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# All I want for Christmas is recovery – Changes in employee affective well-being before and after vacation

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# All I want for Christmas is recovery – Changes in employee affective well-being before and after vacation

#### Abstract

The goal of this empirical study was to provide a detailed picture of the short- and long-term development of affective well-being before, during, and after vacation. Specifically, we investigated employees' positive and negative affect and examined whether the Christmas holiday casted its shadow on employees' affect during December. Further we identified which factors (from both the work and private life domain) modulated the change in employees' affect before the vacation and which factors during and after vacation influenced the speed of fade-out effects. We used longitudinal research data with two measurements per week over a 15-week period and collected data from 145 white-collar workers, resulting in a total of 2,062 measurements. Multilevel modeling revealed that those who reported less work and personal tasks in December had a steeper increase in well-being before their vacation. Those who enjoyed more recovery experiences during their vacation and the following weekends, and those who started work with lower levels of unfinished tasks, enjoyed slower fade-out effects after vacation. Pleasant anticipation tended to change the development of affective well-being before Christmas. The study provides a fine-grained picture of the change in well-being over time and indicates how employees may particularly benefit from their vacation.

Key words: changes in well-being, Christmas, vacation, multi-level analysis

# All I want for Christmas is recovery – Changes in employee affective well-being before and after vacation

Christmas has become the most cherished holiday of today's time. Around two billion people worldwide celebrate Christmas every year. According to a Gallup poll (2010), 95% of Americans celebrate this holiday. Christmas is also an official holiday in all European countries as well as in many countries in Asia, with the Philippines celebrating the world's longest Christmas season. While Christmas began originally as a religious celebration of the birth of Jesus Christ, it is celebrated by Christians and non-Christians alike (Pew Research Center, 2013). "Few other holidays change the face of a nation and the behavior of its citizens as does Christmas" (Kasser & Sheldon, 2002, p. 313). During Christmas, many companies close, employees travel home and visit their families, festive displays and Christmas lights illuminate streets and buildings. Every year during the Christmas season, "millions of Americans abruptly change their patterns of traveling, eating, drinking, exercising, working, and vacationing" (Phillips, Jarvinen, Abramson, & Phillips, 2004, p. 3781), which also holds true for most European and many Asian countries as well (e.g. Laing & Frost, 2014; Miller, 2011; Sigley, 2007). All over the world (Miller, 2011), Christmas is regarded as a key moment in each family's year cycle as it is celebrated annually and follows certain rituals (Páez, Bilbao, Bobowik, Campos, & Basabe, 2011). For many people, Christmas time is of specific emotional value and may therefore particularly influence their affective well-being.

The prominent place that Christmas holds in our lives is reflected in various research fields, ranging from anthropology (e.g. Nissenbaum, 1996), to consumer research (e.g. showing that Christmas scent such as ginger bread and Christmas music changes evaluation of the store; Spangenberg, Grohmann, & Sprott, 2005), and medical studies (e.g. identifying Christmas as a health risk due to eating patterns; Phillips et al., 2004). In the field of occupational health psychology, studies investigating Christmas are rare and hardly go beyond explaining why individuals differ with regard to well-being during the holidays (Kasser & Sheldon, 2002). In this study, we extend this perspective and examine why trajectories in well-being may differ between employees and contribute by providing insights into the dynamic development of affective well-being before, during, and after Christmas. We build on the Conservation of Resources Theory (Hobfoll, 1989) and studies from the field of vacation research. We answer the call of Beal, Weiss, Baros, and MacDermid (2005) who underline that it is essential to understand which

factors lead to the renewal of resources and that research so far is missing an explicit link to affect. We focus on positive and negative affect as key indicators of employee well-being and identify factors that influence affective well-being over time.

### **Research Aims and Design**

The goal of this study is to provide a detailed picture of the short- and long-term development of affective well-being before, during, and after Christmas. We aim to answer the following questions: Does the Christmas holiday cast its shadow on employees' affect during the four weeks leading up to Christmas? On which factors does the change in employees' affect before Christmas depend? How long do employees benefit from their Christmas vacation (that is, when have beneficial vacation effects faded-out)? Which factors during and after the Christmas holidays impact the fading out of beneficial vacation effects?

We focus on three factors that appear especially relevant for the development in affective well-being over time. First, we investigate the role of anticipation, i.e., whether looking forward to Christmas contributes to increases in well-being even before the holiday has actually begun. Second, we examine how the level of unfinished tasks (both from the work and the non-work domain) and the accumulation of unfinished tasks over time relate to affective well-being. We also consider trajectories of unfinished tasks over time and examine effects that may occur before and after Christmas. Unfinished tasks may be of particular relevance in order to understand the changes in affective well-being, depicting the joint influences of work and private life demands that may occur before and after a vacation with a fixed date for all employees. Third, we examine how relaxation and detachment as key recovery experiences contributed to sustained well-being after Christmas. More specifically, we consider recovery experiences (Sonnentag & Fritz, 2007) during Christmas and during the weekends following Christmas.

To examine our questions, we conducted a comprehensive diary study covering four months in a sample of working people. We go beyond previous vacation research by providing a fine-grained picture of the potential change in affective well-being over time, by focusing on the time before, during, as well as after vacation, and by analyzing factors arising from different life domains and may modulate changes in employees' affective well-being over time.

# Theoretical Framework for Changes in Well-Being before, during, and after Christmas

The conservation of resources model (Hobfoll, 1989) describes that people are motivated to acquire, retain, protect, and enhance their psychological resources. Stress occurs when

resources are threatened, lost, or an investment of resources did not bring the expected gain. Recovery occurs during off-job time when persons do no longer rely on resources consumed during work and use their free time to develop or renew resources. According to the COR model, breaks from work (such as the Christmas vacation) may provide opportunities to replenish lost and gain new resources. Based on these theories, anticipation should influence changes in employees' affect before the vacation because the holiday is an opportunity for resource gain. Work- and home demands before and after vacation can be regarded as prototypical factors (continuously) contributing to resource loss, which may influence well-being before Christmas and also speed up fade-out effects after vacation. High levels of resource gain due to recovery from work (detachment and relaxation) during the holiday should lead to higher affective wellbeing after Christmas and a slower fade-out as employees can draw on these resource reservoirs when they are confronted with demands after being back at work. In the following, we will explain how changes in well-being before and after the holiday can be modulated by different factors in terms of the COR model.

#### Explaining the Change in Affect Before Christmas: Anticipation and Unfinished Tasks

In line with the general belief, Nawijn, Marchand, Veenhoven, and Vingerhoets (2010) showed in a cross-sectional study that vacationers are significantly happier than non-vacationers before their summer vacation. Yet, in a study focusing on pre-vacation time in spring, Nawijn, De Bloom, and Geurts (2013) found that employees' well-being was sharply reduced before the vacation, particularly for women. In the following, we offer possible explanations for the mixed findings on pre-vacation effects by focusing on anticipation as well as employees' pre-vacation work- and home demands.

Pleasant anticipation reflects the valence of a future emotional reaction, so that the intensity of anticipation is greater "the more intensely one expects to enjoy it [the holiday] when the time comes" (Jevons, 1905, p. 64, cf. Loewenstein, 1987). Thus, anticipation refers to a directed emotion targeted at the holiday (i.e., a positive event that is going to happen in the future) and can be characterized as affective forecasting (Wilson & Gilbert, 2005). Whereas positive and negative affect refer to the experience of the present moment, anticipation describes a prediction of an emotional reaction (in the future). Positive affect and anticipation therefore involve two distinct temporal orientations. In terms of COR theory (Hobfoll, 1998), anticipation refers to the expectation of an opportunity for resource replenishment during the holiday.

Building on research showing that anticipation can influence current emotions (e.g. Van Boven & Ashworth, 2007), we expect that pleasant anticipation serves positive affect. Particularly, we suggest that anticipation predicts the change in affective well-being before Christmas, such that the increase in positive affect and decrease in negative affect is stronger for employees with a greater pleasant anticipation of the holiday. Vacations are experiences, which employees look forward to (Miller, Rathouse, Scarles, Holmes, & Tribe, 2007) as "for most, the enjoyment starts weeks, even months before the holiday actually begins" (Nawijn et al., 2010, p. 42). The anticipatory lead-up to Christmas (i.e., the Christmas season, referring to the 24 days before Christmas), noticeable – and inevitable throughout December – in decorations, food, music, etc. cannot be found in this extent for any other pre-vacation time and has rarely been investigated. Due to the often highly ritualized celebration and precise expectations (Kasser & Sheldon, 2002; Páez et al., 2011) people may be well suited to cognitively evaluate their expectations regarding the holiday. A greater pleasant anticipation of the holiday as a possibility for the replenishment of resources may thus play a key role for the development of their affective well-being before Christmas. More specifically, expect affective well-being to increase before Christmas, particularly when levels of pleasant anticipation are high.

Hypothesis 1: The development of (a) positive and (b) negative affect before Christmas depends on employees' level of anticipation, such that the change in positive and negative affect before Christmas is more pronounced for employees who look forward to Christmas.

Work-related and personal unfinished tasks can be seen as prototypical stressors from different life domains, which may influence how employees' affective well-being changes before the holiday. Research suggests that the pre-vacation time induces strain due to the urge to finish work tasks and coordinate them before the vacation starts (Westman, 2004). Christmas is on a set date on which many work tasks (as typically the whole office is on vacation and work tasks are not transferable to colleagues) but also personal tasks (e.g., gift shopping) are expected to be finished and the pressure might be particularly high. Unfinished tasks describe tasks, which the employee aimed to finish or make certain progress on, but left them undone or in an unsatisfactory state (Syrek, Weigelt, Peifer, & Antoni, 2017). Unfinished tasks may be a key indicator for work and home demands that are imposed on employees. In terms of theories on self-determination, finishing a task or making significant progress can be regarded as a positive experience, accompanied by feelings of competence (Deci & Ryan, 2000). Lewin's field theory

(1937) and the Zeigarnik effect (1927) describe that unfinished tasks trigger an inner tension, stemming from the need of closure. The inner tension is accompanied by continuous cognitive activation of the unfinished task (i.e. affective rumination), which results in a memory advantage of unfinished tasks. This mechanism is seen as beneficial for future task achievement, but detrimental for recovery and resource replenishment (Syrek et al., 2016). Before a holiday, unfinished tasks may decrease affective well-being as the nearing holiday places pressure on employees to complete all important tasks before leaving for vacation in order to be able to mentally detach from work during the holiday. This may increase employees' inner tension at the cost of their affective well-being (Martin & Tesser, 1996). There is a comprehensive body of experimental research that shows that unattained goals are negative for affective well-being (Martin & Tesser, 1996). First field studies also demonstrate a detrimental effect of work related unfinished tasks on employees' positive and negative affect and sleep (Gabriel, Diefendorff, & Erickson, 2011; Smit 2015; Syrek et al., 2016). The level of unfinished work tasks at the beginning of the Christmas season may therefore impact employees' affect before the holiday.

Further, as Christmas draws closer, changes in well-being may be modulated by the perception of work related unfinished tasks accumulating over time. To shed further light on the dynamics of the pre-vacation period and reconcile previous contradictory findings, we consider temporal issues. The trajectory of unfinished tasks may provide a richer picture of how stressors affect well-being over time. Changes in well-being before the holiday may be modulated by the perception of having more and more tasks that are due. The perceived accumulation of unfinished tasks should particularly lead to increased inner tension, which constitutes a threat for affective well-being. According to control theory (Carver & Scheier, 1982) individuals monitor goal discrepancies and consider whether they at least made some progress towards their personally relevant goals. Hence, making progress towards finishing tasks alleviates the burden associated with unfinished tasks with regard to affective well-being (Martin & Tesser, 1996). We therefore also examine *changes* in unfinished tasks during the pre-Christmas period.

Unfinished tasks are not only present at work, but may also be a crucial stressor in people's private life. Nawijn et al. (2013) argue that before vacation, employees might particularly feel the pressure to finish tasks at home. Especially before Christmas, the duty to organize the holiday and shop for gifts pose additional demands. Consumer research shows that as Christmas nears, gift-purchasers experience more time pressure (Miyazaki 1993) and

Christmas shopping poses a stressor for many people (Otnes, Kim, & Lowrey, 1992). In line with vacation research showing the impact of home demands for employees' well-being (De Bloom, Geurts, Taris, Sonnentag, de Weerth, & Kompier, 2010; Nawijn et al., 2010), we expect that the amount of unfinished personal tasks at the beginning of December impacts employees' affect before Christmas. As Christmas draws closer, changes in well-being also depend on the perception of unfinished tasks increasing (e.g. still not having purchased all gifts) or decreasing.

Hypothesis 2: The development of (a) positive and (b) negative affect before Christmas depends on employees' starting level and accumulation of personal and work related unfinished tasks before Christmas, such that the change in positive and negative affect is stronger for employees who have a lower starting level and a lower increase of unfinished tasks before Christmas.

#### **Explaining the Change in Affect After Christmas: Recovery During Christmas**

We focus on two key recovery experiences as experiences that should foster resource gains during vacation: Psychological detachment and relaxation. Detachment refers to the mental disengagement from work during leisure time (Sonnentag & Fritz, 2015). Relaxation describes a state of low sympathetic activation, i.e. lower heart rate and muscle tension (Benson, Greenwood, & Klemchuk, 1975). Research has consistently underlined the key role detachment and relaxation play for employees' affective well-being (Sonnentag & Fritz, 2007).

According to COR theory, the more resources a person has, the less threatening is a potential or actual resource loss. Thus, if employees fill up their resources during Christmas by detaching from work and experiencing relaxation, they will return to work with rich resource reservoirs and their affect will be less influenced by stressors kicking in after the holiday. Drawing on research showing the beneficial impact of relaxation (Richardson & Rothstein, 2008) and detachment (Sonnentag, Binnewies, & Mojza, 2010), we argue that both can offset potential threats to employees' resources after vacation. If employees refilled their resource reservoirs through successful recovery, they will benefit longer from their vacation.

Hypothesis 3: The development of (a) positive and (b) negative affect after Christmas depends on employees' level of relaxation and detachment during Christmas, such that the fadeout (i.e. decrease in positive affect and the increase in negative affect) is less pronounced for employees who were able to relax and detach during the holidays.

Explaining the Change in Affect After Christmas: Unfinished Tasks and Recovery

# **Experiences After Christmas**

Well-being returns to its pre-vacation level within a few weeks after returning to work, signifying that the beneficial effects of vacation fade out rather quickly (De Bloom, Geurts, & Kompier, 2013; Kühnel & Sonnentag, 2011). The fade-out effect can be explained with the resumed consumption of resources due to work-related stressors. Kühnel and Sonnentag (2011) found that time pressure and pupil misconduct speed up the fade-out effect in teachers.

When employees return to work after the holiday, workload and personal tasks pose high demands on them (Kühnel & Sonnentag, 2011), exposing them to resource consumption, what should be reflected in diminished affective well-being. Strauss-Blasche and colleagues (2004) demonstrated that employees benefit more from their vacation if they returned to work on Thursday instead of Monday, having a full working week (and many tasks to accomplish) ahead. Unfinished tasks can be regarded as a negative work event (Kuba & Scheibe, 2017), which – in addition to promoting negative affect – also depletes regulatory resources (Beal et al., 2005). Regulatory resources are however needed to direct one's attention back to work and they diminish each time they are taxed. high level of unfinished tasks in the first week of work implies a threat to lose further resources, particularly if the feeling of not being able to make satisfactory progress dominates. Moreover, employees may experience an actual loss of resources when the effort to accomplish all intended tasks of the week was insufficient. Thus, if employees are confronted with high levels of unfinished tasks during the first work week after Christmas, their resources are immediately called upon and the fade-out of effect will be faster.

In addition to the initial level of the stressors that impairs employees' well-being, the accumulation of stressors after returning to work may prompt a faster fade-out. In line with control theory (Carver & Scheier, 1982) and the work of Martin and Tesser (1996) we expect that the inner tension accompanying unfinished tasks may increase if stressors accumulate. In terms of COR, the consumption of resources progresses rapidly (Hobfoll, 1989) and employees feel pressured not to lag behind. When employees are not able to adequately cope with unfinished tasks, the fade out will be more pronounced, resulting in a faster increase of negative affect and faster decrease in positive affect.

Hypothesis 4: The development of (a) positive and (b) negative affect after Christmas depends on employees' starting level and accumulation of unfinished tasks (work and personal) after Christmas, such that the fade-out (i.e. decrease in positive affect and the increase in

negative affect) is faster for employees who experience high starting levels of unfinished tasks upon returning to work and whose unfinished tasks increase in the weeks after Christmas.

There still are important opportunities to recover from work after the vacation, particularly during the weekend as the "prime time" of the week (Zerubavel, 1989). During the weekend employees are no longer confronted with job demands and resources can be renewed. Detachment and relaxation are key recovery experiences during weekends (Kühnel, Sonnentag, & Westman, 2009) as they imply that no resources are called upon that were necessary at work. Kühnel and Sonnentag (2011) showed that higher levels of relaxation after vacation predict slower fade-out effects. Thus, the ability to relax during weekends after Christmas may be important in order to restore resources that influence employees' affect after the holiday. In this line, we suggest that resource gain during weekends may facilitate maintaining high levels of affective well-being after vacation and prolong fade-out effects.

Hypothesis 5: The development of (a) positive and (b) negative affect after Christmas depends on employees' level of relaxation and detachment during the weekends after Christmas, such that the fade-out is less pronounced for employees who experience higher relaxation and detachment during the weekends after Christmas.

### Method

## **Procedure and design**

Participants were 145 employees working in various industries. Employees completed an initial survey assessing work and individual characteristics. Employees then responded to a brief online survey twice a week over a period of 15 weeks (average of 14.22 surveys per person), resulting in 2,062 measurements. Data were collected four weeks prior to Christmas, during the Christmas holiday week, and during the ten subsequent working weeks until March.

The time interval with two measurements per week over a 15-week period was chosen in order to investigate the time course of affect thoroughly before, during, and after Christmas. Generally, two extremes can be found with regard to timing – either panels with long time lags between measurements or daily diary studies focusing on one or two work weeks (Dormann & van de Ven, 2014). The design of a 15-week period had the advantage that unusual situations in a single week are less likely to bias the results. The design enabled us to zoom in on the pre- and post-holiday period and more accurately test within-person effects and moderators influencing the change over time. In order to avoid data missing not at random, we conducted the Friday-

Monday waves weekly within this timeframe, representing conceptually non-overlapping waves of measurement that still share important characteristics with all other waves (same week days; cf. Dormann & Van de Ven, 2014). Additionally, a strength of random coefficient modeling framework is that missing data does not pose a particular problem in terms of estimation; the parameter estimates are based on all available information (Ployhart, Holtz, & Bliese, 2002). **Sample** 

The sample consisted of employees with regular employment, enrolled in a distance learning undergraduate psychology program. This population is more similar to the general working population than to typical undergraduate samples (e.g. Dabbagh, 2007). The announcement of the study, along with an e-mail assuring confidentiality and voluntary participation, was sent to all 145 employees, who had given their email address confirming their interest to participate in the study. Our data set included 2,062 measurements, indicating a completion rate of 47%. Participants could earn required study credits as research participants. Seventy-eight per cent of the employees were female. Employees were between 19 and 62 years old (M = 36, SD = 9.7). Average tenure was 5.5 years (SD = 6.9), ranging from less than one year to 27 years. Most employees had a permanent contract (74%) and worked full time (89%). **Measures** 

**Positive and Negative Affect**. Affect was measured twice a week (Mondays and Fridays) over the 15-week period with three items covering positive affect (enthusiastic, elated, excited) and three items covering negative affect (nervous, anxious, afraid) from Kessler and Staudinger (2009). Participants were asked to indicate how they felt and responded on a five-point Likert scale from 1 = strongly disagree to 5 = strongly agree. Mean Cronbach's alpha for positive affect was .93, and .85 for negative affect.

Anticipation. Similar to Nawijn et al. (2013), anticipation was measured with the single item with the face scale from Kunin (1955) "How much do you look forward to Christmas?", ranging from one (*not at all*) to seven (*very much*). Anticipation was assessed on Mondays during the four weeks prior to Christmas.

**Personal and work related unfinished tasks**. We assessed over the 15-week period work related unfinished tasks on Fridays and personal unfinished tasks on Mondays referring to the weekend with four items each adapted from Syrek et al. (2016), e.g. "I have not finished important work tasks that I had planned to do this work week." "I have not finished important

personal tasks that I had planned to do this weekend". Items were answered on a five-point Likert scale ( $1 = strongly \ disagree$ ,  $5 = strongly \ agree$ ). Mean Cronbach's alpha was .93 for work, and .92 for personal unfinished tasks.

**Recovery Experiences.** Detachment and relaxation were measured over the 15-week period each with four items from the Recovery Experience Questionnaire (Sonnentag & Fritz, 2007) on Mondays reflecting experiences on the weekend and during the Christmas holiday, e.g. "I forgot about work", "I kicked back and relaxed". Items were answered on a five-point Likert scale ( $1 = strongly \ disagree$ ,  $5 = strongly \ agree$ ). Mean Cronbach's alpha was .94 for detachment, and .95 for relaxation.

# **Analytic Strategy**

Multilevel analysis. We used multilevel modeling techniques to account for the nonindependence of the data as well as for the systematic, chronological structure of time. We followed Bliese and Ployhart's (2002) approach to estimate multilevel models in R, using the NLME library written by Pinheiro and Bates (2000). For estimation, restricted maximum likelihood was used. We tested for linear as well as quadratic and cubic trends of time with regard to the full period of 15 weeks. Time was scaled in days to account for the unequal timelags between observations. We centered the time variable around December 24<sup>th</sup> so that time refers to either days left until Christmas Eve or days passed since Christmas Eve. In order to zoom in on the time trends before and after Christmas, we divided the continuous time into two time variables (Bliese & Lang, 2016). One time variable reflects the time course before Christmas, the other depicts the time course after Christmas. This approach provides a high degree of precision in terms of specifying and testing our hypotheses. We consider the Christmas holiday a significant event and therefore specified discontinuous growth models (Bliese & Lang, 2016), which allow slopes of time to differ before and after Christmas (e.g. flat linear slope before the event, steep linear slope after the event). Splitting up the cubic trajectory from day -35 to day +80 into two quadratic time slopes (slope 1: day -35 to day 0 and slope 2 day 1 to day +80) offers the advantage of aligning the time of occurrence of predictors with the respective trajectory of affect for the focal period of time. We tested for linear and quadratic trends of time before and after Christmas, auto-correlation and heteroscedasticity (Bliese & Ployhart, 2002).

Finally, we modeled anticipation, personal and work related unfinished tasks, detachment and relaxation during and after Christmas as cross-level moderators. We predicted the slope of affect over time by the intercepts and slopes of our predictor variables over time. We estimated the intercept and slope of the predictor variables (before and after Christmas) for each participant using growth curve models predicting anticipation and unfinished tasks over time. We finally entered individual estimates as grand-mean centered level-2 variables. The intercept of, for example, personal unfinished tasks before Christmas represents employees' level of personal unfinished tasks at the beginning of the four weeks prior to Christmas. The slope of personal unfinished tasks before Christmas represents employees' increase or decrease of personal unfinished tasks during the four weeks prior to Christmas. These variables were then introduced as cross-level moderators in the focal models.

# Results

Table 1 displays zero-order correlations between study variables. Figure 1 shows the average trajectory of positive and negative affect across all participants during the 15 weeks.

---Table 1 & Figure 1 about here---

First, we determined the strength of data nonindependence and estimated null models (Bryk & Raudenbush, 1992). ICC1 for positive affect was .42 and .51 for negative affect, indicating that almost half of the variance in both affective states was due to interindividual differences, and that there was also substantial variance within persons across time.

# **Positive affect**

We modeled time and analyzed linear, quadratic, and cubic time trends (Figure 1) by converting time into power polynomials. While the linear time trend ( $\gamma = .91$ , t = 0.73, p = .46), and quadratic time trend ( $\gamma = -.61$ , t = -0.57, p < .05) were not significant, the cubic time trend significantly predicted positive affect ( $\gamma = 2.01$ , t = 2.31, p < .05).

In order to shed more light on the time trend before and after Christmas, we included two separate time trends for the period before and after Christmas. The linear time trend before Christmas was significant ( $\gamma = 4.35$ , t = 2.58, p < .05), while the quadratic trend was not significant ( $\gamma = 0.83$ , t = 0.74, p = .46), both time trends were random ( $\chi^2_{(5)} = 83.12$ , p < .001). Thus, positive affect increased linearly before Christmas. The random slope variance indicates that both the linear and the quadratic change over time before Christmas varied significantly between employees. The linear time trend after Christmas was not significant ( $\gamma = -2.29$ , t = -1.63, p = .10). The quadratic time trend was significant ( $\gamma = 2.58$ , t = 2.18, p < .05). Both slopes were random ( $\chi^2_{(9)} = 99.36$ , p < .001). A model including autocorrelation fitted the data best ( $\chi^2$ 

 $_{(1)}$  = 13.61, p < .001). That is, after Christmas, positive affect followed a u-shaped trend: high after Christmas, then lower and increasing again. We found significant slope variance: the rate of change (linear and quadratic) after Christmas was significantly different among employees.

**Cross-Level Moderators and the Change in Positive Affect Before Christmas.** The quadratic time slope of positive affect before Christmas was only by trend moderated by employees' mean level of anticipation of the Christmas holiday ( $\gamma = -1.97$ , t = -1.90, p = .06), indicating that positive affect tended to rise before it declined slightly before Christmas for employees who positively anticipated the holiday (Figure 2). For employees who did not look forward to Christmas positive affect tended to decrease slightly before it rose slightly before Christmas. As this finding was not significant, we rejected Hypothesis 1a. Results (Table 2) further showed that neither the starting level nor the accumulation of unfinished tasks (personal or work related) before Christmas changed the development in positive affect before Christmas, contradicting Hypothesis 2a.

----Please insert Table 2 and Figure 2 about here---

**Cross-Level Moderators and the Change in Positive Affect After Christmas.** The quadratic time trend of positive affect after Christmas did not significantly, yet marginally depend on employees' mean level of detachment during Christmas ( $\gamma = -2.16$ , t = -1.89, p = .06), indicating that the u-shaped change in positive affect was by trend less pronounced for employees who detached over the holidays. The development of positive affect until March did however not depend on employees' level of relaxation during Christmas. The results therefore did not support Hypothesis 3a.

Further, the curvilinear trend was significantly stronger for employees who had a lower starting level of work related unfinished tasks after Christmas ( $\gamma = 4.00, t = 2.13, p < .05$ ; Figure 2). For employees who started with a high level of unfinished tasks after Christmas, positive affect continuously decreased, while for employees who started work with fewer work related unfinished tasks, positive affect increased within a couple of weeks again. The starting level of personal unfinished tasks and the accumulation of personal or work related unfinished tasks did not change the development of positive affect after Christmas. Hypothesis 4a was partially supported. Moreover, the curvature of positive affect was stronger for employees with a higher mean level of relaxation during the weekends following Christmas ( $\gamma = 2.70, t = 2.00, p < .05$ ), while the level of detachment had no significant impact. Thus, positive affect increased (after a

slight decrease) stronger after Christmas for employees who generally relaxed during weekends in the time after Christmas. Hypothesis 5a was supported with regard to relaxation, but we did not find support with regard to detachment.

Summing up, positive affect tended to increase before Christmas when employees looked forward to Christmas. Positive affect tended to increase after Christmas if employees were able to detach from work during the holiday. Starting work with lower levels of work related unfinished tasks led to more positive affect over time. Relaxing during the weekends following Christmas implied a slower fade-out effect (positive affect decreased slower when back at work). **Negative Affect** 

For negative affect (Figure 1), there was no significant linear time trend ( $\gamma = .05$ , t = 0.05, p = .95), but the quadratic ( $\gamma = 1.70$ , t = 2.00, p < .05), and cubic time trends were significant ( $\gamma = -1.65$ , t = -2.48, p < .05).

The separate time trends showed that the linear time trend before Christmas was significant ( $\gamma = -3.14, t = -2.57, p < .05$ ), while the quadratic trend was not ( $\gamma = -0.0003, t = -0.0004, p = .99$ ). The linear time trend before Christmas was random ( $\chi^2_{(2)} = 16.79, p < .001$ ). These results indicated that before Christmas, negative affect linearly decreased and that this decrease was different between employees. The time trend after Christmas was linear ( $\gamma = 2.46, t = 2.10, p < .05$ ), but not quadratic ( $\gamma = -0.65, t = -0.60, p = .55$ ), both slopes were random ( $\chi^2_{(9)} = 37.86, p < .001$ ). A model including autocorrelation fitted the data best ( $\chi^2_{(1)} = 11.07, p < .001$ ). Thus, after Christmas, negative affect linearly increased and the linear as well as the quadratic time trend varied significantly among employees.

**Cross-Level Moderators and the Change in Negative Affect Before Christmas.** The linear time slope of negative affect before Christmas was only by trend moderated by employees' mean level of anticipation of Christmas ( $\gamma = 0.0042$ , t = 1.67, p = .09), indicating that the decrease of negative affect before Christmas tended to be steeper for employees who looked forward to Christmas (Table 3). However, as the moderation was not significant, we rejected Hypothesis 1b. While the starting level of personal unfinished tasks before Christmas did not change the decrease in negative affect before Christmas, the accumulation of personal unfinished tasks before Christmas (Figure 3) significantly moderated the development of negative affect before Christmas ( $\gamma = .03$ , t = 2.44, p < .05), reflecting that the decrease in negative affect before Christmas was stronger for employees whose personal unfinished tasks did not accumulate

before Christmas. For work related unfinished tasks, the starting level and the accumulation of work related unfinished tasks before Christmas were not significant. Hypothesis 2b was only partially supported.

---Please insert Table 3 & Figure 3 about here---

**Cross-Level Moderators and the Change in Negative Affect After Christmas.** The quadratic time trend of negative affect after Christmas significantly depended on employees' mean level of relaxation during Christmas ( $\gamma = -2.38$ , t = -2.64, p < .01), indicating that the curvilinear development of negative affect after Christmas was less pronounced for employees who had higher levels of relaxation during Christmas. Their negative affect decreased (slight n-shape), while for employees who did not relax during Christmas negative affect continuously increased as the weeks after Christmas went by. Detachment during Christmas did not affect the development of negative affect. Thus, we found partial support for Hypothesis 3b.

Further, the quadratic time trend after Christmas was only marginally stronger for employees whose personal unfinished tasks accumulated after Christmas ( $\gamma = 62.70$ , SE = 32.13, t = 1.95, p = .05), indicating that by trend, employees whose personal unfinished tasks were more reduced over time, showed a less pronounced fade-out. The starting level of personal and work related unfinished tasks and the accumulation of work related unfinished tasks did not moderate the change of negative affect after Christmas. This finding partially supports Hypothesis 4b.

Supporting Hypothesis 5b, the development of negative affect significantly depended on employees' mean level of relaxation during the weekends after Christmas ( $\gamma = 2.34$ , t = 2.20, p < .05), so that employees who relaxed more during the weekends after Christmas reported a slower increase in negative affect after Christmas (Figure 3). Negative affect after Christmas did not depend on employees' mean level of detachment during the weekends after Christmas, contradicting Hypothesis 5b.

In brief, negative affect tended to decrease faster before Christmas for employees who positively anticipated Christmas. Negative affect significantly decreased faster employees whose personal unfinished tasks did not accumulate before Christmas. Employees with lower levels of relaxation during Christmas reported an increase in negative affect as the weeks went by after Christmas. Employees with a lower accumulation of personal unfinished tasks and a higher mean level of relaxation during the weekends after Christmas had slower fade-out effects (i.e. negative affect did not increase as fast).

#### Discussion

In this study, we investigated the trajectory of employees' affective well-being four weeks before the Christmas holiday, during, and ten weeks after Christmas, and whether the change over time could be attributed to employees' anticipation of the Christmas holiday, work- and home demands before and after Christmas, and their recovery experiences during and after Christmas. Taken together, our results suggest that affective well-being follows a curvilinear time trend before, during, and after Christmas. Positive affect increased before Christmas, reached a maximum during Christmas, and slowly decreased in January and February before increasing again in March – negative affect followed a similar (but inverted) time trend. In order to shed light on factors affecting these changes, we examined predictors of change before, during, and after the Christmas holidays.

Of the moderators before Christmas, *pleasant anticipation* of Christmas tended to have an effect on employees' change in positive as well as negative affect. Anticipation tended to speed up the increase in positive affect and the decrease in negative affect. Results of our moderation analyses underscore the role anticipation may play for the changes in well-being before Christmas and contribute to previous studies by underlining the beneficial role of anticipation for employees' affective well-being before Christmas as an opportunity for respite.

Further, we expected that the change in affective well-being before Christmas depended on employees' *work related and personal unfinished tasks* before Christmas. For negative affect the accumulation of personal unfinished tasks modulated the change over time. In line with the COR theory (Hobfoll, 1989), these results suggest that home demands consume resources and impact employees' negative affect – particularly if they increase over time. This extends existing research by demonstrating that particularly the accumulation of unfinished personal tasks slows down the decrease in negative affect before Christmas. For positive affect demands did not affect the shape of the 'holiday happiness curve' (Nawijn et al., 2010). Possibly, particularly personal unfinished tasks may be part of the pre-Christmas ritual and therefore do not dampen the increase in employees' positive Christmas spirit.

After Christmas when employees were back at work, the starting level of work related unfinished tasks impaired employees' positive affect during the next weeks, while for negative affect the accumulation of personal unfinished tasks was more important. One might speculate that, for positive affect, a strong contrast between the Christmas vacation and being back at work with a large amount of work tasks ahead is particularly resource threatening. In line with COR theory, one would assume that such a threat of resource loss is in its detrimental impact equivalent to an actual loss. Our results showed that a stronger decrease in personal unfinished tasks tended to relate to a slower fade-out (i.e. negative affect increases slower after Christmas). Thus, employees who were able to cope with their amount of home demands seemed to benefit longer from reduced level of negative affect. Previous studies have demonstrated fade-out effects (e.g. De Bloom et al., 2013) and have shown that workload after vacation elevates these fade-out effects (Kühnel & Sonnentag, 2011). Our study underlines the impact of demands from both life domains on affective well-being and extends earlier work by incorporating not only the relationship between stressor and outcome at single points in time, but by depicting how the perceived accumulation of tasks influences positive and negative affect over time.

Furthermore, *relaxation and detachment* during Christmas were expected to moderate the change in affective well-being after Christmas. While detachment during Christmas tended to slow down the fade-out effect of positive affect after Christmas, relaxation during Christmas was found to influence the reappearance of negative affect. Our design enabled us to contribute to previous research by demonstrating that the effect holds up in the long term. Both recovery experiences allow a break from work in order to refill resources (such as energy levels and attentional resources), thereby increasing active recovery processes (Hobfoll, 1989) as well as enhancing passive recovery from work as suggested by the Effort Recovery model (Meijman & Mulder, 1998). Relaxation was also an important mechanism to restore resources on weekends subsequent to Christmas and influenced the change in positive and negative affective well-being from January to March. This finding shows how particularly relaxation is a powerful means to restore resources during vacation, on which employees may draw after being back at work.

An additional benefit of our study was that it also revealed natural variations in well-being across a prolonged period of time. Our finding may also be interesting for research on the relationship between affect, weather and light conditions (e.g. Keller et al., 2005; Klimstra et al., 2011), which deserves further investigations in the future to connect different research fields.

# Strengths, Limitations and Suggestions for Future Research

We conducted a week-level diary study over 15 weeks, collected a large number of repeated observations, and examined how changes in affect are modulated by cross-level moderators. Despite this strong research design producing reliable evidence for relationships

unfolding across time, our study was subjected to shortcomings, resulting in recommendations for future research. First of all, despite strong evidence for the temporal order of phenomena and examining all focal predictors concurrently within one model, i.e. controlling for all variables at the same time, we cannot rule out all alternative explanations and clearly establish causality.

Secondly, we focused on Christmas, which possibly limits the generalizability of our findings with regard to other vacations. Anticipation before Christmas may be enhanced by the high emotional value of Christmas (Otnes et al., 1992), however, building on vacation research (Nawijn et al., 2010) we expect that anticipation will play a key role for other kinds of vacations. The results for work and home demands might also be transferable to other vacations, as these demands may occur regularly when work and private tasks are expected to be finished before leaving for a longer period of time and consume resources when back at work. Yet, it remains an open question for future research whether the development of well-being and the moderators of this change over time before, during and after Christmas are similar for other kinds of vacations.

Thirdly, our results concerning relaxation and detachment may have been biased by experiences employees had before filling out the questionnaire, because we used retrospective evaluations for measuring recovery experiences. Although momentary assessments might be more reliable (Mitchell, Thompson, Peterson, & Cronk, 1997), our study design allowed zooming in on longer time intervals and depicting time trends over a period of several months.

Fourthly, future studies may examine the role of anticipation more closely. While research has found single-item measures to be valid substitutes for larger scales (Fisher, Matthews, & Gibbons, 2016), multiple item measures may be used in order to better understand the key facets and scrutinize the construct of anticipation. Particularly, exaggerating the impact of an emotional event (such as Christmas or possibly also vacation in general) may serve as a motivator to obtain positive consequences, but possibly also may cause dread and anxiety (Wilson & Gilbert, 2005), reflected in the pressure of having the 'perfect' holiday planned. Pleasant anticipation seems an intriguing new construct, which has rarely been investigated. Possibly, anticipation can be regarded as opposite to worrying as it describes an emotional state and cognitive prediction of the future. Conceptually, anticipation is related to affective well-being, however, the within-person correlation between positive affect and anticipation was small (.21), suggesting that the constructs differ from each other. Future research might include multiple-item measures to better assess the potential facets of the construct. Future research might also look into the recollection

phase of Christmas. Positive memory distortions such as the rosy view (Mitchell et al., 1997) and selective recall (Hickson III & Beck, 2008) may be powerful strategies to enhance affective wellbeing and decelerate fade-out effects.

Lastly, future research might build on research by Demerouti, Bakker, and Butlers (2004) and examine whether loss spirals might be triggered as a faster accumulation of work and home demands might predict negative affect and vice versa.

# **Practical Implications**

Our results suggest that affective well-being around Christmas follows a 'holiday happiness curve', which may be influenced by several factors. Organizations often have a yearly Christmas party with the staff, which might not only enhance pleasant anticipation but also organizational commitment and team climate. It also seems advisable that leaders and employees agree on work schedules that facilitate returning to work after vacation. Moreover, deadlines could be set without coinciding with the turn of the year. It is recommended to take care that employees can recover during the weekends following the holiday (e.g. by reducing permanent availability demands).

### Conclusion

Today's working life is highly demanding and the Christmas holiday promises a break from work for the majority of employees. We shed light on the dynamic development of affective states across a prolonged period of time, providing a holistic perspective on recovery episodes. Our study contributes to the literature by examining the importance of pleasant anticipation of Christmas, the influence of work- and home demands before and after Christmas for employees' well-being, as well as how recovery experiences during and after Christmas. These factors may lead to more well-being during and slower fade-out effects after Christmas, so that employees may refill their resources and benefit longer from a merry time.

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Table 1

Variable	М	SD	1	2	3	4	5	6	7	8	9
1 Gender <sup>a</sup>	1.77	0.42		.01	01	.12**	.25**	06	.03	.11**	02
2 Age	36.87	1.61	.03		04	65**	08	07	05	.00	02
3 Positive Affect	2.81	1.05	.00	05*		32**	.23**	29**	35**	.26**	.36**
4 Negative Affect	1.76	0.86	.09**	15**	37**		23**	.33**	.47**	35**	33**
5 Anticipation	6.00	1.16	.27**	08*	.21**	21**		10	23**	.14**	.21**
6 Work related											
Unfinished Tasks	2.40	1.14	07**	06*	27**	.28**	10*		.60**	29**	25**
7 Personal											
Unfinished Tasks	2.42	1.15	.01	04	34**	.43**	20**	.60**		41**	41**
8 Detachment	3.36	1.27	.10**	01	.24**	32**	.14**	29**	41**		.47**
9 Relaxation	3.23	1.05	01	03	.34**	31**	.19**	25**	42**	.47**	

Means, Standard Deviations, and Correlations between Study Variables

*Note.* Correlations below the diagonal are week-level correlations (N = 2062; for anticipation N = 694), correlations above the diagonal are person-level correlations (N = 145). <sup>a</sup> Male = 1, female = 2. \*\* p < .01, \* p < .05.

# Table 2

Multilevel regression analyses predicting positive affect

	Model 1-PA			Model 2-PA			Model 3-PA		
	Est	SE	t	Est	SE	t	Est	SE	t
Intercept	2.77	.06	42.68	2.77	.06	43.09	2.77	.07	37.83
Time before linear	4.35	1.69	2.58*	3.71	1.72	2.16*	3.18	1.60	1.99*
Time before quadratic	.83	1.12	.74	.87	1.06	.82	.71	1.16	.61
Time after linear	-2.29	1.40	-1.63	-2.30	1.43	-1.61	-2.53	1.34	-1.88
Time after quadratic	2.58	1.18	2.18*	2.66	1.10	2.42*	3.01	1.28	2.35*
Anticipation				.20	.07	2.82**	.01	.11	.10
Personal UT intercept before Christmas				18	.12	-1.45	.02	.17	.09
Personal UT slope before Christmas				28	.40	71	.22	.54	.40
Work UT intercept before Christmas				12	.11	-1.08	.13	.18	.74
Work UT slope before Christmas				12	.37	32	.56	.52	1.07
Relaxation during Christmas							.11	.09	1.28
Detachment during Christmas							04	.08	48
Personal UT intercept after Christmas							17	.17	97
Personal UT slope after Christmas							-4.13	2.63	-1.57
Work UT intercept after Christmas							23	.15	-1.51
Work UT slope after Christmas							-1.94	1.67	-1.17
Intercept Relaxation after Christmas							.23	.10	2.27*
Intercept Detachment after Christmas							.08	.07	1.22
Cross-level interactions									
Anticipation*Time before quadratic				-1.97	1.03	-1.90†	-1.51	1.14	-1.32
Detachment during Christmas*Time									
after quadratic							-2.16	1.14	-1.89†
Work UT intercept after									
Christmas*Time after quadratic							4.00	1.87	2.13*
Intercept Relaxation after									
Christmas*Time after quadratic							-2.70	1.35	-2.00*
L1-1 slope var. (SE)		.56 (.75	5)		.56 (.	74)		.56 (.	75)
L1 slope var. (SE) – time before lin.	108	8.56 (10	).42)	126.73 (11.25)			57.07 (6.55)		
L1 slope var. (SE) – time before quad.	39.71 (6.30)			35.33 (5.94)			30.18 (5.49)		

L1 slope var. (SE) – time after lin.	17.45 (4.18)	11.62 (3.41)	3.97 (1.99)
L1 slope var. (SE) – time after quad.	21.10 (4.59)	17.66 (4.20)	22.30 (4.72)
L2 intercept variance (SE)	.47 (.69)	.36 (.60)	.33 (.57)
BIC	5218.11	5028.00	4014.00
AIC	5094.27	4822.00	3691.00
-2LL	5050.27	4748.00	3570.00

*Note.* All cross-level interactions between the time variables and level-2 predictors before, during, and after Christmas were tested and included in the model. Due to parsimony, only significant cross-level interactions are displayed in the table. UT = unfinished tasks. \*\* p < .01, \* p < .05, † < .10.

# Table 3

Multilevel regression analyses predicting negative affect

	Model 1-NA			1	Model 2	2-NA	Model 3-NA		
	Est	SE	t	Est	SE	t	Est	SE	t
Intercept	1.83	.06	31.85	1.78	.06	29.70	1.82	.08	23.58
Time before linear	-3.14	1.22	-2.57**	-3.47	1.17	-2.98**	-3.53	1.21	-2.92**
Time before quadratic	.00	.74	.00	06	.73	08	.05	.74	.07
Time after linear	2.46	1.17	2.10*	2.89	1.13	2.56*	2.93	1.17	2.49*
Time after quadratic	65	1.09	60	-1.35	1.05	-1.29	-1.38	1.05	-1.31
Anticipation				004	.06	06	01	.08	09
Personal UT intercept before Christmas				.04	.11	.35	05	.18	27
Personal UT slope before Christmas				.42	.38	1.12	.07	.57	.12
Work UT intercept before Christmas				.35	.11	3.19**	.30	.18	1.64
Work UT slope before Christmas				.93	.35	2.70**	.65	.54	1.21
Relaxation during Christmas							03	.08	41
Personal UT intercept after Christmas							.10	.18	.58
Personal UT slope after Christmas							2.46	2.78	.88
Work UT intercept after Christmas							17	.16	-1.01
Work UT slope after Christmas							48	1.76	27
Intercept Relaxation after Christmas							23	.09	-2.53*
Cross-level interactions									
Anticipation*Time before linear				.004	.00	$1.67^{\dagger}$	.01	.00	1.94 <sup>†</sup>
Personal UT slope before				.03	.01	2.44*	.04	.02	2.06*
Christmas*Time before linear									
Work UT slope before Christmas*Time				.02	.01	1.40	.03	.02	$1.73^{\dagger}$
before linear									
Relaxation during Christmas*Time							-2.38	.90	-2.64**
after quadratic									
Personal UT slope after							62.70	32.13	$1.95^{\dagger}$
Christmas*Time after quadratic									
Intercept Relaxation after							2.34	1.06	2.20*
Christmas*Time after quadratic									
L1 slope var. (SE)		.33 (.5	8)		.32 (.:	57)		.34 (	59)

L1 slope var. (SE) – time before lin.	.0002 (.02)	.0001 (.01)	.0002 (.01)
L1 slope var. (SE) – time after lin.	27.06 (5.20)	19.41 (4.41)	17.99 (4.24)
L1 slope var. (SE) – time after quad.	41.33 (6.43)	32.47 (5.70)	19.67 (4.44)
L2 intercept var. (SE)	.41 (.64)	.36 (.60)	.36 (.60)
BIC	4173.78	3989.87	3254.24
AIC	4078.09	3839.29	3015.60
-2LL	4044.09	3785.29	2925.60

*Note.* All cross-level interactions between the time variables and level-2 predictors before, during, and after Christmas were tested and included in the model. Due to parsimony, only significant cross-level interactions are displayed in the table. UT = unfinished tasks. .\*\* p < .01, \* p < .05, † < .10.



Figure 1. Positive and negative affect before and after Christmas.



Figure 2. Anticipation Predicting the Development of Positive Affect before Christmas (left). Starting Level of Work Related Unfinished Tasks After Christmas Predicting the Development of Positive Affect after Christmas (right).



Figure 3. Accumulation of Personal Unfinished Tasks before Christmas Predicting the Development of Negative Affect before Christmas (left). Level of Relaxation During the Weekends After Christmas Predicting the Development of Negative Affect after Christmas (right).