfaction		
	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3
Social support as predictor												
Intercept (B_0)	—	—	1.66* (29.71)	—	—	2.59* (81.90)	—	—	0.97* (21.43)	—	—	5.12* (54.11)
Well-being at $T - 1$ (B_1)	—	—	0.44* (16.30)	—	—	0.55* (21.15)	—	—	0.56* (23.72)	—	—	0.41* (13.84)
Change in social support from $T - 1$ to T (B_2)	—	—	−0.03 (−0.57)	—	—	−0.04 (−0.98)	—	—	0.03 (0.58)	—	—	0.04 (0.52)
Loss dummy (B_3)	—	—	0.11* (1.98)	—	—	0.06 (1.49)	—	—	−0.02 (−0.38)	—	—	−0.18* (−2.05)
Difference between positive and negative change in social support (B_4)	—	—	−0.01 (−0.18)	—	—	−0.01 (−0.19)	—	—	−0.16* (−2.08)	—	—	0.002 (0.01)

Note. Unstandardized coefficients and T values (in parenthesis) are reported.
* $p < .05$. † $p < .10$. Two-tailed tests.

principle of the COR theory by Hobfoll (2001). Findings from three longitudinal studies indicate that deteriorations in work quality have a stronger effect than corresponding improvements. These findings have important theoretical implications for examining and supporting a loss aversion effect in the context of work stress. Moreover, these findings also have strong practical implications in their emphasis on the importance of primary prevention and their suggestion that previous studies have often underestimated the detrimental effect of deteriorations and overestimated the positive effect of improvements in work conditions.

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Appendix

Explanation of Equation 1

For an improvement in work condition ($D_T = 0$), the equation reduces to $B_0 + B_1\mathrm{WB}_{T-1} + B_2C_T + r$. As such, the effect of improved work conditions on one's change in well-being is reflected in B_2. For a deterioration in work condition ($D_T = 1$), Equation 1 is used, and the effect of improved work conditions is reflected in $B_2 + B_3 + B_4$. B_3 reflects the difference in change in well-being for individuals who experienced a deterioration in work conditions ($D_T = 1$), regardless of magnitude, compared to individuals who experienced unchanged or improved work conditions. As such, B_3 is not of theoretical importance and as can be seen later, did not differ from zero in most cases (see also Footnote 3). Therefore, for the sake of simplicity to explain the analytical strategy, we may ignore B_3 here, resulting in $B_2 + B_4$ as the effect of a deterioration in work conditions on well-being. As consequence, B_4 indicates whether the effect of improved work conditions differs from the effect of a deterioration in work conditions and hence informs our hypothesis. This might be best explained by a hypothetical example. Assuming that B_2 equals 0.5 and B_4 equals 0.8 (and $B_3 = 0$), an improvement in one's work conditions by one unit results in a change in well-being of 0.5 ($B_2C_T = 0.5 \times 1$); in contrast, a deterioration in one's work conditions by one unit results in a change in well-being of -1.3 ($B_2C_T + B_4C_T \times D_T = 0.5 \times -1 + 0.8 \times -1 \times 1$). The difference between the *absolute* values of the slopes for an improvement (0.5) versus deterioration (1.3) in one's work conditions is therefore reflected in β_4 (0.8). Thus, a significant B_4 coefficient indicates that the effects of deteriorations and improvements in work conditions differ regarding their magnitude.

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