Regulating Strain States by Using the Recovery Potential of Lunch Breaks

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The aim of the worksite study is to elucidate the strain reducing impact of different forms of spending lunch breaks. With the help of the so-called silent room cabin concept, it was possible to induce a lunch-break relaxation opportunity that provided visual and territorial privacy. To evaluate the proposed effects, 14 call center agents were assigned to either 20 min progressive muscle relaxation (PMR) or small-talk (ST) break groups. We analyzed the data in a controlled trial for a period of 6 months (every 2 months four measurements a day at 12:00, 13:00, 16:00, 20:00) using independent observer and self-report ratings of emotional, mental, motivational, and physical strain. Results indicated that only the PMR break reduced postlunch-time and afternoon strain. Although further intervention research is required, our results suggest that PMR lunch break may sustainably reduce strain states in real worksite settings.

Keywords: recovery, strain, lunch break, relaxation technique, health promotion

Work-related strain has been linked to a wide spectrum of negative health outcomes and impaired well-being (Wegge, Van Dick, Fisher, Wecking, & Moltzen, 2006). Growing concerns about this impact have inspired scientific research to develop a better understanding of underlying strain determinants, processes, and countermeasures (Rydstedt, Devereux, & Sverke, 2007). Starting points for interventions, referring to the work-recovery-cycle, could be an effective restoration of spent resources within recovery sections. Optimizing the recovery impact of regeneration sections may be a promising path for solving problems of high strain and its resulting side effects on performance, health, and quality of life (Trougakos, Beal, Green, & Weiss, 2008).

Regeneration phases can be of different lengths: sabbaticals, vacations (Strauss-Blasche, Reithofer, Schobersberger, Ekmekcioglu, & Markl, 2005), short trips (Westman & Etzion, 2002), weekends (Fritz & Sonnentag, 2005), afterwork time (Sonnentag & Kruel, 2006), lunch breaks (Dababneh, Swan, & Shell, 2001; Krajewski & Wieland, 2004), and short breaks (McLean, Tingley, Scott, & Rickards, 2001). Most research has been carried out within the area of short breaks or longer rest periods (Sonnentag, 2003). However, little attention has been paid to the longest and thus most relevant break within the daily work day: the lunch break.

Principles for Recovery Intensive Breaks

Recent recovery research indirectly provided some ideas for developing recovery-intensive lunch-break routines. The goal of strain reduction requires activities such as dozing, napping, or relaxation techniques that promote effective recovery by virtue of their (a) low demands and (b) low stressor occurrence (Meijman, & Mulder, 1998). Low task-related demands imply low emotional, mental, motivational, and physical requirements. Low stressor occurrence refers to low intensity, short duration, and small frequency of environmental threats representing stressors, such as startling noise or the presence of unknown or disliked people. Drawing on literature from Trenberth and Dewe (2002), break time should guarantee distraction from work-related ruminative thoughts, for example, by strongly focusing on involving tasks (see Cropley & Millward Purvis, 2003). Furthermore, physical distance from the workplace and resulting detachment are relevant for effective recovery processes in nonworking time. In addition, as demonstrated by Fastenmeier, Gstalter, and Lehning (2003), obligatory activities seem to have a re-
duced recovery value. However, the scarcity of experimental evidence in this area highlights the need for more detailed research. Hence, the focus of the present study is to analyze the recovery value of two rarely evaluated break-time activities. As we will point out later in detail, progressive muscle relaxation (PMR) meets the claim, whereas small talk (ST) does not.

Relevance of Selected Forms of Break Usage

The ST break is selected from the wide range of possible break forms because of its high prevalence and common acceptance. It is quite common in the western (lunch break) culture because of its importance in satisfying communication, social affiliation, and pleasure goals. Furthermore, chatting and socializing with colleagues serves the function of (a) getting informal private and business-related information and (b) forming micropolitical alliances. Nevertheless, it can be assumed that the regeneration of strain states in ST breaks is suboptimal, because of the ongoing demands and stressors (social pressure, ongoing role behavior) inherent to this context.

Thus, we hypothesized, that the recovery value of ST breaks is comparatively low (Krajewski & Wieland, 2004; Meijman & Mulder, 1998).

The PMR Break

PMR aims to enable individuals to achieve physical and mental relaxation using exercises to tense and release 16 different muscle groups (legs and arms, shoulders, face, chest, etc.). The used subform, Abbreviated Progressive Relaxation Training (Bernstein & Borkovec, 1973), is derived from Jacobsen’s original PMR (Jacobsen, 1929) and is routinely used both clinically and in research (Turner, Calhoun, & Adams, 1992). Many similarities exist between PMR and other forms of systematic relaxation technique; for example autogenic training, which involves concentrating on somatic sensations and using autosuggestion. But PMR is easier to learn and offers the advantage of immediate relaxation. Finally, the well-established recovery effects of PMR on the cardiovascular, neuromuscular, electrodermal, autonomous, and central nervous system support its use in the present study. Furthermore, PMR has proved to be efficacious with regard to a wide range of psychosomatic disorders (e.g., high blood pressure, sleep disturbance, asthma, rheumatic complaints, atopicial neurodermitis—e.g., Rainforth et al., 2007) and psychological variables such as decreased pain thresholds, inner tension (Emery, France, Harris, Norman, & VanArsdalen, 2008; Lolak, Connors, Sheridan, & Wise, 2008) or increased positive moods and physical well-being (Lohaus, Klein-Hessling, Vogele, & Kuhn-Hennighausen, 2001). Hence, we suppose PMR to benefit in some way all four strain dimensions: emotional strain (Lohaus et al., 2001), mental strain (Harrel, 2002), motivational strain (Schroder, Riemer, & Ishig, 2000), and physical strain (Emery et al., 2008; Lolak et al., 2008; Rainforth et al., 2007). Previous research has demonstrated the stress reducing short-term effects of PMR (see McCallie, Blum, & Hood, 2006). However, little attempt has been made to track the strain-reducing effects of PMR over almost a whole day. Furthermore, existing studies showed stress-reducing effects of PMR only in artificial experimental or clinical settings (e.g., Lolak et al., 2008; Rausch, Gramling, & Auerbach, 2006). To the best of our knowledge, no study has been conducted to replicate the laboratory findings within the context of real worksites (involving real employees instead of students as participants) and testing the long term acceptance and sustainability of the proposed recovery effects over half a year. To enable this kind of research, feasible and sustainable organizational solutions for implementing PMR into daily worksite routines have first to be offered. The major difficulties associated with incorporating PMR are solved here by the infrastructural framework of the “silent room,” which ensures visual and territorial privacy requirements.

Infrastructural Framework for Implementing Relaxation Techniques into Worksite Settings

As shown earlier, numerous studies have documented the recovery potential of systematic relaxation techniques in nonworksite research fields. Nevertheless, implementing these procedures into organizational contexts faces additional problems. One serious problem is related to the general security and privacy needed per se for deep relaxation resulting from eye closure and the horizontal lying position. In addition, another problem refers to the professional setting in which relaxation activities take place. To address these needs a relaxation setting should ensure visual, auditory, and territorial privacy. To fulfill the described demands in a call center context, a room-in-room concept, called “silent
room” was developed (Krajewski & Wieland, 2004). The core features of this concept consist of lockable cabins and medical daybeds. The “silent room” is an intimacy-maintaining and stressor-free place that protects privacy by noise-subdued and gaze-dense cabins with a hygienic dental-medical appearance. In addition to its medical-ergonomic formation a flexible acoustic system offering standardized PMR instructions is implemented.

After implementing the “silent room” within a German call center, PMR was integrated into daily worksite lunch break routines. The proposed effects were reductions of emotional, mental, motivational, and physical strain (Krajewski & Wieland, 2004) leading to the following hypothesis: “PMR breaks reduce postlunchtime, afternoon and evening strain states better than ST breaks.”

**Method**

**Participants**

All 14 participants took part voluntarily. To reduce further confounding and guarantee a homogeneous sample, the participants were recruited solely from inbound call center agents sharing identical work tasks and workload. Moreover, they met the following criteria: (a) had a normal sleep-wake cycle classified as “moderately morning,” “intermediate,” or “moderately evening” type according to the Morningness-Eveningness Questionnaire (Griefahn, Künnemund, Bröde, & Menhnert, 2001); (b) had not experienced traveling to a different time zone within 1 month prior to the experiment; (c) were not using medication; (d) had worked as call center agents for more than 6 months, with a regular 5-day and 40-hour workweek and a daily work schedule from 8:00 to 17:00, and (e) had no prior experience in systematic depth relaxation procedures. Out of the 14 participants, seven age and gender-matched pairs were created (range 0.25 months, d1 = +2 months, d2 = +4 months, d3 = +6 months). Measurements were taken at 4 fixed days within 6 months. The premeasurement (ST for both groups), 1 week before treatment started, served as baseline. Subsequent measurements (ST for the control group and PMR for the treatment group) were realized 2, 4, and 6 months after treatment started.

On each measurement day, measurements of strain were conducted at 12:00, 13:00, 16:00, and 20:00. In sum, this procedure resulted in a Treatment (between-subjects factor: ST, PMR) × Time (within-subject factor: t0 = 12:00, t1 = 13:00, t2 = 16:00, t3 = 20:00) × Measurement Day (within-subject factor: d0 = -0.25 months, d1 = +2 months, d2 = +4 months, d3 = +6 months).
$d_3 = +6 \text{ months}) \times \text{Rater (within-subject factor: self, observer 1, observer 2) design.}$

To observe immediate, intermediate and spillover effects, we selected the four measurements: At 12:00 we checked the baseline, at 13:00 immediate effects, at 16:00 intermediate effects, and at 20:00 spillover effects. Taking measurements over a month moved toward a middle granularity and provided the opportunity to see whether effects were stable or whether there was development over time.

**Measurements**

To combine high robustness and reliability with low measurement effort and disturbance of the ongoing primary work, we chose a combinatorial observer (teammates) and self-report-based approach. Thus, a well-established, standardized internal state adjective list (EBEL; Scherrer, 2002) was used to analyze observer-reported and self-reported strain states under four headings: emotional, mental, motivational, and physical strain components. The mental state was determined via the adjectives concentrated, vigilant; the emotional state via nervous, relaxed; the motivational state via energetic, motivated; and the physical state via physically unwell, muscularly tensed (the marked items were inverted when computing subscale scores). The introductory phrase of the item adjective list was: “At the moment, I feel...”. Participants had to choose between seven answer categories running from 1 (not at all) to 7 (very). Numerically high values of the resulting subscale scores indicated dysfunctional strain states. The reliability of the scales was sufficient (Cronbach’s $\alpha$ between .70 and .81).

**Manipulation check.** To check the compliance and quality of relaxation methods, (a) a checklist of relaxation symptoms (for PMR breaks), which involved for example, questions about the feeling of heaviness in the 16 different muscle groups, was drawn up; (b) informal questioning by a neutral person (not associated with the study) was conducted; and (c) a masked observation sample (by a peer colleague) was taken. The resulting exclusion criteria were (a) less than 50% of the relaxation symptoms and (b) noncompliant behavior (nonadherence to the lunch break-mode) concluded from interrogation or observation. None of the participants met (= fell below) the criteria. Furthermore, the results of the informal interrogation showed that the average number of PMR breaks during the 6-month measurement period was 3.6 per week. The major reasons for not conducting a PMR break were private obligations (banking, administrative tasks), social obligations (solving within-group conflicts, emotional support for colleagues), and falling asleep while practicing PMR (less than 20% of the PMR break trials).

**Results**

**Preprocessing**

To enhance robustness and reliability of the strain scores and focus on the main aspects of the multiple-factor results, we aimed to simplify the data structure by aggregating independent variables. In the following paragraphs, we will demonstrate that the high similarity of (a) observer and self-report scores and (b) postmeasurement-day scores provided justification for aggregating the scores with regard to repeated measurements.

**Observer-based versus self-reported ratings.** Table 1 shows the deviation between observer-based and self-reported ratings of strain. To test interrater reliability and justify aggregation of ratings, we determined an intraclass correlation coefficient (ICC; e.g., Gentry, Hannum, Ekelund, & De Jong, 2007). In addition to the widely used ICC, we computed a simple, easy interpretable and less meander-like descriptor for rater congruity, the mean absolute deviation (MAD) and the relative mean average deviation (rMAD).

As is evident from concordant observer-based and self-reported ratings, the three highly reliable ratings per strain measurement can be handled as repeated measurements and thus pooled to one strain score. This procedure finally results in only one pooled strain score for each strain facet (e.g., one self-reported and two observer-reported emotional strain scores are averaged and result in one emotional strain score).

**Postmeasurement days.** Furthermore, 3-way analyses of variance (ANOVAs; 2 Treatment $\times$ 3 Table 1

<table>
<thead>
<tr>
<th>Type of strain</th>
<th>ICC</th>
<th>MAD</th>
<th>rMAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional</td>
<td>.82</td>
<td>.49</td>
<td>11%</td>
</tr>
<tr>
<td>Mental</td>
<td>.81</td>
<td>.53</td>
<td>12%</td>
</tr>
<tr>
<td>Motivational</td>
<td>.80</td>
<td>.53</td>
<td>12%</td>
</tr>
<tr>
<td>Physical</td>
<td>.84</td>
<td>.51</td>
<td>14%</td>
</tr>
</tbody>
</table>

*Note.* ICC = intraclass correlation; MAD = mean absolute deviation; rMAD = relative mean average deviation.
Measurement Day \times 4 Time), for repeated measurements to determine the statistical power using just postdays \((d_1, d_2, d_3)\) and the pooled strain scores, revealed neither significant principal effects nor interaction effects with the repeated (post-) measurement day factor. Thus, we may assume that aggregating postdays to one average postday can be seen as an acceptable alternative as regards loss of essential information.

**Intercorrelations of strain states.** To confirm that we are measuring distinct concepts, we have computed intercorrelations between all strain measures. Thus, after aggregating self and observer ratings, we obtained the following results: \(r_{\text{emotional-mental}} = -.43\), \(r_{\text{emotional-motivational}} = .38\), \(r_{\text{emotional-physical}} = -.24\), \(r_{\text{mental-motivational}} = -.62\), \(r_{\text{mental-physical}} = .04\), \(r_{\text{motivational-physical}} = .19\). These correlations can be interpreted as indicators of the independence of the strain state concepts used.

**Baseline differences between experimental groups.** As is apparent from 2-way-ANOVA Treatment-by-Measurement Day interaction effects, the strain baseline (prelunchtime strain, 12:00) remained stable and without any systematic difference between the PMR and ST group within the 6 month measuring period, emotional strain: \(F(3, 48) = 1.90, p > .10\); mental strain: \(F(3, 48) = 1.20, p > .10\); motivational strain: \(F(3, 48) = 1.21, p > .10\); physical strain: \(F(3, 48) = 0.84, p > .10\). These findings, combined with the previously demonstrated a priori equivalence of PMR and ST participants, strongly support the interpretation that treatment group differences are caused by the Break Schedule factor.

**Effects of Break Schedule on Strain**

We will focus here on our key hypothesis. Thus, the following results are confined to the time course of emotional, physical, motivational, and mental strain-states of an average postday \((d_1, d_2, d_3)\).

**Emotional strain states.** The emotional strain states for ST and PMR breaks yielded significantly different time courses throughout the 6-month measuring period, as is apparent from the 3-way-ANOVA (2 Treatment \times 2 Measurement Day \times 4 Time) Treatment-by-Measurement day-by-Time interaction effect, \(F(3, 96) = 10.85, p < .001^*\). In detail, the emotional strain states are significantly decreased within the PMR group in comparison to the ST group for the whole postbreak measurement period (13:00 until 20:00; Figure 1). Accordingly, Table 2 shows the reduction of strain in comparison to the 12:00 individual baseline and furthermore, a range-adapted effect size (RES) helped to determine the practical relevance of the achieved treatment effect.

**Mental strain states.** The mental strain states reveal significant different time courses for the PMR and ST group, as depicted in Figure 1. The results obtained from the 3-way-ANOVA (2 Treatment \times 2 Measurement Day \times 4 Time) Treatment-by-Measurement Day-by-Time interaction effect, \(F(3, 96) = 10.85, p < .001^*\), replicate the divergent postlunchtime course of PMR and ST group and indicate a mental strain reduction over a period of 3 hours (until 16:00).

**Motivational strain states.** The motivational strain states show systematic differences between the PMR and ST group, \(F(3, 96) = 18.40, p < .001^*\). The PMR group can benefit from motivational strain reduction for at least 3 hours (until 16:00).

**Physical strain states.** An analogous pattern can be observed for physical strain effects. Referring to the significance criterion of the 3-way-ANOVA (2 Treatment \times 2 Measurement Day \times 4 Time) Treatment-by-Measurement day-by-Time interaction effect, the effect was substantial, \(F(3, 96) = 11.80, p < .001^*\).

**Discussion**

The results of the 6-month controlled trial study document the strain decreasing effect of PMR during lunch breaks. The main finding apparent in the data is the strong reduction of lunchtime (13:00) and afternoon (16:00) strain states because of the PMR break. Strain states at 20:00 seem to be less influenced by the chosen type of lunch break. The highest strain reduction and largest effect sizes were found for emotional and motivational strain states, which corresponded to laboratory based results for stress reduction (Haney, 2004; Lolak, Connors, Sheridan, & Wise, 2008; Schneider et al., 2005). The large effect sizes reached for PMR-based breaks can be explained in the light of long-term implementation and thus familiarization with this relaxation technique and its setting. These factors might have enabled the participants to experience really deep and effective relaxation during the break. Furthermore, standard deviations are quite low. One possible reason could be the homogeneity of the sample. Participants shared similar sociodemographic values, professional backgrounds, and job-related environmental factors (group leadership, job-description). Moreover, stabilizing the intervention effects by eliminating two major source of error variance, random strain rating.
errors and random day-to-day variations in intervention efficacy might explain the low resulting variance in the data and thus the high effect sizes.

In general, our results correspond to the hypothesis made at the beginning. Although similar results concerning the alertness enhancing effects of naps have been found in artificial laboratory contexts (Hayashi, Motoyoshi, & Hori, 2005; Tietzel, & Lack, 2002), this is, to the best of our knowledge, the first report on successful longitudinal implementation of systematic relaxation techniques in real work settings and daily lunch-break routines. The internal and external validity of the study confirm the methodological quality and the strength of evidence underlying this investigation. Consequently, the resulting information is of great practical relevance for applied psychological stress research as it emphasizes the applicability, sustainability, and efficacy of a silent-room-based PMR break schedule in organizational settings. Summing up, this study goes beyond earlier research in measuring the effects of PMR during lunch breaks over the whole day (longitudinal implementation) by aggregating observer-based and self-reported ratings and the implementation of PMR into the worksite-context.

There are a few limitations to the research presented here. One potential limitation of this study refers to its semiobjective and partially self-report-based approach. It is well known that subjective measures of strain face several validation threats, such as motivational distortion (deception to self and others for reasons of social desirability and impression) and cognitive impairment (not being able to estimate strain sensitively). However, the similarity found between observer-based and self-reported ratings demonstrates the reliability of the measurements. Nevertheless, caution is warranted in the interpretation of these data. Hence, future research might attempt to use nonobtrusive (physiological, acoustical, or behavioral) strain indices (cf. Krajewski, Wieland, & Sauerland, 2005).

Figure 1. Time courses of emotional, physical strain, mental, and motivational strain for an average postmeasurement day (d = +2 months, d = +4 months, d = +6 months). Data are shown as mean ± SD. Progressive muscle relaxation (PMR) break = triangle marker; small-talk (ST) break = circle marker; high numerical values = high dysfunctional strain states; a = significant differences in strain reduction (12:00 baseline value minus 13:00, 16:00, or 20:00 value, respectively) between PMR versus ST, p < .05.)
Table 2
Average Lunch Break-Induced Postlunchtime, Afternoon, and Evening Strain Effects

<table>
<thead>
<tr>
<th>Strain</th>
<th>Measurement</th>
<th>ΔST</th>
<th>ΔPMR</th>
<th>RES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional</td>
<td>13:00</td>
<td>0.02 ± 0.30</td>
<td>2.42 ± 0.28</td>
<td>34.6%</td>
</tr>
<tr>
<td></td>
<td>16:00</td>
<td>−0.22 ± 0.19</td>
<td>1.30 ± 0.39</td>
<td>20.1%</td>
</tr>
<tr>
<td></td>
<td>20:00</td>
<td>1.49 ± 0.42</td>
<td>2.41 ± 0.50</td>
<td>10.0%</td>
</tr>
<tr>
<td>Mental</td>
<td>13:00</td>
<td>0.05 ± 0.46</td>
<td>1.78 ± 0.34</td>
<td>27.2%</td>
</tr>
<tr>
<td></td>
<td>16:00</td>
<td>−0.62 ± 0.57</td>
<td>0.29 ± 0.18</td>
<td>13.5%</td>
</tr>
<tr>
<td></td>
<td>20:00</td>
<td>0.17 ± 0.46</td>
<td>0.13 ± 0.24</td>
<td>−2.4%</td>
</tr>
<tr>
<td>Motivational</td>
<td>13:00</td>
<td>−0.24 ± 0.22</td>
<td>2.21 ± 0.34</td>
<td>41.5%</td>
</tr>
<tr>
<td></td>
<td>16:00</td>
<td>−0.49 ± 0.18</td>
<td>0.75 ± 0.34</td>
<td>21.5%</td>
</tr>
<tr>
<td></td>
<td>20:00</td>
<td>0.41 ± 0.47</td>
<td>0.71 ± 0.47</td>
<td>5.8%</td>
</tr>
<tr>
<td>Physical</td>
<td>13:00</td>
<td>−0.21 ± 0.33</td>
<td>1.11 ± 0.24</td>
<td>24.4%</td>
</tr>
<tr>
<td></td>
<td>16:00</td>
<td>−0.87 ± 0.35</td>
<td>0.32 ± 0.31</td>
<td>22.2%</td>
</tr>
<tr>
<td></td>
<td>20:00</td>
<td>0.33 ± 0.36</td>
<td>0.03 ± 0.27</td>
<td>−2.6%</td>
</tr>
</tbody>
</table>

Note. Data are shown as mean ± SD. ST = small talk; PMR = progressive muscle relaxation; RES = range-adapted effect size (Mbaseline−M/range of scale).

It was not possible to conceal experimental manipulation, so treatment-effects may have been assigned to nontreated employees. Thus, we cannot exclude that ST group members got upset or envious when recognizing the relaxation opportunities of the PMR group. Nevertheless, these effects might have been reduced by the offer to open the silent room for everyone after the 6-month measuring period.

Furthermore, we cannot finally be sure that the findings are attributable PMR. Although we noticed few participants falling asleep while practicing PMR (less than 20% of the PMR break trials, none during measurement phases), future work should alter conditions to ensure that the effects do not result simply from spending some time alone in a quiet place.

Methodological difficulties did not muddy the realization of the experimental PMR break or manipulate its conditions. Participant compliance can be considered high. This suggestion is supported by the fact that ST breaks serve as the most common and natural form of lunch break. Participant compliance in the PMR break condition was confirmed by random observations and informal questioning at the end of the experiment. Nevertheless, it may be a matter of debate whether the observed strain-reducing effect resulted from pure PMR or rather from short periods of napping, which has already proved its effectiveness in industrial settings (Takahashi, Nakata, Haratani, Ogawa, & Arito, 2004).

The quality of the chosen design (controlled trial with repeated longitudinal measurements) and the specific efforts taken to control confounders (compliance and manipulation checks) made it possible to eliminate various threats to instrument-and-design-immanent validity and thus produce reliable results. Although in comparison to large-scale cross-sectional correlation designs the sample size in this study is quite small, it is still within the typical range of experimental worksite field studies (see Takahashi et al., 2004). Moreover, repeated measurements ensured the robustness, internal validity, and significance of the results. Furthermore, multiple between and within-subject perspectives confirm the a priori equivalence and baseline-specific superiority of PMR experimental groups. Thus, internal validity is high by the standards of experimental field study designs. The present study was carried out in a real, but small-sized worksite. To judge external validity properly, it is evident that clarification concerning the ability to generalize the results is needed. It remains unclear to which extend we can extrapolate from this call-center context to other professional sectors.

With the limiting factors described above, our present findings should be viewed as preliminary and need more controlled research. Some possible starting points and questions for future research might be concerned with improving measurement instruments suitable for long-term intervention studies (What physiological, behavioral, and speech acoustic instruments can detect strain nonobtrusively and without interrupting the primary work task?, cf. Krajewski et al., 2009, or optimizing the recovery value of worksite lunch breaks; Which combination of different break usages as e.g., napping or pharmaceuticals improves the intensity and sustainability of the recovery process best?, cf. Wesensten, Killgore, & Balkin, 2005). Moreover, it might be crucial for future intervention.
programs to analyze in detail the requirements of a successful organizational implementation process. Thus, it should be determined which recovery competences, flexible break time structures, and infrastructural settings have to be considered for long term implementation of relaxation methods.

References


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