

Vacation from work as prototypical recovery opportunity

Jessica de Bloom, Sabine Geurts and Michiel Kompier*

Chronic incomplete recovery from work may have serious consequences in terms of ill-health. Although vacation is one of the most powerful manipulations of recovery in a field context, up to now only few researchers have addressed the impact of vacation on recovery from work. The aim of the current contribution is to present an overview of previous and current findings in this area and to give some recommendations for future research. We will first provide insight in the mechanisms through which vacation is expected to contribute to recovery from work. Secondly, we will present an overview of the most important findings, strengths and weaknesses of past vacation research. Thirdly, we will describe the results from our recent diary vacation studies on short vacations (long weekend and midweek vacations) and moderately long (nine days) winter sports vacations. Finally, we will discuss implications and avenues for further research on vacation.

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Trefwoorden: stress, holiday, health, well-being, recovery, work

1 Introduction

The detrimental effect of job stressors on health and well-being of employees has been well established. Exposure to job stressors may directly elicit potentially harmful physiological responses, as well as indirectly via unhealthy life styles such as smoking, alcohol consumption, unhealthy diets, lack of exercise, and disturbed sleep (e.g., Åkerstedt, 2006). Particularly when physiological responses, such as elevated levels of blood pressure, heart rate, catecholamines and cortisol, prolong after demands and stressors have ended, health and well-being are seriously at risk (e.g., Brosschot, Van Dijk & Thayer, 2007; Mommersteeg, 2006; Vrijkotte, Van Doornen & De Geus, 2000; Schnall, Schwartz, Landsbergis, Warren & Pickering, 1998).

Recovery, a process of psychophysiological unwinding after exposure to demands and stressors, plays a crucial role in protecting employees against adverse effects of work

* The authors work at the Radboud University Nijmegen, Behavioural Science Institute, Department of Work and Organizational Psychology.
Address for correspondence: Radboud University Nijmegen, Behavioural Science Institute
Department of Work and Organizational Psychology, P.O. Box 9104, 6500 HE Nijmegen,
tel. + 31-24 3612701, e-mail j.debloom@psych.ru.nl

stress (Geurts & Sonnentag, 2006). Recovery as an antagonist of work stress has lately gained more attention in psychological research. Recent diary studies have revealed that workers often recover insufficiently during regular evening hours and weekends, for instance due to working overtime or due to cognitive processes like worrying about past or future stressors (Van Hooff, Geurts, Kompier & Taris, 2007; Geurts & Sonnentag, 2006; Fritz & Sonnentag, 2005). Moreover, stress-related consequences like burnout and sleep disturbances are prominent determinants of long-term sickness absence (Åkerstedt, Kecklund, Alfredsson & Selen, 2007; Maslach, Schaufeli & Leiter, 2001; Geurts, Kompier & Gründemann, 2000).

Vacation is a somewhat neglected research topic. This is remarkable because vacation, as a naturally occurring and relatively long period of rest, is a presumably powerful weapon against work stress and its consequences. Indeed, a longitudinal study by Gump and Matthews (2000) showed that not taking annual vacations was associated with a higher risk of morbidity and mortality during a nine-year period.

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A recent meta-analysis on vacation effects on health and well-being counted only seven methodologically sound studies that systematically investigated the effect of vacation on health and well-being (De Bloom, Kompier, Geurts, De Weerth, Taris et al., 2009). Moreover, most vacation studies, being more or less a-theoretical, remain rather mute about possible underlying mechanisms through which vacations may contribute to recovery, and vacation activities and experiences that may promote or impede recovery are under investigated.

The aim of the current paper is to present an overview of past, present and future research in this area. Firstly, we will provide insight in the mechanisms through which vacation may contribute to recovery from work. Secondly, we will present the most important findings, strengths and weaknesses of previous vacation research. Thirdly, we will discuss the findings from our recent vacation studies on short vacations (long weekend and midweek vacations) and a moderately long (nine days) winter sports vacation. We will conclude with implications of the findings and avenues for future research.

1.1 Mechanisms through which vacation may contribute to recovery

Having vacation may contribute to recovery from work through two mechanisms. As the term 'vacation' stems from the Latin word 'vacatio' and means 'being free from work, being at leisure or having time for', a first, more 'passive' mechanism reflects a direct release from daily exposure to job demands. A second, more 'active' mechanism through which vacation may facilitate recovery is the engagement in valued, self-chosen non-work activities.

Passive mechanism: Recovery through release from job demands. The two most influential theories that share the assumption that removal of demands previously put on the individual's psychobiological systems is a necessary prerequisite for recovery to occur, are Effort-Recovery Theory (Meijman & Mulder, 1998) and Allostatic Load Theory (McEwen, 1998). The basic idea of the *Effort-Recovery Theory* is that acute load reactions (e.g., fatigue), that are unavoidably associated with working, will not have long-term negative health consequences as long as workers recover sufficiently after work. However, recovery may be inadequate due to prolonged exposure to high (work)

demands and/or due to cognitive processes (e.g., worrying about past or future stressors) that prolong physiological activation even if not exposed to demands during the recovery period directly (Geurts & Sonnentag, 2006). When recovery is insufficient, employees will have to perform on the job while being in a sub-optimal state, which imposes an even higher demand on the recovery process.

According to McEwen's (1998) *Allostatic Load Theory*, repeated or prolonged physiological activation may disturb an organism's precarious homeostatic (sympathetic-parasympathetic) balance which will manifest in chronic overactivity or inactivity of crucial bodily systems (e.g., the immune system). Therefore, complete unwinding from load effects built up at work is crucial for preserving health and well-being (Sonnentag & Geurts, 2009).

Active mechanism: Recovery through engagement in self-chosen and pleasant activities. Another assumption is that people are 'masters of their own fate' who can actively and freely pursue their own interests and intentionally strive for desirable outcomes. Vacation forms the breeding ground for self-fulfilment and refilling batteries. Three theories are especially relevant in this context.

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The *Conservation of Resources Theory* (Hobfoll, 1989) claims that people strive to obtain, protect and build resources that have specific importance to them, and that strain develops when valued resources are threatened, lost, or not gained after having invested in them. 'Resources' often refer to a broad category including external objects and conditions such as relationships, as well as personal characteristics and energies. For the aim of conceptual clarity, we define 'resources' as time and attention devoted to 'highly valued activities that have the potential to produce energy'. Based on insights from human physiology, Marks (1977) stated that the consumption of energy is necessary to stabilize the production of energy, and that particularly the engagement in valued activities will produce energy. Vacation may be an excellent occasion to engage in freely chosen and energizing activities such as the (re)connection with family and friends.

Autonomy and relatedness are also important concepts in Ryan and Deci's (2000) *Self-Determination Theory*. Both concepts are considered fundamental human needs, whereby satisfaction of these needs elicits positive emotions, and the neglect of these needs produces negative affect. Autonomy to initiate behaviour of one's own choice refers to volition and the experience of self-determined behaviour. Relatedness refers to the feeling of being closely connected to others. Vacation may be a pre-eminent opportunity to engage in activities of one's own choice (autonomy) and to connect to close others (relatedness). Earlier research has demonstrated that workers experienced higher positive and lower negative affect during off-job time (i.e., weekends) than during work periods due to satisfaction of the workers' need for autonomy and relatedness (Ryan, Bernstein & Brown, 2010; Reis, Sheldon, Gable, Roscoe & Ryan, 2000; Sheldon, Ryan & Reis, 1996). Fulfilment of these basic needs, and the resulting positive emotions, may also be the key mechanisms in the recovering impact of vacation.

Positive emotions are also considered crucial for health and well-being in Fredrickson's (2001) *Broaden-and-Build Theory*. According to this theory, positive and negative emotions have complementary adaptive functions and effects (Tugade & Fredrickson,

2007). Whereas negative emotions evoke restricted and survival-oriented behaviour, positive emotions are supposed to broaden people's thought-action repertoires, encouraging varied, novel and exploratory thoughts and actions. The experience of positive emotions, such as pleasure, is associated with the production of certain hormones in the brain's 'pleasure reward' system (e.g., serotonin, dopamine) that may quickly down-regulate the stress response (Esch & Stefano, 2004). In an experiment on cardiovascular reactivity, Fredrickson, Mancuso, Branigan and Tugade (2000) provided evidence for the fact that positive emotions can indeed rapidly undo the unfavourable cardiovascular arousal induced by negative emotions. According to this theory, positive emotions do not only have short-term beneficial effects on health and well-being, but also have long-term profits by building enduring personal resources (e.g., intellectual growth, creativity, new skills, social support, coping capacities and psychological resilience) that may function as buffers for future stressors.

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2 Previous vacation research

The first vacation studies focused solely on the passive mechanism, as research started as an investigation of the stressor-strain relationship. Hereby, vacation was simply seen as a control occasion for the absence of job stress (Eden, 2001). Gradually it developed in a research topic in its own right. For our meta-analysis on vacation (De Bloom et al., 2009), we systematically searched for papers published on vacation effects. The outcome was sparse: only seven studies systematically investigated the effect of vacation on health and well-being and met the minimal methodological requirement for a sound vacation evaluation, that is, the inclusion of pre- and post-vacation measures of health and well-being.

The seven studies revealed a small increase in health and well-being (e.g., satisfaction with health, levels of physical, emotional and mental exhaustion, physical complaints, mood and affect) after vacation opposed to before vacation (De Bloom et al., 2009).

Results also suggested that these effects vanish rapidly. However, only four of the seven studies applied more than one post-vacation measurement. Hereby, the time between the measurement occasions varied greatly and the earliest second post-vacation measurement took place twelve days after vacation (Fritz & Sonnentag, 2005). Therefore, the onset and course of fade out of vacation effects remained unclear.

This meta-analysis also showed that health and well-being during vacation itself as well as vacation activities and experiences have hardly been studied yet. This means that the role of the active mechanism of engagement in self-chosen activities in the vacation effect is not yet well-understood. The investigation of vacation activities was restricted to asking vacationers, retrospectively, what they did during their vacation (Strauss-Blasche, Ekmekcioglu & Marktl, 2000; Lounsbury & Hoopes, 1986), but this information was not linked to any health and well-being indicator. Regarding vacation experiences, vacation satisfaction was studied in three studies (Etzion, 2003; Westman & Eden, 1997; Lounsbury & Hoopes, 1986) and seemed to be positively related to health and well-being after vacation. Detachment from work during vaca-

tion (retrospectively measured) was not related to post-vacation well-being (Etzion, 2003). The only study that measured vacation experiences during vacation revealed that relaxation and negative work reflection during vacation were, respectively, positively and negatively related to health and well-being after vacation (Fritz & Sonnentag, 2005).

After publication of this meta-analysis, a number of relevant papers were published. Nawijn, Marchand, Veenhoven and Vingerhoets (2010) compared a group of 556 non-vacationers with 974 vacationers before and after vacation. After vacation, there was no significant difference in the degree of happiness between vacationers and non-vacationers. Only vacationers who did not experience any holiday stress, e.g., who experienced a 'very relaxed' holiday, reported higher levels of happiness than baseline until two weeks after vacation. In a cross-sectional study, Nawijn (2009) further found that mood was similar across different types of vacations (e.g., city trips, cruises, beach holidays, etc.) and vacation activities (e.g., sightseeing, shopping, and relaxing).

Kühnel and Sonnentag (in press) investigated vacation effects in a group of 131 teachers in a well-designed longitudinal study. They found that work engagement increased after vacation whereas levels of burnout decreased. These positive effects vanished within one month after vacation. High job demands further sped up the fade-out process, whilst relaxation experiences during leisure time decelerated it.

These three recent studies just discussed and our meta-analysis reveal that vacation has a positive, though short-term effect on health and well-being. Nevertheless, most previous vacation studies suffered from a number of methodological problems.

The most prominent shortcoming is the lack of on-vacation measurements. We argue that on vacation measurement of health and well-being is a strict prerequisite for making causal inferences. Enhanced levels of health and well-being after vacation compared to before vacation do not automatically indicate a positive causal effect of vacation on health and well-being. Moreover, post-vacation recall about vacation experiences and activities may be biased by state-congruent recall (e.g., Bower, 1981), the rosy view (Mitchell, Thompson, Peterson & Cronk, 1997) or the peak-end-rule (Fredrickson, 2000). Therefore, we define a vacation effect as the difference in health and well-being between a pre-vacation baseline measurement and on-vacation measurements. Hereby baseline levels should be recorded during a regular workweek, preferably two or more weeks before vacation, because it is possible that well-being shortly before vacation is characterized by high pre-vacation workload or looking forward to the vacation (De Bloom, Geurts, Taris, Sonnentag, De Weerth et al., 2010a).

A second methodological pitfall is the lack of repeated post-vacation measurements. Frequent and repeated post-vacation measurements after work resumption are important to provide insight in the potentially positive after-effects of vacation. Figure 1 presents a general research design for vacation studies that meets the minimal requirements for a methodologically sound vacation study.

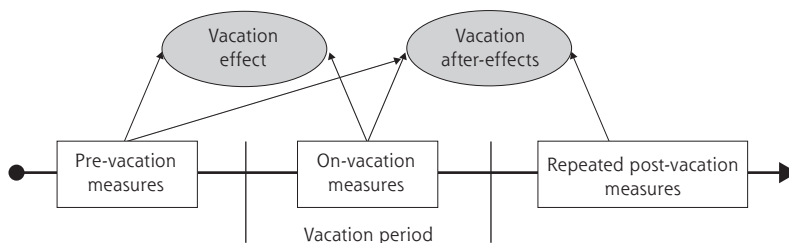


Figure 1 General research design for vacation studies

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3 Present vacation research: recent findings from our diary studies

Based on the methodological shortcomings we discovered in some of the earlier vacation studies and the remaining knowledge gaps, we developed a new research design to investigate the vacation effect and the vacation after-effect for different vacation durations. The research questions of the two diary vacation studies we conducted were:

- 1 Vacation effect: Does a vacation increase levels of health and well-being of employees? (Defined as the difference between the baseline and on-vacation measurement occasions.)
- 2 Vacation after-effect: How long does a positive vacation effect last after work resumption? (Defined as the difference between the baseline and post-vacation measurement occasions.)
- 3 Are the strength and the duration of the vacation (after-) effect different for different vacation durations?

Our first study was conducted among Dutch workers who went on a moderately long (nine days) winter sports vacation (De Bloom et al., 2010a; De Bloom, Geurts, Sonnentag, Taris, De Weerth & Kompier, 2010b). We have chosen for this type of vacation because it was more uniform than other types of vacations (i.e., vacation duration, free time before and after vacation, and the activities during vacation were roughly comparable for all vacationers). A second study was carried out among Dutch workers spending a short vacation in the Netherlands. The short vacation could involve a long weekend (from Friday to Monday) or a midweek (from Monday to Friday).

3.1 Samples

Our sample in the winter sports study consisted of 96 participants. The majority (65%) was male, and the mean age was 44 years. The majority (55%) was higher educated (college or university degree). The total number of weekly work hours varied between 24 and 60 hours with a mean of 38 hours ($SD = 8$ hours). The mean vacation duration was 9.0 days ($SD = 1.8$ days) with a minimum of 7 days and a maximum of 19 days.

The sample of our short vacation study consisted of 93 vacationers. Again, the majority was male (55%) and the mean age was 42 years. Of all respondents, 29% was higher educated, whilst the majority (55%) was medium educated (senior general secondary and university preparation education). On average, the vacationers worked 36 hours a week ($SD = 7.8$ hours) with a range of 24 to 65 weekly hours. The majority (56%) went on vacation for a long weekend and 44% went on a midweek trip. The mean vacation duration was therefore 4.4 days ($SD = 0.5$ days).

3.2 Procedure

Both studies on short vacations and winter sport vacations were longitudinal field studies covering a time span of at least three weeks and included minimally six repeated measurements. In the winter sports study, we recruited participants via a winter sports fair, ski-clubs, winter sports websites, journals, newspapers and travel agencies. We measured health and well-being twice two to four weeks before the winter sports, twice during the winter sports (on the second day after arrival and on the second last day before departure), and twice during the first, the second and the fourth week after work resumption. As the two within-week measures did not differ significantly ($p > .05$), the two week measures were averaged to get a more reliable week-indicator of health and well-being. For the aim of the current paper, we will only report the measurement occasions in the first and the second week after the winter sports vacation as they resemble closest the after-vacation occasions in the short vacation study. For the study on short vacations, participants were recruited by sending e-mails to guests of Center Parcs who booked a short vacation. Health and well-being were measured once two weeks before the short vacation, two times during the short vacation (on the first day after arrival and on the last day before departure) and three times after the short vacation: on the first, fourth and eleventh day after returning home.

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3.3 Instruments

For both studies, we offered digital diaries, to be used before and after the vacation. This enabled us to detect protocol deviations and apply interventions to combat non-response immediately. Regarding on-vacation measures, we used telephone interviews during the winter sports vacation and paper-and-pencil questionnaires, to be returned in a postage-paid pre-addressed envelope, during the short vacations. In both studies, we used SMS at every measurement occasion to remind the participants to fill in the questionnaires at the right moment in time. To encourage participation and to reduce missing data, we announced a lottery price (a winter sports vacation and a short vacation, respectively) and chances for winning were higher, the more questionnaires were filled in correctly.

3.4 Measures

We measured health and well-being by six single-item measures. Hereby, we used the well-known Dutch grade notation system ranging from 1 (extremely low/negative) to 10 (extremely high/positive). The six single indicators measured health status, mood, tension, energy level, fatigue, and satisfaction which we combined into one overall indicator of health and well-being. Exploratory factor analysis with varimax rotation validated this approach and Cronbachs α for the health and well-being

construct (H&W) varied between .79 and .92 in the short vacation study and between .78 and .84 in the winter sports study.

3.5 Statistical analyses

We used t-tests for paired samples to test the vacation (after-) effect. The vacation effect was tested by comparing the measurement occasion before vacation with the measurement occasion during vacation (De Bloom et al., 2010a). Vacation after-effects were computed by contrasting the baseline before vacation and every single post-vacation measurement occasion. In case of a significant difference, we calculated Cohen's *d* for paired observations (Cohen, 1988, p.46) as an effect size and we followed Cohen (1988) in distinguishing among small (0 to 0.5), medium (0.5 to 0.8) and large (> 0.8) effect sizes.

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In order to find out to what extent the possible improvement in health and well-being during vacation counted for each individual employee, we calculated the difference score between health and well-being during vacation and before vacation for each individual. This vacation effect could be 'positive' (health and well-being level during vacation was higher than before vacation, whereby the difference was at least a quarter standard deviation above zero), 'neutral' (health and well-being level during vacation resembled the levels before vacation, whereby the difference did not deviate more than a quarter standard deviation from zero), and 'negative' (health and well-being level during vacation was lower than before vacation, whereby the difference was at least a quarter standard deviation below zero).

3.6 Results

Figures 2 and 3 graphically present the means for health and well-being across a vacation period.

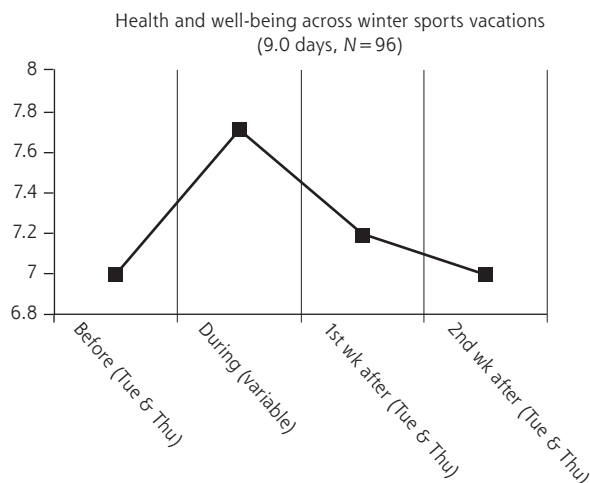


Figure 2 Health and well-being before, during and after winter sports vacations



Figure 3 Health and well-being before, during and after a short vacation

Both figures show a steep increase in health and well-being during the vacation period opposed to pre-vacation levels. Baseline level of health and well-being before vacation was 7.0 in both studies. During vacation, health and well-being increased significantly to 7.7 during the winter sports vacation ($t(93) = -5.30, p = .00, \text{Cohen } d = 0.78$), and to 7.8 during the short vacation ($t(85) = -6.33, p = .00, \text{Cohen } d = 0.90$), indicating a medium to strong positive effect of vacation on health and well-being.

Immediately after returning home and resuming work, health and well-being returned to baseline (pre-vacation) levels ($M = 7.2$, difference with baseline non-significant) in both types of vacation. Hence, for both a winter sports vacation and a short vacation, we could not observe positive vacation after-effects on health and well-being.

The distribution of the vacationers experiencing a positive, neutral or negative vacation effect was highly comparable for the winter sports vacations and the short vacations. In both studies, the great majority (60% of those being on winter sports vacation and 64% of those having a short vacation) experienced a positive change in health and well-being during vacation opposed to the working period before vacation. In both types of vacation, 23% of the vacationers experienced no substantial change in health and well-being during vacation compared to before vacation.

However, in both studies, a substantial part of the vacationers (17% of those being on a winter sports vacation and 13% of those having a short vacation), reported lower levels of health and well-being during vacation in contrast to before vacation. In order to better understand these differing trajectories, we systematically compared the vacationers of the three groups on a number of vacation activities and vacation experiences.

We found that vacationers who experienced lower levels of health and well-being during vacation spend less time on physical activities during vacation than those with a positive vacation effect (4.1 versus 5.1 hours during winter sports and 2.5 versus 3.1 hours during short vacations, a clinical relevant difference, Gianuzzi, Mezzani, Saner, Bjornstad, Fioretti et al., 2003). Furthermore, people with a negative vacation

effect reported a higher number of negative incidents during vacation than vacationers with a positive vacation effect (63% of the group with a negative vacation effect reported at least one negative incident during vacation, whereas only 16% of the vacationers with a positive vacation effect reported an incident during winter sports. During short vacations, percentages were 18% versus 9%).

During winter sports, vacationers reported a total of 40 negative incidents during the two days that we called them. Seeing a close other getting injured constituted 20% of these incidents and 12.5% reported bad weather and skiing conditions. Another 10% got ill and 7.5% experienced a close other getting ill as distressful. Injuries during skiing or arguments with fellow vacationers each constituted 2.5% of the incidents. Remaining incidents were not specified (see also De Bloom et al., 2010b).

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During the short vacations the total number of reported negative incidents during the two days that we called was 28, whereby 65% of the participants did not describe the nature of the negative incident they experienced. Illness accounted for 18% of the incidents. Seven percent reported a close other getting ill and another 7% reported quarrels with fellow vacationers. Injuries or bad weather conditions were irrelevant during short vacations.

The reported negative incidents were all events that restricted vacationers' autonomy to engage in certain pleasurable activities, and this may well explain the negative change in health and well-being during vacation. This suggests that an active choice for pleasant vacation activities (earlier referred to as the active mechanism contributing to recovery during vacation) is a key element for the positive vacation effect.

3.7 Summary of the results

The answers to our research questions were:

- 1 Yes, a vacation generally increases health and well-being levels of employees.
- 2 This positive vacation effect does not last long after work resumption.
- 3 The strength and the duration of the vacation (after-) effect are similar in moderately long and short vacations.

During moderately long (nine days) winter sports vacations and short (four to five days) vacations, the majority of the vacationers experienced a positive change in health and well-being opposed to the working period before vacation, confirming the passive mechanism of vacation: employees feel better at the moment they are temporarily released from job demands. This positive vacation effect faded out quickly after returning home and resuming work in both studies. This fact demonstrated the importance of on-vacation measures: if we had no on-vacation measures of health and well-being and had only compared pre- and post-vacation scores, we would have falsely concluded that vacation has no positive effect.

Further, not every individual vacationer seemed to profit from being on vacation. During winter sports vacations and short vacations, a small percentage of the vacationers experienced no or a negative change in health and well-being compared to the working period before vacation. The engagement in physical activities as well as the absence of negative incidents during vacation accounted for differences in the vacation effect in both studies. These findings indicate that simply being temporarily released from job demands alone is not enough to experience higher levels of

health and well-being: it is also important to be able to engage in pleasant vacation activities of one's own choice.

4 Implications of findings and avenues for future research

Our results suggest that going on vacation is generally an effective way to recover from work and to boost health and well-being of employees for a short time. During a vacation period, employees report a better mood, feel healthier and more energized, report less tension and fatigue and feel more satisfied. This finding supports the assumption that a vacation offers the opportunity to psychologically and physiologically unwind and recover from work.

Remarkably, in our two empirical studies the effect of a short vacation is as strong as the effect of a longer vacation. So, even a short vacation of less than five days is a potent means to improve health and well-being of employees. More studies in different samples and vacation types are needed to (dis)confirm our findings.

Along these lines, more research on the long-term relations between exposure to workload, recovery processes, health and well-being would be useful (see also Geurts & Sonnentag, 2006). We now focused on more momentary effects of a vacation by using indicators that could vary from day to day. It would be interesting, however, to investigate the effect of vacation on long-term well-being indicators and to follow people for a longer time period. A nine-year longitudinal study by Gump and Matthews (2000) for example, showed that not going on vacation for a long time may lead to morbidity or even mortality. This finding also underscores the importance of taking vacations: although most effects are short-lived, not going on vacation may have serious negative consequences.

In case that other studies would also demonstrate that a short vacation appears to be as effective as a moderately long vacation, one may raise the question whether it pays off to spend time and money on longer vacations. Wouldn't it be more beneficial to schedule various short vacations throughout the year instead of only one or two relatively long vacations? We would in first instance retort that the impact of relatively long vacations (e.g., two- to three-week long summer vacations) on health and well-being is still an unstudied subject. One could argue that when workers take a longer vacation in an environment that is very different from their daily lives, they may be better able to detach from work and to mentally switch off from their daily routines and hassles. This may boost their well-being during vacation even stronger, and result in a more positive vacation effect and vacation after-effects. Moreover, the increase in health and well-being during the vacation period itself logically lasts longer during a longer vacation. This is again an argument in favour of longer vacations. In a similar vein, some vacations or vacation destinations are simply not possible within a short time frame. For example, a cruise on the Mediterranean Sea or mountain climbing in the VS for a European is virtually impossible within a long weekend. Future research among vacationers during relatively long (summer) vacations should shed light on this issue.

A related question regarding vacation duration is to what extent vacations shorter than four days (e.g., one or two days) may be effective in improving health and well-

being of workers. By using a longitudinal research design with repeated measures before, during and after a vacation/weekend, and by using the same health and well-being measures, future research should be able to answer this question.

Another relevant question is whether 'being away from home' is a necessary prerequisite to experience a substantial improvement in health and well-being. It may be that simply 'being away from work' (thus, spending off-job days at home) facilitates the recovery process to the same extent as vacations abroad. We speculate that being physically away from work and home enables workers to psychologically detach more from their daily stressors in both domains. These assumptions regarding so-called 'staycations' should be investigated in future studies.

344 Another interesting line of research would be the investigation of the impact of work-related activities during vacation. Two studies on business trips (Westman & Etzion, 2002) and reserve service (Etzion, Eden & Lapidot, 1998) found that burnout levels decreased after being physically and mentally away from one's regular work environment. These findings suggest that, in line with previous research on overtime work (Beckers, Van der Linden, Smulders, Kompier, Taris et al., 2008; Beckers, Van Hooff, Van der Linden, Kompier, Taris et al., 2008), working during a regular vacation does not necessarily have negative consequences, as long as it is voluntary, the time devoted to it is limited, and vacationers do not experience these working activities as effortful.

Likewise, studies should explore the motives for working during vacation. Are employees forced to work during vacation? Or do they feel highly obliged? Or do they work to regulate and prevent the post-vacation stress of piled up work? Another important factor may be whether vacationers voluntarily engage in work-related activities at a moment in time that suits them best, or are involuntarily disturbed during a romantic dinner by a phone call from the office. Therefore, we need to assess the amount of time vacationers devote to work-related activities during vacation, the extent to which they voluntarily engage in these activities and the degree to which they are able to determine the moment of time they spend on these activities. In a similar vein, rumination about work during vacation should also be assessed, as a study by Brosschot, Gerin and Thayer (2006) showed that worrying about stressors prolongs physiological activity and interferes with recovery.

The fact that a vacation does not have a positive effect on health and well-being for each worker moreover begs the question why some workers do not benefit from vacation in terms of health and well-being. In our winter sports study, we found that health and well-being during vacation improved more substantially, if vacationers derived higher levels of pleasure from their vacation activities. Moreover, the positive effect of vacation on health and well-being was stronger, the more vacationers engaged in physical activities and the less they engaged in passive activities like watching television or reading a book. Passive activities were in turn correlated with a higher number of negative incidents during vacation, which also had detrimental effects on well-being during vacation (De Bloom et al., 2010b). This finding is in line with previous research indicating that holiday hassles have a negative impact on the vacation effect (Nawijn et al., 2010; Fritz & Sonnentag, 2005). Accordingly, it is advisable to prevent holiday hassles by, for example, reasoned planning and sound preparation of the vacation period. A beneficial side effect of this preparation may be that it

enables positive anticipation of the vacation period and the feeling of being in control, which may already enhance pre-vacation levels of health and well-being. Engagement in passive activities may have negative effects on well-being during vacations that were supposed to be active (e.g., winter sports). In this situation, engagement in passive activities does not reflect a voluntarily choice for relaxation, but a forced lack of autonomy. So, autonomy and engagement in self-chosen activities seem to be important elements in the active mechanism through which vacation may contribute to recovery from work.

In general, future research could pay more attention to the role of vacation activities and vacation experiences, the active mechanism underlying the vacation effect. Assuming that workers benefit from vacation not only because it relieves them temporally from work demands, but also because they are able to engage in voluntary and joyful activities, vacationers should cherish this important element and make sure that they engage in the activities they enjoy most.

Methodologically, vacation studies should always include on-vacation measures and could be further enriched by data triangulation. Although health and well-being are by definition subjective constructs and presumably validly assessed by self-reports (Kompier, 2005), self-ratings may be biased (e.g., we cannot rule out the possibility that participants may have figured out the main aim of the study and, although we find this unlikely, this could have affected their responses). Therefore, self-ratings of well-being could be combined with partner-ratings of health and well-being and supervisor ratings of job performance before and after vacation as another possible outcome of a recovery period. Physiological measures of health and well-being before, during and after vacation would also be highly desirable. Vacation as a long-term recovery process demands markers of long-term physiological recovery processes like measures of parasympathetic activity during sleep or catecholamine concentrations in morning urine. However, these measures are very difficult and costly to apply, especially during a vacation period abroad.

Our findings have shown that vacation effects fade out quickly after vacation. Previous research reveals that fade out may be sped up by high work demands upon returning (Kühnel & Sonnentag, in press). Therefore, it makes sense to limit work demands after vacation by prioritising work tasks. Workload after vacation could possibly also be reduced by handing over some work tasks to a competent colleague for the time employees are on vacation.

Other possibilities to increase and prolong positive vacation effects may be derived from the principle of savouring. Savouring is the way in which people actively engage in behaviours and thoughts that influence how strongly a positive experience like vacationing is felt (Bryant & Veroff, 2007). Savouring during vacation could, for example, be achieved by actively collecting memorabilia and talking about positive experiences with fellow vacationers during vacation itself. The memorabilia and the shared experiences could easily be retrieved after vacation which should also aid in regaining the positive feelings associated with them.

In conclusion, adequate recovery from work during off-job time is crucial for protecting health and well-being of employees. Although vacation has as yet received limited

scientific attention, it is a potentially powerful recovery opportunity that may offer excellent possibilities to ward off the negative effects of job stressors.

Future research should close the gaps in our current knowledge about vacation and at the same time focus on possibilities to increase the positive vacation effect and decelerate its fade-out process after returning home and resuming work.

Practice box

What do the results mean for practice? We advise to:

- plan more than only one vacation throughout a work year, because vacation effects are strong but also rather short-lived;
- prevent holiday hassles by a solid preparation before going on vacation (e.g., a car check, a first aid kit, prescriptions that may be needed, and consensus with co-travellers about vacation activities);
- engage in pleasant activities, because pleasure enhances the vacation effect on health and well-being;
- prevent high work demands immediately after work resumption, as they may speed up the fade out process of positive vacation effects;
- share vacation experiences and actively collect memories that can easily be recalled later to boost and prolong vacation effects.

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Vakantie als prototypische mogelijkheid tot herstel van werk

Jessica de Bloom, Sabine Geurts en Michiel Kompier, *Gedrag & Organisatie*, jaargang 23, december 2010, nr. 4, pp. 333-349.

Onvoldoende herstel van het werk kan negatieve gevolgen hebben voor gezondheid en welbevinden van werknemers. Hoewel vakantie in potentie een sterk herstelbevorderend effect kan hebben, is er nog maar weinig onderzoek naar het effect van vakantie op herstel van werk verricht. Dit artikel geeft een overzicht van eerdere en actuele onderzoeksbevindingen op dit terrein en doet een aantal aanbevelingen voor toekomstig onderzoek. Allereerst bespreken wij de mechanismen die ten grondslag liggen aan herstel tijdens vakantie. Ten tweede

geven wij een overzicht van de meest belangrijke empirische bevindingen en de sterkten en de zwakten van eerdere vakantiestudies. Ten derde presenteren wij de resultaten uit recent dagboekonderzoek naar korte vakanties (lang weekeinde en midweekvakanties) en wintersportvakanties (negen dagen). Tot slot bespreken wij implicaties en suggesties voor toekomstig onderzoek.