J Bus Psychol (2015) 30:15–35
DOI 10.1007/s10869-013-9328-3

ORIGINAL PAPER

What Makes Us Enthusiastic, Angry, Feeling at Rest or Worried? Development and Validation of an Affective Work Events Taxonomy Using Concept Mapping Methodology

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Published online: 15 October 2013

Abstract
Purpose Affective events theory (AET) highlights the importance of work events as antecedents of distinct emotions, attitudes, and work behavior. However, few attempts have been made to systematically classify positive and negative work events. The aim of this study was to develop a comprehensive taxonomy of affective work events to provide a common frame of reference for future research and to improve communication among researchers regarding research on affective work events.
Design and Methodological Approach Positive and negative affective work events were sampled from employees using a diary study design. We used concept mapping methodology as an exploratory approach to analyze the data on affective work events.
Findings Two hundred eighteen employees reported 559 positive and 383 negative affective work events. We identified four positive and seven negative event clusters. Each event cluster showed a unique relationship with distinct affective states, even when controlling for the occurrence of events without clustering and trait affect. The results support the validity of our taxonomy.
Implications This study contributes to previous literature by providing a comprehensive yet parsimonious classification of both positive and negative affective work events. The affective work event clusters found reflect personal values of agency and communion. This classification of affective events as reflecting agentic and communal values provides a starting point for the integration of findings from previous studies.
Originality and Value The taxonomy developed in this study provides an integrative approach and a basis for future research to more differentially investigate relationships proposed by AET.

Keywords Affective events theory · Affective work events · Affect at work · Concept mapping methodology · Values

Introduction

Affective experiences resulting from specific events are present everywhere in daily work. They range from pride when accomplishing an important task to anger when having to talk to a rude customer, from enjoyment in pleasant activities to frustration when goal progress is lacking. The pervasiveness of affect-eliciting events is also reflected in numerous research approaches dealing with goal progress (Zohar et al. 2003), positive and negative feedback (Kluger and DeNisi 1996), and stress at work and at home (Bolger et al. 1989) to name just a few prominent examples. Affective events are defined as "things [that] happen to people in work settings" (Weiss and Cropanzano 1996, p. 11) to which "people react emotionally". In each of these research approaches, knowledge is gained of how the appraisal of specific events relates to affective experiences and in turn to important outcomes such as job attitudes, performance, and behavior. However, a comprehensive picture of the kind of events frequently occurring in the workplace, and of their specific effects is lacking.

In reviewing the literature on events as antecedents of affect in the workplace, Brief and Weiss (2002) noted that

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a lack of theoretical frame of reference hinders progress in this field. Furthermore, because of the lack of specific testable hypotheses, affective events theory (AET) (Weiss and Cropanzano 1996) has been characterized as a macrostructure instead of a testable theory (Weiss and Beal 2005). More knowledge of the kind of affective events that frequently occur in work settings is needed to derive specific propositions concerning how specific affective work events are related to affective states (Weiss and Cropanzano 1996). Knowing about the occurrence of specific affective events also has important implications for theorizing about the consequences of affective experiences elicited by affective events such as work engagement, performance, and creativity. As an example, Beal et al. (2005) argued that positive affect attributed to a task can act as an attentional pull, thereby increasing task performance, whereas positive affect resulting from other sources can distract from the task at hand. This argument points to the fact that it is necessary to know the source of affect when studying the affect-performance link.

The present study intends to contribute to this line of research by providing an exploratory approach to the differentiation of specific affective work events as sources of affective experiences. We aim to show that previous research on affective work events may be better understood if viewed within our integrative framework. The aim of the present study is to provide a frame of reference for future studies to build on and to improve communication in the research community by (a) establishing a comprehensive taxonomy of affective work events that integrates former research on work events, and (b) showing evidence of the validity of this taxonomy.

Affective work events are related to discrete affective states which differ in hedonic quality and in the level of activation. In this paper, we will explore relationships between specific affective work event categories and five distinct affective states from the affective circumplex that have also been identified in previous research (Feldman Barrett and Russell 1998; Watson et al. 1988): *Enthusiasm* as an activated positive affective state, *at rest* as a deactivated affective positive state, *anger* and *worry* as activated negative affective states, and *exhaustion* as a deactivated negative affective state. We base our assumptions on the relationships between affective work events and affective states on AET and cognitive appraisal theories which attribute the occurrence of affective states to cognitive appraisal processes that are initiated when individuals perceive events from the environment (cf. Elfenbein 2007; Lazarus 1991; Weiss and Cropanzano 1996). In this paper, we will first outline the propositions of AET (Weiss and Cropanzano 1996). We will then describe limitations in previous studies on affective work events before we describe the approach used in this study to first develop and then validate our taxonomy.

Affective Events Theory

According to AET (Weiss and Cropanzano 1996), the appraisal of affective events is seen as an important mechanism by which the work environment impacts job attitudes such as satisfaction and elicits affect-driven behavior such as helping. Furthermore, "work environments are seen as having an indirect influence on affective experience by making certain events, real or imagined, more or less likely" (Weiss and Cropanzano 1996, p. 12). Affective states directly influence work attitudes and in turn both attitudes and affective states determine behavioral responses.

Only a few studies have tested the core proposition of affective events as mechanisms in the relationship between characteristics of the work environment and job attitudes (Weiss and Beal 2005). One reason for this fact is the relative muteness of AET about the nature of affective events. No specific propositions about which kind of events will elicit positive or negative affective states have been proposed. AET has therefore been characterized as a "macrostructure" instead of a testable theory (Weiss and Beal 2005, p. 2).

Overview of Empirical Studies on Daily Affective Work Events

From previous studies on daily affective work events and relationships with affective states it is clear that researchers have assessed a broad range of affective work events[1]: anger and pride-eliciting events (Grandey et al. 2002), stressful events (Elfering et al. 2005), positive and negative interpersonal interactions (Dimotakis et al. 2011), goal-disruptive and goal-enhancing events (Zohar et al. 2003), to name just a few.

From our overview of empirical studies it becomes evident that the resulting categories of events are based on researchers' theoretical assumptions and orientations (occupational health, emotions, self-regulation). This procedure is unfortunate because the same event may be coded differently in these taxonomies. Consider the example of an employee being hindered in executing a task because the computer equipment is failing. In terms of self-regulation (Zohar et al. 2003), this event is coded as a goal-disruptive event. In terms of stress research, this would be an organizational problem

[1] A table providing details on the literature overview on affective work events can be provided by the authors upon request.

(Elfering et al. 2005), and in terms of emotions an anger-eliciting event, specifically task interference (Grandey et al. 2002) or job incompetence (Fitness 2000). Finally, in terms of psychological contracts, this event could be classified as psychological contract breach (N. Conway, personal communication, August 30, 2011; Conway and Briner 2002).

Positive affective work events were less often the subject of categorization, but a similar argument applies here as well: A co-worker praising an individual's work would either be coded as a positive interaction with co-worker (Dimotakis et al. 2011), as a pride-eliciting event, specifically performance feedback (Grandey et al. 2002) or as exceeded promises in terms of psychological contract theory (N. Conway, personal communication, August 30, 2011; Conway and Briner 2002). Clearly, the use of different labels for the same event hinders integration of findings. Thus, knowledge about what kinds of affective work events elicit affective experience accumulates slowly. For example, to test the assumption that progress is the most important affective work event leading to positive affect (Amabile and Kramer 2011), the identification and control of potential confounding positive events is needed.

Researchers often code participants' responses on the occurrence of affective work events into unitary positive (or negative) events (Gross et al. 2011). In studies using this unitary approach, there is an implicit assumption that all forms of positive (negative) events will have the same effect on employees' affective experiences, well-being or job attitudes. This assumption is questionable, however. For example, according to the triple-match principle (De Jonge and Dormann 2006), in stress research not all resources that are gained from positive events are equally effective in dealing with negative events and situations. Rather, resources provided through positive events need to be matched to the nature of negative or stressful situations. For instance, positive events involving social interactions rather than events that involve task-related goal attainment might build resources that help buffer against the effects of negative events involving social interactions. Events can thus be distinguished in terms of agency and communion as two fundamental dimensions of human experience (Fiske et al. 2007; Trapnell and Paulhus 2012). The agency dimension refers to personal competence or self-efficacy, and the communion dimension refers to interpersonal warmth or connectedness to others (for a review, see Judd et al. 2005). The two dimensions are similar to the notion that humans strive to maintain good relationships with others (need for relatedness) and to maintain control over their actions (need for control, need for competence; Deci and Ryan 2000), or to the motive of getting along versus getting ahead (Hogan 1982). Both dimensions have also been linked to affect in previous research (cf. Saragovi et al. 2002). The assumption of events as unitary concepts is also questionable in light of findings that some specific kinds of events are related to distinct affective experiences while others are not (Kiffin-Petersen et al. 2012). Hence, a better differentiation of affective work events is needed.

Taken together, previous studies on positive and negative affective work events differ widely in the way specific events were categorized and assessed. Furthermore, the unitary approach to positive or negative events has some disadvantages, and a differentiated approach is likely to yield novel insights. The lack of integrated study findings based on this unitary approach complicates the comparison of results across studies. The objective of this study was to build an in-depth understanding of affective work events and to develop a comprehensive and integrative taxonomy to provide a common frame of reference for future research. To achieve this objective, we first collected reports of affective work events in a heterogeneous sample of employees. To capture events closely to the moment of occurrence, these reports were collected twice daily. We then applied concept mapping as an exploratory method consisting of both a qualitative and a quantitative approach to examine affective work events. We expect to find multiple categories of affective work events using this approach.

Validating the Affective Work Events Taxonomy: Development of Hypotheses

To provide evidence for the validity of the taxonomy, we examined the relationships of the occurrence of specific positive and negative affective work event categories with a sample of distinct positive and negative affective states of the affective circumplex. We base our events taxonomy and relationships with affective states on cognitive appraisal theories of emotions (Lazarus 1991; Scherer 1988). According to cognitive appraisal theories, affective states are the result of a sequence of appraisal processes that are initiated when individuals perceive objectives and events from the environment (Elfenbein 2007). These appraisal processes can sometimes be deliberate but they usually proceed without conscious awareness (Elfenbein 2007; Ellsworth and Scherer 2003).

Although the various theoretical approaches differ in the number of and the labels used for appraisal dimensions (cf. Ellsworth and Scherer 2003), the main dimensions are described in the theory by Lazarus (1991). According to Lazarus, the first appraisal process (primary appraisal) involves an evaluation of whether the event or situation is beneficial or harmful (good or bad), whether it is relevant for an individuals' well-being, and whether it is congruent or incongruent with personal goals and needs. Individuals then engage in a process of secondary appraisal, involving an evaluation of personal resources, coping possibilities,

and expectations regarding changes in the motivational congruence of an event or situation. Primary appraisal is primarily related to the dimensions of valence and intensity and the perceived coping potential is relevant for the experience of more differentiated distinct affective states (cf. Lazarus 1991; Schmidt et al. 2010).

According to cognitive appraisal theories, modeling relationships between affective work events and affective states is accompanied by uncertainty (Conati and Zhou 2002). It is the psychological meaning of affective work events that matters for the individual and this in turn depends on both situational and individual characteristics (Ellsworth and Scherer 2003; Lazarus 1991). In our study, we follow a probabilistic rather than deterministic approach and deduce more general principles on specific affective work events and linkages to distinct affective states (Cohen et al. 1997). By investigating relationships between affective work events and affective states, we can only state that given the perception of a specific affective work event the experience of a distinct affective state is probable.

The occurrence of positive events at work is likely to be related to positive affective states (Frijda 1988). Positive events tend to be appraised as favorable, congruent with personal goals and needs, beneficial for goal facilitation, and related to approach and achievement motivation (Elliot 2006; Ellsworth and Scherer 2003; Weiss and Cropanzano 1996). In contrast, the occurrence of negative events is more likely to lead to negative emotions (Frijda 1988). Negative events tend to be appraised as incongruent with work-related goals and are related to deterrence and withdrawal (Ellsworth and Scherer 2003). Further, in the process of secondary appraisal, depending on the intensity of the negative event, individuals are likely to evaluate their ability to cope with this situation as being low.

Hypothesis 1 When specific positive affective work events occur, individuals experience higher levels of the distinct positive affective states *enthusiastic* and *at rest* than when there are no specific positive affective work events reported.

Hypothesis 2 When specific negative affective work events occur, individuals experience higher levels of the distinct negative affective states *angered*, *worried*, and *exhausted* than when there are no specific negative affective work events reported.

Furthermore, as outlined above, there are reasons to question the unitary approach to affective work events that implies homogeneous effects of all positive (or negative) events on affective states. We aimed to develop a taxonomy that consists of distinct categories covering conceptually similar affective work events. Challenging the unitary approach to affective work events, we expect the different categories of positive (or negative) events to have unique effects on affective states over and above the mere occurrence of unspecified positive (or negative) work events.

Hypothesis 1a The positive relationship between specific positive affective work events and positive affective states will be significant when controlling for the occurrence of unspecified positive affective work events.

Hypothesis 2a The positive relationship between specific negative affective work events and negative affective states will be significant when controlling for the occurrence of unspecified negative affective work events.

While AET proposes a moderating and cumulative effect of dispositional affect on the relationship between affective work events and affective states, cognitive appraisal theories assume that the affective processes are generalizable across individuals despite dispositional differences in affect (Ellsworth and Scherer 2003; Weiss and Cropanzano 1996). Thus, evidence of the validity of the taxonomy of affective work events can be shown when the taxonomy predicts affective states better than trait affect alone.

Hypothesis 1b The positive relationship between specific positive affective work events and positive affective states will be significant when controlling for trait positive affect.

Hypothesis 2b The relationship between specific negative affective work events and negative affective states will be significant when controlling for trait negative affect.

Method

The Method of Concept Mapping

Concept mapping is an appropriate methodology for analyzing data gathered through open-ended questionnaires (Jackson and Trochim 2002). It combines statistical analysis with participants' judgments to create conceptually related categories. Compared to the alternative methods for analyzing qualitative data, there are no forced category classifications that are pre-established by the researcher. Rather, sorters involved in the concept mapping create their own categories based on their understanding and individual perspective. Hence, the final classifications are based on the mental models of the sorters and are not biased due to researchers' expectations (Jackson and Trochim 2002; Kane et al. 2007). To account for disagreement in sorters' judgments, the classifications are statistically aggregated afterward. In the field of work and organizational psychology, concept mapping methodology has so

far been used in a study examining specific conflict resolution strategies in groups (Behfar et al. 2008) and in a study on employees' work-related goals (Zacher et al. 2009). We aimed to develop a comprehensive taxonomy of affective work events. Hence, as our research question was exploratory in nature the inductive approach of concept mapping was especially useful.

Procedure and Sample

Data came from 218 full-time employees working in different industries and professions throughout Germany, who participated in three diary studies. The only requirement for participation in the studies was access to the internet during working time.

Sample 1 consists of 114 participants, of a possible 280 employees of various organizations who were initially contacted via e-mail. Sample 2 consists of 41 employees from six IT and software companies whose management had agreed to participate in this study. In Sample 3, we used the diary data of 63 employees of a German university whose management board gave consent. In all three samples participation was voluntary and participants received a feedback report on the most interesting findings upon completion of the respective study. In all samples, some participants failed to report any positive or negative events and are thus not included in the analysis of this study.

In Sample 1 and Sample 2, data were collected over the course of two work weeks. Affective work events and affective states were assessed both at noon and in the afternoon using a questionnaire. In Sample 3, data were collected over the course of four work days. Affective work events were assessed using the noon questionnaire and affective states were assessed using the afternoon questionnaire. Before beginning the daily questionnaires, participants in all three samples completed one general online questionnaire to measure demographic variables, trait negative and positive affect and other more trait-like constructs.

The overall sample included 126 men (58 %) and 92 women (42 %). Mean age was 38.88 years (SD = 9.89 years) with a range from 18 to 62 years. In terms of educational background, five (2.4 %) participants had a general education secondary school degree, 48 (22.4 %) had a middle school degree, 62 (29.0 %) had a high school degree, 82 (38.3 %) had a university diploma, and 17 (7.9 %) had a doctoral degree. On average, participants had 16.71 years (SD = 10.59 years) of professional experience with a range from 6 months to 41 years. Participants held a variety of jobs in different branches and organizations. Participants in Sample 1 worked as administrative assistants, engineers, design draftsmen, physicians, and assistant medical technicians. Participants from Sample 2 were software developers, computer scientists, and specialists in information technology. Participants in Sample 3 held different administrative and non-academic jobs throughout the university (e.g., information technology officers, commercial clerks). The diversity of these samples helps us to generalize our findings across a wide variety of occupations.

Measures

In all three samples, we assessed affective work events to develop our taxonomy. We assessed affective states on a daily basis and trait affect once to test our hypotheses and validate the affective work events taxonomy.

Daily Online Questionnaire

Positive and Negative Affective Work Events Participants were instructed to note whether they had experienced certain events at work that they evaluated as being positive or negative during the last hours before completing the questionnaire (dichotomous item: yes/no for positive and negative events separately). In line with cognitive appraisal theories (cf. Ellsworth and Scherer 2003; Lazarus 1991), we assumed that an event needs to go through the primary appraisal process to be mentioned as a noteworthy event. In other words, an event is only worth reporting when the individual feels that the situation is beneficial or harmful (positive or negative), germane to well-being, and relevant or irrelevant for personal goals and needs.

Participants were then required to briefly describe the positive or negative affective work events in an open question format. The wording for positive events was as follows: "During the previous hours, did you experience an event or situation at work that you perceived to be positive (e.g., receiving praise or appreciation; solving a work-related problem or attaining a work goal)? If yes, what was the event about—please describe this event briefly." The instruction for negative events had the following wording: "During the previous hours, did you experience an event or a situation at work that you perceived to be negative (e.g., coming into conflict with someone; receiving bad news; experiencing technical problems at work)? If yes, what was the event about—please describe this event briefly." In the first daily questionnaire at noon, participants reported affective work events they had experienced since the beginning of the working day. In the second questionnaire, participants reported affective work events they had experienced during the time period between noon and the afternoon (in Sample 1 and Sample 2). Participants' responses typically comprised one sentence or statement per affective work event mentioned. Altogether, 218 employees reported and described 559 positive and 383 negative affective work events (a total of 942 events). For

the three samples, in 22.1 % of all 2,526 daily observations participants reported a positive event; in 15.2 % of all daily observations participants reported a negative event.

Positive and Negative Affective States In all the three studies, we assessed the positive activating affective state *enthusiastic* and the negative activating affective states *worried* and *angered*. In Sample 1, we also measured the deactivating affective states *at rest* and *exhausted* (Feldman Barrett and Russell 1998; Watson et al. 1988). Participants rated the extent to which they had experienced these affective states during the hours just before filling out the questionnaire on a scale ranging from 1 (*not at all*) to 5 (*extremely*).

The use of single-item measures is common in daily diary studies where brevity is important (Ong et al. 2006). Advantages of single-item measures are that they are easily understood by participants and brief to administer. We were interested in distinct affective states that consist of concrete singular attributes, and for these purposes single-item measures have been found to be sufficient (Rossiter 2002).

General Online Questionnaire

Demographic Variables Gender and age were measured with one item each.

Trait Positive and Negative Affect To be able to control for the influence of trait affect, the German translation of MacKinnon et al.'s (1999) short version of the positive and negative affect scales (Watson et al. 1988) was used to measure trait positive and negative affect. In the three samples, coefficient alpha ranged from 0.70 to 0.79 for the trait positive affect scale and from 0.72 to 0.82 for the trait negative affect scale.

Analysis

To develop the taxonomy, we used the concept mapping approach consisting of the following steps (Jackson and Trochim 2002; Kane et al. 2007):

(a) *Determination of the units of analysis* A unit of analysis should consist of one statement containing only one concept or idea (affective work event in our case). Single-concept statements are selected and written on cards for the sorting process.
(b) *Participants sort units of analysis into groups of similar concepts* It is recommended that at least ten sorters sort the concepts individually (Jackson and Trochim 2002). Sorters can create as many groups as they consider reasonable, there are no specified number of groups. The only two constraints are that sorters are not allowed to create a "miscellaneous" group and they cannot put all events in one group. Sorters then have to name each of their groups based on the content that is represented in the respective group.
(c) *Performing a cluster analysis to identify a final cluster solution* Sorters' individual judgments are aggregated and represented in distance matrix form. This is a binary square matrix with rows and columns representing statements which captures sorters' individual sortings together. To then decide on the final number of clusters that represent an appropriate solution for the data a cluster analysis is performed. Cluster analysis is an exploratory data analysis tool which aims at grouping objects of similar kinds into categories and developing taxonomies by organizing observed data into meaningful structures (Kane et al. 2007; Romesburg 2004). The output of cluster analysis is represented in a dendrogram (tree structure).
(d) *Naming the clusters* Labels for the final clusters need to be determined based on the names the original sorters had given to their groups of concepts and based on the researchers judgments of the label that best represents the respective cluster.

Application of Concept Mapping Analysis to Our Data

In our study, we followed these steps. We screened the affective work events mentioned by participants in the diary studies and we randomly chose 70 positive and 70 negative affective work events from the 590 positive and 383 negative affective work events for concept mapping. It was not possible to choose a larger amount of events due to data constraints of the program we used for the concept mapping procedure (*EZ Sort*, Beta version 1.8) (Dong et al. 2001). *EZSort* is an automated and freely accessible sorting tool that was developed by IBM. *EZsort* includes two packages: *Usort* provides an interface for the sorting procedure and *EZCalc* analyzes the sorting data gathered from *Usort*. Each of the 70 positive and 70 negative affective work events were written on a small card for the sorting process.

Twenty-eight psychology students participated as sorters in our study. Fourteen of them sorted the positive events, 14 sorted the negative events. Students were instructed to individually sort the affective work events into groups based on conceptual similarity and to name each of their groups. Sorters individual judgments were entered into the concept mapping tool *Usort* to prepare for data analysis. *EZCalc* analyzed the sort data by aggregating the group

names from each sorter for positive and negative events separately (Dong et al. 2001). *EZCalc* then represents the data in distance matrix form. In our study, this distance matrix is a 70 × 70 binary square matrix (columns and rows represent affective work events) that contains the aggregated distance judgments by adding all of the respective 14 judgments together.

To identify a final cluster solution, we performed hierarchical agglomerative cluster analysis using SPSS (Kane et al. 2007; Romesburg 2004). To decide on when two clusters can be linked together we used Ward's method which evaluates the distances between clusters based on an analysis of variance test. Ward's method is recommended for the concept mapping approach as it provides reasonable and interpretable solutions compared to other linkage rules and it is useful for distance-based data (Jackson and Trochim 2002; Kane et al. 2007). We made the final decision on the number of conceptual clusters by looking at the cluster dendrograms resulting from the cluster analysis and decided on the kind of classification that seems logical. Importantly, there is no single "correct" number of clusters but the decision is based on human judgment and depends on the level of specificity that is desired (Kane et al. 2007).

Results

Cluster Analysis

For positive events, six clusters were found. Two pairs of these six clusters were conceptually similar and were merged resulting in a four-cluster solution. Two of the clusters that were merged contained statements on goal attainment, problem solving, and personal success related to the completion of work tasks (e.g., for one cluster: "I successfully completed the preliminary work for my supervisor", "Held a successful presentation", and for the other cluster: "I could contain a long-standing problem", and "Could fix a severe error"). The two other clusters we merged covered affective work events that contained the perception of personal competence perceived in social interactions (e.g., for one cluster "I could exceed all customer expectations", "Assisted my supervisor and felt competent", and for the other cluster "The job interview with trainees worked out fine", "The discussion with colleagues on the phone was successful and constructive").

For negative events, a total of ten clusters were found. Three of these clusters were found to be conceptually similar enough to merge. The final number of negative event clusters was seven. The three clusters we merged covered statements such as overload, barriers that impede the completion of goals and hindrances to successfully completing work tasks (e.g., "Too many different tasks and projects that are not solvable"; "Acute lack of time for one cluster", "Lack of success due to a failure in preparation"; "Forgot one important step in the working process for the second cluster, and "Frequent questions from colleagues and customers that impede my work", "Many difficult and annoying calls from customers" for the third cluster). Two other clusters were merged due to their common focus on internal organizational and managerial problems affecting organizational climate (e.g., "My colleague resigned from his job due to problems with our supervisor"; "A colleague whom I recommended quit his probation period after 2 days" for one cluster. "Received unfair criticism from my supervisor"; "Problems with the management of the company" for the second cluster). We conducted the hierarchical cluster analysis for positive and negative events with three different orders of case entry. However, the resulting dendrograms were identical to the ones that were originally found and the representation of the clusters did not change.

To determine a label that best represented the content of the affective work event clusters, two advanced graduate students not previously involved in the study and one of the authors independently examined the statements in each of the four positive and seven negative event clusters and the names the original 28 sorters had given to their sorted groups of events. They independently chose a label for each cluster. Consensus was reached by discussion.

Coding of Remaining Events

The remaining 489 positive and 313 negative affective work events that could not be included in the concept mapping procedure due to capacity constraints of our concept mapping tool were sorted into the 11 categories by two graduate students. For both positive and negative affective work events inter-rater reliability was high (Cohen's $\kappa = 0.89$, $p < 0.01$), with the two raters showing a substantial level of agreement. For those few events the two student sorters disagreed on, one of the authors decided on the final assignment to one of the event categories.

Description of the Final Cluster Solution

The final taxonomy gathered from the concept mapping analysis is presented in Table 1. Four clusters for positive affective work events were generated. Altogether, 303 of the 559 reported positive events fall into the cluster of *goal attainment*, *problem solving*, *task-related success*. The occurrence of this event cluster is similar in content to events included in previous research (Table 1). For instance, as stated in the literature on goal-setting people tend to perceive a task to be more favorable when they have performed well compared to when they have failed to

Table 1 Description of the final cluster solution

Cluster name	Representative events mentioned	Absolute frequency of occurrence	Relative frequency of all measurement occasions/ all events of this valence (%/%)	Related concepts in previous studies	Comments
Goal attainment, problem solving, task-related success	"I met the deadline" "Had a successful presentation" "Discussed and finished the agenda for a workshop with colleagues" "Solved a technical problem together with a colleague" "Finishing of a work task"	303	11.98/54.20	Goal-enhancing events (Zohar et al. 2003); Perceived performance (Fisher and Noble 2004); Self-acknowledgment (Grandey 2000); Successfully completed a project or task (Mignonac and Herrbach 2004); Positive event related to work (Miner et al. 2005); Achievement (Herzberg 1966); Goal achievement, goal progress, involvement in problem solving (Basch and Fisher 2000); Problem solving (Kiffin-Petersen et al. 2012)	Frequently studied; Related to positive affect (Fisher and Noble 2004; Miner et al. 2005; Zohar et al. 2003), pleasure, comfort, and low fatigue (Mignonac and Herrbach 2004), being happy, proud, and satisfied (Kiffin-Petersen et al. 2012)
Praise, appreciation, positive feedback	"received praise" "my supervisor thanked me" "received praise for being credible" "I was given credit by the principal"	118	4.67/21.12	Positive event related to supervisor or coworkers (Miner et al. 2005); Received praise from supervisor or coworker or award and acknowledgment of achievement (Mignonac and Herrbach 2004); Feedback (Grandey et al. 2002); Feedback (Gaddis et al. 2004); Recognition (Herzberg 1965); Receiving recognition (Basch and Fisher 2000); Recognition service (Kiffin-Petersen et al. 2012)	Frequently studied; Related to hedonic tone (Miner et al. 2005), pleasure, comfort, and tiredness (Mignonac and Herrbach 2004)
Perceived competence in or through social interactions	"Assisted my supervisor and felt competent" "Was asked for help in a research project by colleagues from another department" "positive meeting, I was a best seller" "good conversation with a colleague" "successful teamwork"	95	3.75/16.99	Daily positive interaction with supervisor or coworker (Dimotakis et al. 2011); Positive event related to supervisor or coworkers (Miner et al. 2005); Socioemotional feedback (Grandey 2000); Work itself (Herzberg 1965); Giving advice/service (Kiffin-Petersen et al. 2012)	Not specifically studied in previous research but included in the broader category of positive social interactions; Related to positive affect (Dimotakis et al. 2011) and hedonic tone (Miner et al. 2005), being happy, proud, and satisfied (Kiffin-Petersen et al. 2012)

Table 1 continued

Cluster name	Representative events mentioned	Absolute frequency of occurrence	Relative frequency of all measurement occasions/ all events of this valence (%/%)	Related concepts in previous studies	Comments
Passively experienced, externally determined positive experiences	"was assigned to a new project leader" "service assignment in Spain" "received a promotion" "My colleague got a baby" "got a new job offer"	43	1.70/7.69	Received a promotion (Mignonac and Herrbach 2004); Recognized potential (Grandey et al. 2002); Responsibility and advancement (Herzberg 1966); Good news (Kiffin-Petersen et al. 2012)	Heterogeneous category was included in various ways in previous research; Related to pleasure, comfort, tiredness (Mignonac and Herrbach 2004), happy, and excited (Kiffin-Petersen et al. 2012)
Hindrances in goal attainment, obstacles in completing work tasks, overload	"acute lack of time" "too many different tasks and projects that are not solvable" "errors when completing a task—thus, additional expenses in working time" "additional strain due to new work tasks" "permanent questions from colleagues and costumers that impede my work"	86	3.41/22.45	Goal-disruptive events (Zohar et al. 2003); Negative event related to work (Miner et al. 2005); Overload at work (Bolger et al. 1989); Quantitative and qualitative overload (Elfering et al. 2005); Time conflicts (Hahn 2000); Role overload (Zohar 1997); Lack of goal achievement, workload (Basch and Fisher 2000)	Traditional work stressor; Related to hedonic tone (Miner et al. 2005), negative mood (Bolger et al. 1989), emotional exhaustion, and depersonalization (Zohar 1997); Anger-eliciting event (Hahn 2000)
Conflicts and communication problems	"communication problems between the female employees" "an unjustified reproach from a colleague" "an extremely negative discussion with an employee" "conflict with a colleague"	84	3.33/21.93	Cooperation problems (Elfering et al. 2005); Personal attacks or incivility (Grandey et al. 2002); Negative social interaction (Dimotakis et al. 2011; van Eck et al. 1998); Negative event related to coworker (Miner et al. 2005); Role conflict (Zohar 1997); Hostile communication and inability to communicate expectations (Hahn 2000); Interpersonal conflict with single other person (Bolger et al. 1989); Problems getting along with a supervisor or coworker (Mignonac and Herrbach 2004); Relations with peers (Herzberg 1965)	Frequently studied; Related to negative mood (Dimotakis et al. 2011), hedonic tone (Miner et al. 2005), emotional exhaustion, and depersonalization (Zohar 1997)

Table 1 continued

Cluster name	Representative events mentioned	Absolute frequency of occurrence	Relative frequency of all measurement occasions/ all events of this valence (%/%)	Related concepts in previous studies	Comments
Technical difficulties, problems with work tools and equipment	"technical problems with the internet" "the program crashed" "the components are damaged" "parts of production dropped out for 80 %"	66	2.62/17.23	Goal-disruptive events (Zohar et al. 2003); Task interference (Grandey et al. 2002); Negative event related to work (Miner et al. 2005); Organizational problems (Elfering et al. 2005)	Related to negative affect, fatigue (Zohar et al. 2003), and hedonic tone (Miner et al. 2005)
Managerial and internal problems, organizational climate	"an employee will leave the organization" "my colleague resigned from his job" "received unfair criticism from my supervisor" "endless discussion at the meeting without satisfying results" "problems with the management of the company"	53	2.10/13.84	Unjust treatment and job incompetence (Fitness 2000); Social stressors (Elfering et al. 2005); Policy/structure (Grandey et al. 2002); Well-liked coworker left your work unit (Mignonac and Herrbach 2004); Supervision (Herzberg 1965); Acts of management, company policies (Basch and Fisher 2000)	See justice research
Ambiguity, insecurity, loss of control	"Chaos! There is no business strategy" "ambiguous task in a project" "A second payment reminder appeared and nobody knows anything about it"	44	1.75/11.49	Organizational problems (Elfering et al. 2005); Policy/structure (Grandey et al. 2002); Unreliability (Hahn 2000); Role ambiguity (Zohar 1997); Company policy and administration (Herzberg 1965); Acts of influence or control (Basch and Fisher 2000)	Traditional stressor, see concept of role ambiguity; Related to emotional exhaustion and depersonalization (Zohar 1997)
Health problems and private issues	"I come down with a cold" "Have a hangover" "I suffer from stomach ache" "received bad news about a relative" "ineffective flat viewing"	29	1.15/7.57	Private life (Elfering et al. 2005); Personal lives interfering with work (Hahn 2000); Personal health (van Eck et al. 1998); Personal life (Herzberg 1965); Personal problems (Basch and Fisher 2000)	Rarely subject of analyses, excluded (van Eck et al. 1998); anger-eliciting event (Hahn 2000)

Table 1 continued

Cluster name	Representative events mentioned	Absolute frequency of occurrence	Relative frequency of all measurement occasions/ all events of this valence (%/%)	Related concepts in previous studies	Comments
Problems in interactions with clients or patients	"had a phone call with a short-tempered customer" "ineffective conversation with a customer"	21	0.83/5.48	Interpersonal conflict with a single other person (Bolger et al. 1989); Personal attack or incivility by customer (Grandey et al. 2002); Client dissatisfaction with service (Hahn 2000); Role conflict (Zohar 1997)	See also concept of customer-related social stressor and research on emotion work; Anger-eliciting event (Grandey et al. 2002; Hahn 2000); Related to emotional exhaustion and depersonalization (Zohar 1997); Strongest predictor of negative mood (Bolger et al. 1989)

reach their goals (Kiffin-Petersen et al. 2012; Locke and Latham 2002).

The second most frequently experienced form of positive events fall into the cluster *praise*, *appreciation*, *positive feedback*. The content of this cluster is consistent with the notion that *recognizing* is an important leader behavior (Yukl 2001) and events of this type have been included frequently in previous studies (under different labels, Table 1).

Events that fall into the cluster *perceived competence in or through social interactions* are consistent with the importance of social work design features (Grant et al. 2007; Humphrey et al. 2007) and research showing that individuals interact with others to regulate their emotions or to deal with stressful situations (Daniels and Harris 2005). This type of event has not been included in previous research in this specific form but could have been subsumed under the label positive social interactions. *Passively experienced*, *externally determined positive experiences* were mentioned less frequently. Still, the content of this event cluster is similar to events included in previous research (Table 1).

A total of seven clusters were generated for negative events. Events reported most frequently were in the cluster *hindrances in goal attainment*, *obstacles in completing work tasks*, *overload*. The content of this cluster is similar to research on task-related stressors in organizations, specifically stressors in the regulation of actions (for a review see Sonnentag and Frese 2003) or hindrance-related stressors (LePine et al. 2005) (Table 1).

Events in the cluster *conflicts and communication problems* were the second most frequently occurring type of negative affective work event. The emergence of this cluster reflects the importance of conflict in work settings (De Dreu et al. 1999), which is a frequently studied type of event in previous research (using different labels; Table 1).

The cluster *technical difficulties*, *problems with work tools and equipment* is similar to regulation obstacles or hindrance-related stressors, but more specifically related to (technical) equipment. The emergence of this cluster is consistent with the notion that technology is an additional source of stress among employees (Smith et al. 1999). This type of event has not been included in previous research on affective work events. The type of events that fall into the cluster of *managerial and internal problems*, *organizational climate* have frequently been included in previous research under varying labels (Table 1).

Events in the cluster *ambiguity*, *insecurity*, *loss of control* are similar to the concept of role ambiguity (Katz and Kahn 1978), and have been included in previous research under different labels (see Table 1). Events in the cluster *health problems and private issues* have been found in previous research, but have been omitted from the analyses

due to content overlap with well-being outcomes (van Eck et al. 1998). The emergence of this type of event may nevertheless be of interest in light of research on work–home interference (Rothbard and Wilk 2011). *Problems in interactions with clients or patients* were reported less frequently. The emergence of this type of event is consistent with the previous research on customer-related social stressors and emotional labor (Grandey 2000).

Validation of the Cluster Solution

To cross-validate our findings on the 11 event clusters, we repeated the concept mapping analysis with a random sample of an additional 70 positive and 70 negative affective work events using the judgments of 28 students who did not participate in the first mapping process (Jackson and Trochim 2002; Kane et al. 2007). For positive events, nine clusters were found. Cluster analysis results suggested merging some clusters that were conceptually similar so that five clusters remained. We found a total of ten clusters for negative events. According to the cluster analytical results, some clusters were conceptually similar enough to merge, resulting in a seven-cluster solution. Two other graduate students and one of the authors independently examined the affective work events mentioned in the positive and negative event clusters and the labels the 28 sorters had given to their sorted categories to determine a label for each of the 11 clusters. Again, consensus was reached by discussion.

Results of the second clustering are shown in Table 2. We could replicate the cluster on *goal attainment*, *task-related success*. Events on problem solving appeared as a separate cluster. The cluster on *hindrances in goal attainment*, *obstacles in completing work task*s could also be replicated. *Overload* appeared as a separate cluster. The cluster on *conflicts and communication problems* was found to consist of the two facets *communication and internal problems* and *conflicts and communication problems with colleagues*. The cluster on *problems in interactions with clients or patients* was extended to *problems with supervisors and managerial problems*. The content of the cluster *managerial and internal problems*, *organizational climate* was largely represented in the cluster *negative environment and circumstances*, *negative subjective well-being*. The only two clusters that did not appear in the second clustering were *ambiguity*, *insecurity*, *loss of control* and *health problems and private issues*. Nevertheless, we decided to keep them in the taxonomy as they appeared to be relevant in the first clustering and might explain unique variance in the distinct positive and negative affective states (see "Test of Hypotheses: Investigating Relationship between Event Clusters and Distinct Affective States") (Basch and Fisher 2000; van Eck et al. 1998; Zohar 1997).

In summary, most of the 11 clusters from the original clustering could be replicated with only slight differences and nuances in the affiliation of affective work events to the respective clusters. Thus, we maintained the original cluster solution and the labeling of affective work event clusters and tested our hypotheses based on this original solution.

Test of Hypotheses: Investigating Relationship between Event Clusters and Distinct Affective States

To test Hypotheses 1 and 2, we used hierarchical linear regression analysis (HLM 6; Raudenbush et al. 2004) because our data had a two-level structure: Variables measured at the day-level were nested within persons. The results of testing Hypotheses 1 and 2 are represented in Table 3. The relationships are based on correlation coefficients on the day-level (within-person level) of analysis ($n = 830$ observations; for *at rest* and *exhausted*: $n = 552$) and represent unstandardized parameter estimates from fixed-coefficients HLM models with single day-level predictors and no between-person level predictors. To better evaluate the strength of the relationships between affective work events and affective states, we calculated the amount of within-person variance explained in the outcome variable by the respective event cluster (R^2) as an effect size measure (Hofmann et al. 2000).

Hypothesis 1 stipulated that when specific positive affective work events are reported, individuals experience higher levels of positive affect than when there are no specific positive events reported. As can be seen in Table 3, all positive event clusters are positively related to the highly activated state of *enthusiastic*, with the event cluster of *goal attainment*, *problem solving and task-related success* showing the strongest relationship. All but one of the positive events are positively related to *at rest*. The exception is the cluster *passively experienced externally determined positive experiences.* These results generally support Hypothesis 1.[2]

[2] Affective event clusters are coded as dichotomous variables (0 = event of the respective cluster was not reported, 1 = event was reported). The coefficients in Table 3 can be interpreted as follows: The predicted score in the dependent variable (distinct positive/negative affective states) increases or decreases by the respective estimated value for one unit increase in the respective affective event cluster (event from this cluster is reported vs. not reported). Hence, the regression slope represents the difference in distinct positive/negative affect between observations when the respective affective event was reported vs. was not reported. For instance, the predicted score in *enthusiastic* increases by 0.48 when an event from the cluster *goal attainment, problem solving, task-related success* is reported compared to when an event from this cluster is not reported.

Table 2 Comparison of affective work event clusters from the first and second clustering

First clustering Cluster name	Second clustering (cross-validation of original cluster solution) Cluster name and representative events
Goal attainment, problem solving, task-related success	Goal attainment, task-related success: "A new task was successfully completed" "I completed some important phone calls" Problem solving: "Solved a technical problem together with a colleague" "An interesting problem occurred which I could successfully manage"
Praise, appreciation, positive feedback	Praise, positive feedback, perceived competence: "Received appreciation for good performance" "I was paid a compliment for writing a good article"
Perceived competence in or through social interactions	Positive social interactions: "Attended a funny meeting with good atmosphere. We laughed a lot" "Good meeting with colleagues"
Passively experienced, externally determined positive experiences	Positive external work conditions, experiences, subjective well-being: "Some funny jokes" "I was listening to an interesting talk"
Hindrances in goal attainment, obstacles in completing work tasks, overload	Hindrances in goal attainment, obstacles in completing work tasks: "Permanent interruptions in the work flow" "I was interrupted by colleagues and customer calls" Overload: "Too many problems that need to be solved simultaneously" "Overload due to so much work and only a few employees"
Conflicts and communication problems	Communication and internal problems: "Difficulties finding agreement upon a meeting" "My professional opinion was ignored" Conflicts and communication problems with colleagues: "Sloppy work was done by colleagues" "Problem with a colleague"
Technical difficulties, problems with work tools and equipment	Technical difficulties, problems with work tools and equipment: "New version of a program does not work" "The PC was broken-down"
Managerial and internal problems, organizational climate	Negative environment and circumstances, negative subjective well-being: "Reorganization of my office was arduous" "I had a visit at a hospital. Its situation is desperate"
Ambiguity, insecurity, loss of control	–
Health problems and private issues	–
Problems in interactions with clients or patients	Problems in interactions with clients, patient or supervisors, managerial problems: "Unfair criticism by a customer" "Supervisor mentioned that my performance is not adequate"

Hypothesis 2 stipulated that when specific negative affective work events are reported, individuals experience higher levels of distinct negative affective states than when there are no specific positive events reported. The activated negative state of *angered* is significantly related to all negative event clusters (except for the cluster *health problems and private issues*), with *conflicts and communication problems* showing the strongest relationship. The activated negative affective state of *worried* is positively related to three of the seven negative event clusters: *technical difficulties*, *problems with work tools and equipment; ambiguity*, *insecurity*, *loss of control*, and *conflicts and*

Table 3 Relationships of specific work event clusters with affective states

Cluster name	High activation positive enthusiastic[a]	Low activation positive at rest[b]	High activation, negative angered[a]	High activation, negative worried[a]	Low activation negative exhausted[b]
Goal attainment, problem solving, task-related success	++	+	−−	−	−
	0.48**(0.06)	0.18*(0.07)	−0.55**(0.08)	−0.26**(0.06)	−0.21*(0.07)
	6.77 %	1.31 %	5.98 %	1.91 %	1.90 %
Praise, appreciation, positive feedback	+	+	−	o	−
	0.30** (0.09)	0.33** (0.11)	−0.34*(0.11)	−0.09 (0.09)	−0.25*(0.10)
	1.11 %	2.48 %	1.33 %	0.08 %	1.63 %
Perceived competence in or through social interactions	+	+	−	o	o
	0.27* (0.10)	0.31**(0.12)	−0.47**(0.12)	−0.16 (0.09)	−0.20 (0.11)
	0.57 %	0.89 %	2.07 %	0.46 %	0.91 %
Passively experienced, externally determined positive experiences	+	o	−	o	o
	0.27*(0.14)	0.26 (0.21)	−0.34* (0.17)	−0.06 (0.13)	0.13 (0.20)
	0.73 %	0.17 %	0.69 %	0.09 %	0.02 %
Hindrances in goal attainment, obstacles in completing work tasks, overload	−	o	+	+	o
	−0.39** (0.19)	−0.16 (0.12)	0.49** (0.12)	0.23* (0.09)	0.13 (0.12)
	1.89 %	0.14 %	2.66 %	1.06 %	0.29 %
Conflicts and communication problems	−	−	++	+	o
	−0.48** (0.10)	−0.52** (0.12)	0.87** (0.12)	0.27** (0.10)	0.08 (0.11)
	2.11 %	4.28 %	10.12 %	0.50 %	0.05 %
Technical difficulties, problems with work tools and equipment	−	−	+	+	o
	−0.36** (0.11)	−0.37** (0.13)	0.53** (0.14)	0.28** (0.11)	0.07 (0.12)
	1.67 %	1.48 %	1.79 %	0.97 %	0.13 %
Managerial and internal problems, organizational climate	−	o	+	o	o
	−0.41**(0.13)	−0.19 (0.16)	0.62** (0.15)	0.24* (0.12)	0.25 (0.15)
	0.97 %	0.32 %	1.99 %	0.29 %	0.81 %
Ambiguity, insecurity, loss of control	−	−	+	+	+
	−0.46** (0.13)	−0.63** (0.17)	0.67** (0.16)	0.58** (0.13)	0.52** (0.16)
	1.44 %	2.69 %	2.61 %	2.84 %	2.14 %
Health problems and private issues	−	o	o	o	++
	−0.42** (0.16)	−0.29 (0.23)	−0.19 (0.19)	−0.03 (0.16)	0.89** (0.21)
	0.61 %	0.26 %	0.07 %	0.02 %	10.85 %
Problems in interactions with clients or patients	−	o	+	o	+
	−0.34* (0.20)	−0.35 (0.22)	0.70** (0.24)	0.07 (0.19)	0.60** (0.21)
	0.38 %	0.31 %	0.67 %	0.02 %	1.48 %

Unstandardized coefficients are reported (standard errors in brackets). Within-person variance (in %) explained by the predictor was calculated using the formula: $R^2 = (\sigma^2_{\text{null model}} - \sigma^2_{\text{fixed-effect model}})/\sigma^2_{\text{null model}}$ (Hofmann et al. 2000)

++/−− Indicates a significant positive/negative relationship with more than 5 % of the variance explained by the predictor. +/−indicates a significant positive/negative relationship with less than 5 % of the variance explained by the predictor. o indicates no significant relationship

[a] $n = 830$ observations based on all samples

[b] $n = 552$ observations based on $N = 114$ from Sample 1

communication problems. The low activated negative affective state of *exhausted* is positively related to three negative event clusters (*health problems and private issues; problems in interactions with clients and patients; ambiguity*, *insecurity*, *loss of control*) with *health problems and private issues* explaining 10.85 % of variance in feeling *exhausted*. However, this effect is probably due to an overlap in content of the predictor and the outcome (van Eck et al. 1998). Further, *exhausted* is unrelated to the other four negative event clusters. Together, these results partially support Hypothesis 2. Taken together, there are no two event clusters with identical relationships with the five

affective states. Moreover, although *angered* and *worried* are both high activation negative affective states, their relationships with preceding events differ (Table 3).[3] One explanation for this finding might be that *angered* and *worried* differ with regard to their motivational direction or regulatory focus. Whereas feeling *angered* relates to approach motivational tendencies or promotion orientation, *worried* is connected to an avoidance motivational orientation or prevention orientation (Baas et al. 2008; Carver and Harmon-Jones 2009).

Hypothesis 1a and 2a stated that the relationships of specific positive (negative) affective work events and positive (negative) affective states remain significant also when controlling for the occurrence of unspecified positive (negative) events. To test these hypotheses, we investigated whether the event clusters explained variance in affective states over and above a dichotomous variable that assessed the mere occurrence of positive or negative affective work events (any event occurred versus no event occurred) without assigning it to one of the event clusters. The specific negative and positive event clusters explained variance in three of the five affective states over and above assessing the occurrence of a positive and negative event without clustering. We found that including the positive event clusters in the analyses explained 1.1 % variance in *at rest* over and above a dichotomous variable for the occurrence of positive events without clustering. Including the negative event clusters explained 7.53 % variance in *exhausted* and 4.34 % in *angered* over and above a dichotomous variable for negative events without clustering. On the contrary, the negative event clusters explained only 0.76 % variance in *worried* over and above a dichotomous variable for negative events. For the state of *enthusiastic* the distinct event clusters did not explain notable variance beyond the broad assessment of positive affective work events as a dichotomous variable. Hence, for the prediction of *enthusiastic* and *worried* the differentiation between specific event clusters does not seem to be relevant compared to the prediction of the remaining affective states. These results partly support Hypothesis 1a (with an exception for *enthusiastic*) and partly support Hypothesis 2a (with an exception for *worried*).

Hypothesis 1b and 2b stipulated that the relationship of positive (negative) affective work events and positive (negative) affective states remains significant also when controlling for trait positive (negative) affect. We calculated whether the specific event clusters explained variance in affective states over and above the influence of trait affect as a between-person predictor in multilevel regression analyses. Predictors at the day-level were grand-mean centered in these analyses (Hofmann et al. 2000). The results revealed that the distinctive event clusters explained variance in all affective states beyond the influence of trait positive and negative affect. For example, the four positive event clusters explained 17.12 % in *enthusiastic* and 6.89 % additional variance in *at rest* beyond the effect of trait positive affect. Further, the negative event clusters explained 29.56 % in *angered*, 5.54 % in *worried* and 8.92 % in *exhausted* beyond the effect of trait negative affect. These results support Hypotheses 1b and 2b. Together, these findings lend support for the predictive power of the distinct event clusters that result from our study.

Discussion

Summary of Results

AET highlights the importance of the appraisal of work events as proximal antecedents of affect and distal antecedents of attitudes and work behavior (Weiss and Cropanzano 1996). However, based on our overview of the literature one can conclude that few attempts have been made to systematically classify positive and negative affective work events (see for an exception Basch and Fisher 2000). Rather, a clear picture of the kind of events that occur frequently in the workplace is lacking. The purpose of this study was to develop a comprehensive and integrative taxonomy of positive and negative affective work events to provide a common frame of reference for future studies to build on and to improve communication in the research community on the study of affective work events.

Using the exploratory technique of concept mapping methodology, we were able to identify 11 affective work event clusters.[4] Further, we examined the validity of our taxonomy by investigating the relationships between each affective work event cluster and some affective states from the affective circumplex. Our findings demonstrate the usefulness of differentiating between the distinct positive and negative event clusters and lend support for the validity of our taxonomy. The event clusters explained variance in affective states (apart from *enthusiastic* and *worried*) over

[3] Based on the results of the second clustering suggesting separate clusters for *problem solving* and *overload* (see Table 2), we replicated the hypothesis testing by adding problem solving and overload as distinct clusters in our taxonomy (a total of 13 event clusters). However, it appeared that in contrast to the other 11 work event clusters, problem solving and overload as separate clusters were unrelated to any of the five distinct affective states and did not explain any variance in affect. This confirms our approach to decide on a final taxonomy with 11 affective work events.

[4] Interestingly, four very similar positive event clusters were identified in the success model of job stress (Grebner et al. 2010) using content analysis of employees narratives.

and above the broad assessment of affective work events as a dichotomous variable. Further, the relationships between positive (negative) affective work events and positive (negative) affect remained significant beyond influences of trait affect that are assumed to additionally predict affective states (Watson et al. 1988; Weiss and Cropanzano 1996). These findings lend support for the meaningfulness of clustering affective work events and they confirm the validity of our taxonomy.

Our taxonomy offers some advantages. Compared to previous approaches to classify affective events (Basch and Fisher 2000), our taxonomy is more economical while still comprehensive. While similar event clusters emerged (e.g., *praise*, *appreciation*, *positive feedback* is similar to *receiving recognition*) our taxonomy only distinguishes 11 clusters, not 27 as in the event–emotion matrix. Compared to another detailed classification by Grandey et al. (2002), our taxonomy is more comprehensive, including event clusters such as *health problems and private issues* and *hindrances in goal attainment*, *obstacles in completing work tasks*, *overload.* Furthermore, deviating from Grandey et al.'s (2002) approach to group events by selected emotions (pride and anger), our taxonomy is open about the relationship to specific affective states, and the results of our correlational analyses revealed that in fact each cluster of events is related to more than one discrete affective state.

Theoretical Implications

This study adds to the literature in at least two ways: First, our taxonomy integrates previous theory and research by providing evidence of the kinds of experiences that are judged as important in the work day and by linking these affective events to personal values. Second, the present study contributes to the refinement of AET. It provides a basis for specifying some propositions according to which specific affective work events are related to distinct affective states. Below, we will describe these contributions in more detail.

Affective Work Events and Personal Values

As noted above, the broad definition of affective events as "things [that] happen to people in work settings" (Weiss and Cropanzano 1996, p. 11) to which "people react emotionally" has led researchers to study a broad variety of events (see Table 1). Our study shows that these various approaches can be subsumed into 11 clusters. Appraisal theories suggest that events stand out from the normal stream of experience because of the appraisal that something is at stake (Elfenbein 2007; Kiffin-Petersen et al. 2012). In an abstract sense, personal values are threatened (Frijda 1986; Scherer 1984). Personal values are the guiding principles of people's lives and can be seen as motivational sources and as cognitive representations of what individuals strive for (Schwartz 1992). Personal values can be described in various ways, but one approach is to distinguish between agency and communion as two fundamental dimensions of human experience (Fiske et al. 2007; Trapnell and Paulhus 2012).

We suggest that the 11 event clusters can be grouped further into a two-dimensional space spanned by agency and communion. Figure 1 displays a conceptual space for the 11 event clusters based on their orientations regarding agentic and communal values. One of the authors and a graduate student independently grouped the 11 clusters on this two-dimensional space based on whether or not their content reflects agency, communion or both. Through discussion they came up with the illustration in Fig. 1. For example, the cluster of *perceived competence in or through social interactions* is high on both communion and agency. Individuals experiencing this type of event are likely to feel efficacious and connected to others at the same time. The cluster of *communication problems or conflicts* is high on communion but low on agency because individuals experiencing this type of event are likely to experience a threat of their connectedness to others; and the cluster *health problems and private issues* is low on both dimensions.

Previous attempts to classify affective work events can be integrated into these two dimensions. For example, Zohar et al. (2003) studied the effect of goal-facilitating and goal-disruptive events on affect while controlling for the occurrence of socially rewarding events. Goal-facilitating and goal-hindering events are high on the agency dimension, while socially rewarding events are high on the communion dimension. Similarly, receiving praise from a supervisor was frequently examined in previous studies. We suggest that this is an event that is characterized by both high agency and communion. In contrast, the event cluster *perceived competence in or through social interactions* was not identified in previous research, but can also be seen as being high on both agency and communion (see Fig. 1).

This treatment of affective work events as related to agency and communion provides a starting point for the integration of findings from previous studies. For instance, whereas events from the clusters *conflicts and communication problems* and *managerial and internal problems*, *organizational climate* can be traced back to different research traditions and theoretical frameworks (Dimotakis et al. 2011; Fitness 2000; Grandey et al. 2002), they all refer to a threat to communion values. Similarly, making progress on important goals (Amabile and Kramer 2011; Zohar et al. 2003) allows individuals to experience themselves as agentic. Thus, the result of our study can shed light on the question of what affective work events were judged to be important for employees independent from

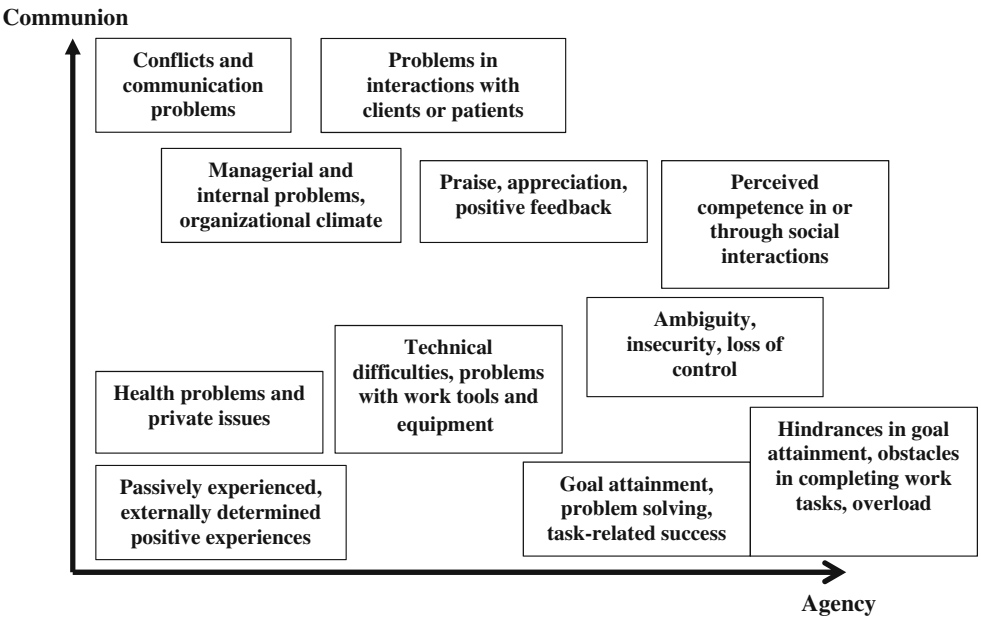

Fig. 1 Conceptual space for the 11 affective event clusters based on their orientations regarding agentic and communal values

different theoretical assumptions and orientations. Linking affective work events to agency and communal values represents a theoretical integration.

Refinement of AET

The present study refines AET by showing that affective work events are differentially related to discrete affective states such that there are no two event clusters with identical relationships with the five affective states. These results challenge the unitary approach where unspecified positive and negative events are assumed to have the same effect on employee's affect and outcomes of affective experiences (cf. Gross et al. 2011). As described in the "Introduction", according to the triple-match principle (De Jonge and Dormann 2006), in stress research not all resources that are built in positive events are equally effective in dealing with occurring negative events and situations. We suggest that positive events buffer the effect of negative or stressful situations only when the nature of positive and negative events is similar. For instance, positive events fulfilling communion values might build resources that help buffer against the effects of negative events threatening communion values. This idea might explain why previous research has failed to find a general buffering effect of positive events (cf. Gross et al. 2011). Distinguishing between communion-related and agency-related positive events might help clarifying the conditions when positive events promote well-being and prevent fatigue.

Limitations and Future Research

Our taxonomy on affective work events is promising, but it has some limitations and needs further investigation to prove its value. Although we used three heterogeneous samples of employees, the generalizability of our results is limited to white-collar workers from a Western culture who have the opportunity to access the internet during working time. The frequency and types of events might be specific for this sample. For instance, events in the cluster *problems in interactions with clients or patients* may appear more frequently in samples consisting of a higher proportion of service providers. More research is needed to determine the generalizability of our findings, potentially using other data collection devices and using samples that differ in professions and in cultural background.

Diary studies do not allow for clear causal inferences (Bolger et al. 2003; Ohly et al. 2010). Thus, the conclusion that the appraisal of affective work events cause affective states might be premature. Specifically, it could be that individuals experiencing negative affect are more likely to report negative events because these types of events are more accessible in memory (mood congruence effect, Fiedler 1990; Forgas 1995). This differential accessibility would inflate the relationship between events occurrence and the experience of affective states. Although we cannot rule out this effect completely, our analyses also revealed that the event occurrence in general had incremental validity over and above trait affect, indicating that at least the differential accessibility due to dispositional influence might not be a great problem.

As another potential limitation, in the daily online questionnaires, participants differentiated between positive and negative work events. In line with cognitive appraisal theories (Ellsworth and Scherer 2003; Lazarus 1991), we assumed that any event needs to go through the primary appraisal process to be mentioned as a noteworthy event at

all. However, using another approach we could have asked participants for work events without pre-determining the valence of event categories in advance.

Importantly, in the majority of daily observations, participants did not report any positive or negative event at all. One reason for this generally low rate of reported events could be participants' reluctance to invest extra effort by repeatedly reporting affective work events over several days. Further, the likelihood of responding as opposed to non-responding can be predicted by certain personal characteristics (Spitzmuller et al. 2006). For example, the chronic use of expressive suppression as an affect-regulation strategy, that may be associated with memory distortions regarding affective work events, might have influenced the amount of affective work events reported by certain participants (Richards and Gross 2006). The amount of effort in describing events could be alleviated using a more parsimonious checklist based on the results of our study.

There are several promising avenues for future research. First, based on our findings future research can more systematically and differentially investigate the relationships between work features and specific affective work events that are proposed in AET (Weiss and Cropanzano 1996). For instance, we expect that positive events such as *praise*, *appreciation and positive feedback* are more likely to be reported in an organizational environment with a strong feedback culture, that values a collective climate and emphasizes social support such that people take a personal interest in one another (Humphrey et al. 2007). In contrast, *conflicts and communication problems* might be more likely to occur in work environments where social support and interest in employees' welfare is low and where there is a lack of positive social climate (Frese 1999; Morgeson and Humphrey 2006).

Second, our taxonomy is based on the probabilistic nature of the relationship between affective work events and affect. We can only state that given the occurrence of specific events, the experience of a certain affective state is probable. However, AET states that the appraisal of affective work events is an important mechanism by which the work environment impacts affective states (Weiss and Cropanzano 1996). Future research is thus needed to build on our probabilistic approach and integrate the role of appraisal dimensions in the linkage between specific affective work events and distinct affective states.

Third, as our study could only examine a limited range of affective states future research may investigate relationships between the specific affective work event clusters and other distinct affective states not included in our study that may be differentially predicted by specific antecedents (e.g., feeling pride, gratitude, guilt, pity) (Weiner 1985).

Fourth, by making use of our differentiated approach of affective work events as sources of affective experiences, future research may focus on contributing to knowledge on the relationship between affect and performance-related outcomes such as task performance, creativity, and work engagement (Bledow et al. 2011; Fritz and Sonnentag 2009). Examining the dynamic processes of daily performance, affect can either enhance the focus on the task at hand or distract from it, thereby increasing or decreasing performance in so-called performance episodes (Beal et al. 2005). Following this logic an employee experiencing *goal attainment*, *problem solving*, *task-related success* would be better able to focus on the task at hand, and thus achieve better results than when the same employee receives *praise*, *appreciation*, *positive feedback* (Kluger and DeNisi 1996). Similarly, the negative affect resulting from negative affective events such as *hindrances in goal attainment*, *obstacles in completing work tasks*, *overload* might help an employee to focus on the task and persist in his or her efforts whereas negative affect resulting from other, non-task-related events would distract the employee's attention. Thus, we suggest that our taxonomy of affective work events can be used by future research to test boundary conditions of the effects of positive and negative affect on performance and similar outcomes.

Practical Implications

Our study has implications for how organizations and supervisors can influence affective experiences of employees. We propose that organizations and supervisors may improve employees' level of positive affect and reduce negative affect by offering opportunities for goal attainment, problem solving and task-related success. Employees need to develop the competencies and skills that are required to perform effectively through receiving, training coaching, and direct support. Hence, employees would benefit from a positive organizational climate that emphasizes development and learning (Bandura 2000). Further, the experience of praise and appreciation is perceived to be an important positive event for employees that can be directly initiated by supervisors.

At the same time, the occurrence of negative events such as hindrances in goal attainment, obstacles in completing work tasks, overload, ambiguity and insecurity should be minimized to provide ideal working conditions. Developing an awareness for the experience of positive as well as negative events and actively communicating their affective content, e.g., through celebrating positive experiences and discussing suggestions for changing negative situations, can be a good starting point to create a positive organizational climate (Kiffin-Petersen et al. 2012).

Conclusion

The comprehensive taxonomy of affective work events developed in this study can be used to derive and test specific propositions based on AET and related research. By examining their causes and consequences, a better understanding and a more integrated picture of affective experiences at work may be possible.

Acknowledgments We thank Cynthia Fisher, Sabine Sonnentag, Wendong Li, and Anya Johnson for their helpful suggestions and comments on an earlier version of this manuscript.

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