The Daily Motivators: Positive Work Events, Psychological Needs Satisfaction, and Work Engagement

Nan Wang

Lingnan University, Hong Kong

Jinlong Zhu*

Renmin University of China, China

Christian Dormann

Johannes Gutenberg University of Mainz, Germany

Zhaoli Song

National University of Singapore, Singapore

Arnold B. Bakker

Erasmus University Rotterdam, Netherlands

This study examines the motivational effects of daily positive work events. Drawing on self-determination theory, we investigated the motivational mechanism of two clusters of commonly encountered positive work events—achievement and recognition events—from a within-person perspective. Specifically, we argue that achievement events and recognition events influence subsequent work engagement through satisfying different psychological needs. We tested our model using experience-sampling data from 200 full-time employees over eight workdays. As hypothesised, after controlling for positive affect as an additional mediator, both achievement and recognition events had positive effects on work engagement through psychological needs satisfaction. The results also revealed that achievement and recognition work events had differentiated effects in satisfying different psychological needs. These results shed light on the motivational function of positive work events above and beyond the affective mechanism and explicate the processes through which different types of positive work events relate to work engagement.

---

* Address for correspondence: Jinlong Zhu, School of Business, Renmin University of China, No. 59 Zhongguancun Street, Beijing 100872, P.R. China. Email: zhujinlong@rmbs.ruc.edu.cn

Although positive work events frequently occur at work, their influences are often reduced to the buffering effect of negative events in the organisational psychology literature (Bono, Glomb, Shen, Kim, & Koch, 2013). Nonetheless, some recent research has begun to explore the building-up functions of positive work events in daily work life and other unique contributions of positive work events (e.g., Amabile & Kramer, 2011; Bono et al., 2013). This stream of research indicates that positive work events serve important functions in employees' daily life that cannot be achieved and understood by a mere focus on or removal of negative events. For example, based on analyses of more than 12,000 diary entries from 238 knowledge workers, Amabile and Kramer (2011) highlighted the significant role of positive work events, especially small progress, in fostering the "inner work life" (i.e., perceptions, emotions, and motivational levels at work) of knowledge workers. Bono et al. (2013) found that positive work events and positive intervention had unique contributions in reducing stress and improving health.

To date, following a tradition within psychological research to focus on negative phenomena and their prevention in general (Seligman & Csikszentmihalyi, 1996), the field has remained rather skewed towards a focus on negative events and their impact. Despite the promising potential benefits of positive work events, we have limited knowledge about the outcomes and, more importantly, the mechanisms through which positive work events play their role. To advance this line of research, we sought to explicate how positive work events are related to state work engagement, an affective-motivational work-related state with far-reaching implications for employees' performance and their psychological and physical well-being (Bakker & Schaufeli, 2008; Bakker, Schaufeli, Leiter, & Taris, 2008; Leiter & Bakker, 2010; Sonnentag, Dormann, & Demerouti, 2010).

Our current understanding of positive work events originates mainly from affective-events theory (i.e., AET; Weiss & Cropanzano, 1996), which suggests that the impact of positive work events resides in their influence on individuals' affective states. Although AET provides a useful and influential framework to explain the impact of work events, the affective pathway is incomplete for the functional importance of positive work events. Specifically, the motivational functions of positive work events (e.g., Amabile & Kramer, 2011; Bono et al., 2013) were not well addressed by AET. Instead, we suggest that a closer examination of the psychological content following different positive work events may provide richer information on how positive work events play a role in leading to the highly motivated working state conceptualised by work engagement.

Drawing on self-determination theory, a theory of human motivation (Deci & Ryan, 2000; Ryan & Deci, 2000), we propose that the satisfaction of

basic psychological needs, including the psychological needs for autonomy, competence and relatedness, as the underlying mechanism that links positive work events and work engagement. The need for autonomy is the desire to experience psychological freedom in activities (deCharms, 1968; Deci & Ryan, 2000); the need for competence is the desire to feel effective in interacting with the environment (White, 1959; Deci & Ryan, 2000); and the need for relatedness is the desire to feel connected with others (Baumeister & Leary, 1995). As the central tenet of self-determination theory, these basic psychological needs are considered innate and universal for human beings (Deci & Ryan, 2000; Ryan & Deci, 2000). Self-determination theory posits that the satisfaction of these basic psychological needs is an important ingredient for breeding and sustaining people's intrinsic motivation (Deci & Ryan, 2000; Ryan & Deci, 2000; Gagné & Deci, 2005). That is, in a situation that supports these psychological needs, individuals are more likely to demonstrate a high level of interest in their tasks at hand (Deci & Ryan, 2000; Ryan & Deci, 2000). As such, work events that facilitate the fulfilment of basic psychological needs are likely to be motivational and thus can positively influence work engagement. In addition, psychological needs satisfaction is not stable but can fluctuate considerably in responding to changes in daily social contexts (Hetland, Hetland, Bakker, Demerouti, Andreassen, & Pallesen, 2015; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Sheldon, Ryan, & Reis, 1996), suggesting that they may capture and reflect the variations in the flow of one's work experiences, which includes various work events.

The investigation of a motivational mechanism based on psychological needs satisfaction extends our understanding of how work events influence daily work experiences beyond AET's explanation of how we "feel" about these events. Specifically, our investigation provides more information about the nature of the events in terms of what the events mean or what information they convey to individual employees. In other words, how the events are related to basic psychological needs reveals the content meaningfulness of those events—the deeper "why" of employee's goal pursuit and work engagement (Deci & Ryan, 2000). Moreover, delineating the mechanism may provide a potential lever for managers to intervene. For example, they may create facilitative situations for certain work events to effectively motivate employees.

Extending the focus from "how the event feels" to "what it means" questions the common practice of coding work events into unitary positive or negative events (Ohly & Schmitt, 2015), as this practice assumes that all forms of the positive (or negative) events share a uniform influence on individuals (Ohly & Schmitt, 2015). On the other hand, research has found that different positive work events may have diverse effects—for example, in reducing stress or generating emotions (e.g., De Jonge & Dormann, 2006; Kiffin-Petersen,

Murphy, & Soutar, 2012). Recent research on work events taxonomy has also suggested that a nuanced focus on differentiated events is more informative for the development of pertinent propositions (Ohly & Schmitt, 2015). Indeed, theorists of AET have also reflected that AET may not be adequately informative in explaining the nature of events (Weiss & Beal, 2005). Therefore, a better differentiation of the events may provide a more accurate understanding of how different forms of the events influence employees' daily work experiences and behaviours.

We begin our investigation of differentiated work events by studying work events that are categorised into clusters rather than studying specific, single events. We adopt this approach because compared with focusing on specific, single events, deriving insights about the nature and shared commonalities of clustered events is more theoretically informative. It also ensures parsimony and frees researchers from examining the huge variety of various specific events. Although few studies have been dedicated to classifying work events, especially positive work events, several existing studies have found that achievement events and recognition events consistently emerge as the most frequently encountered positive work events among a variety of common and impactful positive work events (e.g., Basch & Fisher, 2000; Herzberg, Mausner, & Snyderman, 1959; Mignonac & Herrbach, 2004; Ohly & Schmitt, 2015). Achievement events usually include task goal attainment, problem-solving, and task-related accomplishments (Bledow, Schmitt, Frese, & Kühnel, 2011; Bono et al., 2013; Grandey, Tam, & Brauburger, 2002; Miner, Glomb, & Hulin, 2005; Ohly & Schmitt, 2015) that are experienced and observed primarily by the focal employee. Recognition events, such as praise, acknowledgement, and positive feedback (Bono et al., 2013; Grandey et al., 2002; Miner et al., 2005; Ohly & Schmitt, 2015; Wang & Howell, 2010) originate from relevant others at work. Although recognition events may also signify task achievements, their occurrence relies mainly on others' evaluations and attitudes, where such a social component is less salient in achievement events. As a primary step to learn about positive daily work events with greater nuance, we focus on achievement and recognition events in this study by relating them to different kinds of psychological needs satisfaction.

The aims of our study were the following: (i) Examine the influence of positive work events on state work engagement. (ii) Explicate the motivational function of positive work events by drawing on the self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000) and focusing on psychological needs satisfaction as the mediational mechanism. In particular, we sought to examine the motivational function of positive work events above and beyond their influence on affect by simultaneously controlling for the affective mechanism. (iii) Examine the specific relationships between achievement events,
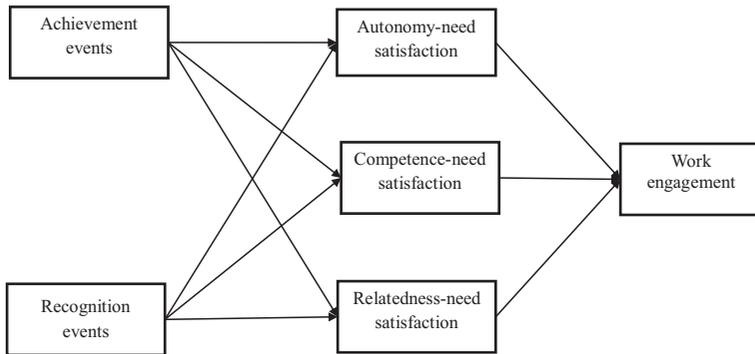
FIGURE 1.   Conceptual model.

recognition events and the satisfaction of different psychological needs. Figure 1 depicts the conceptual model of our study.

To conduct the study in a manner consistent with our emphasis on the within-person experiences of positive work events and work engagement, we used an experience-sampling design (Hektner, Schmidt, & Csikszentmihalyi, 2007) by tracking participants over eight workdays. In particular, we divided the workday into morning and afternoon performance episodes, which are typically separated by a lunch break (Beal, Weiss, Barros, & MacDermid, 2005).

THEORY AND HYPOTHESES

Achievement Events and Psychological Needs Satisfaction

Employees are likely to experience achievement events when they successfully address work-related requirements and achieve task-related goals. In a diary study, where more than 200 employees reported the daily affective work events they have experienced, Ohly and Schmitt (2015) found that "303 out of the 559 reported positive events fell into the cluster of *goal attainment, problem-solving, task-related success*" (p. 21). Similarly, in their study on the affective events-emotion matrix, Basch and Fisher (2000) found that the most frequently reported positive work events among participants fell into the category of "goal achievement".

People do not always possess complete knowledge about themselves; they usually rely on clues from their experiences or their social environment to infer their own attitudes and capabilities (e.g., Bandura, 1993; Bem, 1972). In the workplace, task performance provides important information and the opportunity for individuals to learn about their proficiency (cf. Griffin,

Neal, & Parker, 2007). Achievement events indicate that one has effectively attained the desired task goals. In other words, one can mark one's success of episodic accomplishment, which is integrated into a longer, dynamic process of striving to attain the valued goal of good performance or even career success. When people perceive themselves as effective in causing valued outcomes in their interactions with the environment, as can be inferred from the achievement events, their need for competence is satisfied (Ryan & Deci, 2000). Therefore, achievement events are important experiences that afford individuals the opportunity to fulfil their psychological need for competence. We thus hypothesise the following:

> *Hypothesis 1a:* Achievement events are positively related to competence-need satisfaction.

We also expect a positive relationship between achievement events and autonomy-need satisfaction. Autonomy-need satisfaction is the subjective experience of being volitional (Broeck, Vansteenkiste, Witte, Soenens, & Lens, 2010)—that is, the sense that one's behaviour emanates from and is endorsed by the self (Kasser & Ryan, 1999). Achievement events reflect high agency (Ohly & Schmitt, 2015), which signifies self-control (Bakan, 1966). Achievement events also suggest that individuals have reduced the discrepancy between the desired goal and their current state through their own striving and effort. Therefore, achievement events may facilitate the perception of an internal locus of causality, which contributes to autonomy-need satisfaction (deCharms, 1968; Deci & Ryan, 2000). We thus hypothesise the following:

> *Hypothesis 1b:* Achievement events are positively related to autonomy-need satisfaction.

Relatedness needs are satisfied when individuals experience supportive, intimate, and close interpersonal relationships at work (Baumeister & Leary, 1995). Achievement at work may attract attention from supervisors, as well as attention and admiration from peers. This attention and admiration from the social environment allow the individual to perceive his or her connection with others in a positive light. Therefore, we expect a positive relationship between achievement events and relatedness-need satisfaction.

> *Hypothesis 1c:* Achievement events are positively related to relatedness-need satisfaction.

Despite the expectation of a positive relationship between achievement events and relatedness-need satisfaction, we also note that an individual's

achievement events within a specific performance episode may not be readily observable to others. Therefore, these events may not immediately attract others' attention and incur admiration, and thus the relationship may not be strong and straightforward. In addition, achievement events signify self-control and self-assertiveness, and thus, they may direct one's attention more to the self and less to connections with others (Bakan, 1966).

Recognition Events and Psychological Needs Satisfaction

Recognition events represent another cluster of impactful positive work events. In their study, Ohly and Schmitt (2015) found that the second most frequently experienced positive work events fell into the cluster of "*praise, appreciation and positive feedback*". Consistently, "receiving recognition" ranks as the second highest category of positive events in the number of positive work events reported in Basch and Fisher's (2000) study.

Our argument for the significance of recognition events in employees' daily lives is that it is important in facilitating social goals. With a psychological need for relatedness—or a motivation to "get along" (Hogan, 1982)—people pursue social goals by seeking supportive, intimate interpersonal relationships (Baumeister & Leary, 1995). While achievement events relate to task accomplishment, recognition events involve social connections and attention from others. Recognition events provide strong signals that one meets the social expectations of the group and that one's behaviours are congruent with group values. Such signals allow individuals to perceive themselves as valued members of the group. Indeed, research has found that individuals who receive appreciation and acknowledgement from others are likely to generate feelings of social worth and to see themselves as valued contributors (Grant & Gino, 2010). As a result, individuals are more likely to perceive their surrounding social environment as supportive and friendly, where they are accepted by and connected to others. Accordingly, we expect a positive relationship between recognition events and relatedness-need satisfaction.

> *Hypothesis 2a:* Recognition events are positively related to relatedness-need satisfaction.

Recognition events are similar to achievement events in terms of indicating one's effectiveness. Positive feedback from work-related others is an effective way to enhance self-evaluated competence (e.g., Ilies & Judge, 2005; Latham & Locke, 1991), as others' praise and appreciation can cause individuals to believe that they are capable of contributing (e.g., Alessandri, Caprara, Eisenberg, & Steca, 2009; Grant, 2007). Therefore, recognition

events are positive signs of competence, which can enhance individual's competence-need satisfaction.

Hypothesis 2b: Recognition events are positively related to competence-need satisfaction.

Recognition events may be positively associated with autonomy-need satisfaction. Research has found that goal fulfilment is associated with a positive attitude toward the task and a sense of doing the task for one's own interest (Locke & Latham, 2002), whereas recognition events can convey such information of goal fulfilment. Nonetheless, because the external criteria conveyed in recognition from others may cause individuals to shift their perceived locus of causality from internal to external (Lepper, Greene, & Nisbett, 1973), the positive relationship between recognition events and autonomy-need satisfaction may not be strong.

Hypothesis 2c: Recognition events are positively related to autonomy-need satisfaction.

As hypothesised, achievement events and recognition events are likely to influence the satisfaction of multiple psychological needs. However, we have also mentioned that the events may influence different psychological need satisfaction in different ways. For example, achievement events may influence competence-need satisfaction more saliently than relatedness-need satisfaction. Additionally, recognition events may be particularly relevant to relatedness-need satisfaction, but their influence on autonomy-need satisfaction may not be strong. For exploration purpose, we investigated whether achievement events had a stronger effect on competence-need satisfaction compared with relatedness- and autonomy-need satisfaction and whether recognition events had a stronger effect on relatedness-need satisfaction compared with competence- and autonomy-need satisfaction.

The Mediating Role of Psychological Needs Satisfaction

Work engagement depicts the fulfilling, work-related mental state characterised by a high level of energy (vigour), a willingness to put in effort (dedication) and the state of being happily engrossed in one's work (absorption) (Schaufeli, Salanova, Gonzàlez-Romá, & Bakker, 2002). Therefore, by definition, work engagement incorporates a motivational component and high involvement of the self (Breevaart, Bakker, Demerouti, & Hetland, 2012; Sonnentag et al., 2010).

Self-determination theory posits that psychological needs satisfaction is key to one's motivation (Deci & Ryan, 2000). More specifically, competence-need

satisfaction leads individuals to initiatively up-regulate their goal standards and to accept challenges at work (Bandura, 1986). Autonomy-need satisfaction causes individuals to feel responsible for the success of their work, which in turn fosters intrinsic motivation (Deci & Ryan, 2000). Relatedness-need satisfaction creates a secure sense of connectedness and can thus support exploration activities, making tasks more enjoyable (Anderson, Manoogian, & Reznick, 1976; Ryan & La Guardia, 2000). As a result, experiences and activities that fulfil basic psychological needs are self-expressive, enjoyable and worth pursuing (Deci & Ryan, 2000; Ryan & Deci, 2000). By viewing work as a vehicle through which people can find and express themselves, we may agree that the *in vivo* experiences of various work events provide important sources of personal meaning and opportunities for self-expression (Petriglieri, Ashford, & Wrzesniewski, 2018), and this process heavily involves the fulfilment of psychological needs. Therefore, psychological needs satisfaction is likely to be the critical mechanism through which positive work events facilitate self-expression and promote work engagement.

Further, based on Hypotheses 1a–1c, Hypotheses 2a–2c and the above arguments, we hypothesise the following:

Hypothesis 3: (a) Competence-need satisfaction, (b) relatedness-need satisfaction and (c) autonomy-need satisfaction mediate the relationship between achievement events and work engagement.

Hypothesis 4: (a) Competence-need satisfaction, (b) relatedness-need satisfaction and (c) autonomy-need satisfaction mediate the relationship between recognition events and work engagement.

Controlling for the Mediating Role of Positive Affect

As discussed in the introduction, positive affect may be an alternative mechanism to explain the effects of achievement and recognition events on work engagement (Weiss & Cropanzano, 1996). Indeed, consistently emerging as the most frequently reported positive events, achievement and recognition events have demonstrated their effectiveness in generating positive affect. The literature shows a positive relationship between positive affect and work engagement (e.g., Ouweneel, Le Blanc, & Schaufeli, 2012; Ouweneel, Le Blanc, Schaufeli, & van Wijhe, 2012), which suggests that positive affect generated by achievement and recognition events is likely to facilitate work engagement. Since we intend to explore the mediating role of psychological needs satisfaction beyond affective "feelings", controlling for this alternative affective mechanism is important in order to establish the additive contribution of the motivational process. Thus, we control for the path of positive affect in this study.

METHOD

This study was part of a collaborative project on work and family experiences. Survey data were collected from the staff of a university in Germany and their full-time working spouses. In total, 102 employees and their spouses registered for the study. The average age of the 204 participants was 37.82 years ($SD = 12.09$), and the average organisational tenure of the participants was 6.51 years ($SD = 8.14$).

Research assistants were trained by the authors to brief participants about the study purpose and procedures. Before research assistants visited and briefed the participants, they contacted each participant through email or phone calls to set the time and venue for the briefing. Participants joined the study and began to provide data one day after the briefing. Because it took several days to visit all participants for the briefing, not all participants began on the same day.

We used a mobile survey technique to collect data on participants' work experiences (Li & Townsend, 2008; Song, Foo, & Uy, 2008). In the mobile survey, we used electronic questionnaires based on a mobile platform. We used two alternative ways to collect data: J2ME (Java2Platform, Micro Edition) and WAP (Wireless Application Protocol), as was used in previous research (e.g., Song et al., 2008). While J2ME can support applications such as our electronic questionnaires on many types of mobile devices, including the low-end cell phones used by some participants, WAP provides a standardised protocol that allows smartphones or personal digital assistant (PDA) devices to access web-based information. The combination of these two methods enabled most mobile devices to support data collection. There were no statistically significant differences in the variables reported using the different methods.

After installing the software on a participant's phone, our research assistants ran several trials with the participant and confirmed with the participant all study details to ensure a clear understanding. Because all our participants were full-time workers who worked during the daytime, their daily work schedule followed a similar structure including morning work, a midday break and afternoon work, with slight differences in beginning and ending times. Our research assistants recorded each participant's schedule for the study period and made customised reminders for each participant. During the study period, participants received short message reminders every workday around the time of each survey. Participants were able to reach out to us anytime they had questions or encountered technical problems during the study.

Participants were instructed to answer five experience-sampling surveys using their mobile phones every day for eight successive workdays, except for

weekends. The first survey dealt with before-work experiences and was completed after waking up. The second survey concerned morning work experiences and was completed before lunchtime. The third, which asked about afternoon work experiences, was completed before going home. The fourth and fifth surveys concerned family experiences after work. Because our focus was the effects of positive morning work events on afternoon work engagement, we used data from the second and the third surveys. To encourage participation and to compensate for participants' time and efforts, we provided each participant with €20 as an incentive.

Because four participants dropped out after registration, our final sample consisted of 200 participants who provided 1,396 and 1,324 usable observations from the second and third survey, respectively. To compensate for missing data while maximising the available data using Mplus (Muthén & Muthén, 1998–2015), we kept observations that allowed us to test at least one of the hypothesised relationships. This step yielded 1,396 and 1,281 usable observations from the second and third surveys, respectively. Based on the final data, the average reporting time for the second survey was 12:43, and for the third, 16:50. On average, participants provided matched surveys on 6.98 days out of 8 days with a response rate of 87 per cent. In addition to the monetary incentive, this high response rate is likely due to our efforts in customised briefing and reminders as well as our responsive technical support. Moreover, during their visits, our trained research assistants paid special attention to ensure that participants fully understood the intensity of the study and the effort they were expected to make. Therefore, participants were psychologically prepared before the study and were able to commit during the study period.

Measures

We measured individuals' work experiences, such as positive work events and psychological needs satisfaction, in the second survey, which was conducted around the participant's lunch break. We measured work engagement in the third survey after the afternoon work period. All these measures were conducted in German. We employed standard translation and back-translation procedures (Brislin, 1986) to ensure translation accuracy.

Achievement and Recognition Events. In keeping with previous event sampling studies (e.g., Bono et al., 2013; Ilies, Keeney, & Scott, 2011), we developed the achievement and recognition events scale for this study. We developed the items that were broad enough to capture the general situations of task-related success and recognition during daily performance episodes that were applicable to many jobs, which are consistent with the corresponding categories of work events in existing research and related measures

(e.g., Ilies et al., 2011; Ohly & Schmitt, 2015; Wang & Howell, 2010). A six-item checklist was developed for achievement events. Individuals were asked to indicate the events they experienced during their morning work. These items were "this morning, I completed an important work task", "this morning, I solved an ongoing practical problem", "this morning, I overcame a task-related challenge", "this morning, I saw the successful outcome of a long effort", "this morning, I was extra-productive", and "this morning, I came up with novel and useful idea(s)". The selection of the items aims to incorporate challenging and important, rather than trivial and routine, types of accomplishments. Recognition events were measured using a five-item checklist. These items were "this morning, I received acknowledgement for my progress", "this morning, I got special recognition for my good work", "this morning, I was commended that I achieved my work goals", "this morning, I received positive feedback that I performed well", and "this morning, I received other personal recognition or praise". Similar to previous work events studies, the checklist is not an exhaustive collection of all achievement events, but it keeps to the rule of comprehension and parsimony and avoids using events that are too ambiguous, trivial, or rare (Ilies et al., 2011).

Following previous event studies (Bono et al., 2013; Ilies et al., 2011; Kim & Yoon, 2012; Tsai & Huang, 2002; Wang, Liao, Zhan, & Shi, 2011), we instructed participants to indicate whether they had experienced the listed events in the morning by checking "yes" (scored at 1) or "no" (scored at 0). Consistent with these previous studies, we calculated the score for the achievement variable and recognition events by summing the number of events that participants reported to have experienced in the morning.

Psychological Needs Satisfaction. Autonomy-need satisfaction, competence-need satisfaction, and relatedness-need satisfaction were measured with two items each. The items were adapted from the Basic Psychological Needs Scale (Deci, Ryan, Gagne, Leone, Usunov, & Kornazheva, 2001). We also referred to a relatively recent measure of Work-related Basic Need Satisfaction Scale (Ilardi, Leone, Kasser, & Ryan, 1993; Broeck et al., 2010), which is a frequently used scale for psychological needs satisfaction in the work domain. Items from these scales aimed to describe a general state of psychological needs satisfaction. We selected and adapted items that fit in with the momentary measures in work settings using the experience sampling design. The selection of items was based on factor analytic findings from prior research (e.g., Deci et al., 2001), as well as the item's face validity (see Heppner, Kernis, Nezlek, Foster, Lakey, & Goldman, 2008, using a similar six-item scale). The items for autonomy-need satisfaction were "this morning, I felt I could pretty much be myself at work" and "this morning, I felt like I could pretty much decide how

my job gets done". The items for competence-need satisfaction were "this morning, I felt competent and capable" and "this morning, I felt a sense of accomplishment from working". The items for relatedness-need satisfaction were "this morning, I felt people at work care about me" and "this morning, I felt close and connected with people". Participants rated these items on a 5-point scale ranging from 1 = "*not at all*" to 5 = "*extremely*". Cronbach's alpha coefficients across the eight days for morning satisfaction of autonomy, competence, and relatedness were .83, .77, and .88, respectively. The Spearman-Brown correlation coefficients across the eight days for morning satisfaction of autonomy, competence, and relatedness were .82, .78, and .88, respectively.

To examine the validity of our daily measure of psychological needs satisfaction, we collected data from another sample of 240 full-time workers with at least 35 hours of work per week using Amazon's Mechanical Turk (MTurk). The participants were from various occupations with an average age of 36.9 years, and 34.5 per cent of them were females. In total, 12.5 per cent of the participants had an education level of high school or below, 60.0 per cent had a college or undergraduate degree, 25.8 per cent had a master's degree, and 1.7 per cent had a doctoral degree. Participants received US$1.05 for answering our survey. In the survey, we included our 6-item scale with the 21-item Basic Need Satisfaction at Work Scale. Deci et al. (2001) reported the following reliability of autonomy-, competence- and relatedness-need satisfaction of an American sample: .73, .84, and .79.

Work Engagement.   A three-item scale was adapted from the Utrecht Work Engagement Scale (UWES; Schaufeli, Salanova, González-Romá, & Bakker, 2002). According to Schaufeli et al. (2002), work engagement has three dimensions—vigour, absorption, and dedication—which tend to correlate significantly with each other and usually load together (e.g., Breevaart et al., 2012; Schaufeli & Bakker, 2003). We chose the most characteristic item from each dimension (Schaufeli & Bakker, 2003) to compose a shortened version of work engagement. The three items for afternoon work engagement were "this afternoon, I felt bursting with energy at work", "this afternoon, I was enthusiastic about my work", and "this afternoon, I was immersed in my work". Participants rated these items on a five-point scale ranging from 1 = "*not at all*" to 5 = "*extremely*". Cronbach's alpha for work engagement across the eight days was .90.

Analytical Strategies

Observations from the experience-sampling study (level 1) were nested within persons (level 2), and therefore we conducted path analysis within

the framework of multilevel structural equation modelling (MSEM) using Mplus 7.0 (Muthén & Muthén, 1998–2015) to test our hypotheses. Moreover, to take into account the potential non-independence of the observations within couples and to obtain corrected standard errors, we used couple as a stratification variable in our data analysis (Muthén & Muthén, 1998–2015).

Following the recommendations of Preacher, Zyphur, and Zhang (2010) and Preacher, Zhang, and Zyphur (2011), we specified our model as a 1-1-1 model in Mplus and group-mean centred the predictor variables to remove the between-person variance. The advantage of this analytical approach is that it can portion the between-person variances from within-person variances and permits simultaneous examination of the multiple mediating effects. We performed Monte Carlo mediation tests (Bauer, Preacher, & Gil, 2006; Preacher & Selig, 2012) to generate the 95 per cent confidence interval. A Monte Carlo mediation test simulates the effect of interest based on the model estimates and their corresponding asymptotic variances and covariances, and an advantage of this method is that it does not assume a normal distribution of the effects (Bauer et al., 2006).

RESULTS

We first examined the scale validity of our daily psychological needs satisfaction measure. The results showed that the correlations of autonomy-need satisfaction ($r = 0.74$, $p < .001$), competence-need satisfaction ($r = 0.70$, $p < .001$), and relatedness-need satisfaction ($r = 0.74$, $p < .001$) between our measure and the 21-item Basic Need Satisfaction at Work Scale (Deci et al., 2001) were fairly high and significant. These results provided supportive evidence for the construct validity of our current daily measure.

We then conducted a series of multilevel confirmatory factor analysis (Dyer, Hange, & Hall, 2005) to assess the distinctiveness among our study variables in Mplus 7.0 (Muthén & Muthén, 1998–2015). We first examined whether we can distinguish between the three psychological needs satisfaction. The results suggested that the three-factor model fitted the data well ($\chi^2 = 64.81$, $df = 12$, $p < .01$; CFI = 0.97, TLI = 0.94, RMSEA = 0.056, SRMR (within) = 0.035, SRMR (between) = 0.046). The three-factor model also fitted the data better than the one-factor model ($\Delta \chi^2 = 960.82$, $\Delta df = 6$, $p < .01$; CFI= 0.50, TLI = 0.17; RMSEA = 0.200, SRMR (within) = 0.132, SRMR (between) = 0.209) and all possible two-factor models, suggesting that we can separate the three psychological needs satisfaction.

After that, we tested a six-factor model consisting of achievement events, recognition events, autonomy-need satisfaction, competence-need satisfaction, relatedness-need satisfaction, and work engagement. The results showed that this six-factor model fitted the data well ($\chi^2 = 156.18$, $df = 62$, $p < .001$;

CFI = 0.98, TLI = 0.96, RMSEA = 0.033, SRMR (within) = 0.028, SRMR (between) = 0.038). We then compared the six-factor model with a five-factor model in which we combined achievement events and competence-need satisfaction as a single factor. A chi-square difference test showed that the six-factor model fitted significantly better than the five-factor model ($\Delta \chi^2 = 116.53$, $\Delta\, df = 8$, $p < .001$). We further compared the six-factor model with a three-factor model, a two-factor model, and a one-factor model, respectively. In the three-factor model, we combined achievement and recognition events as a single factor and the three psychological needs satisfaction as another single factor. In the two-factor model, we included the exogenous variables (i.e., achievement and recognition events) into the same factor, and loaded items from all the endogenous variables (i.e., three psychological needs satisfaction and work engagement) onto the other factor. Finally, we loaded all the items together in the one-factor model. The chi-square difference test showed that the six-factor model exhibited a significantly better fit than the three-factor model ($\Delta \chi^2 = 1162.18$, $\Delta\, df = 20$, $p < .001$), the two-factor model ($\Delta \chi^2 = 1979.97$, $\Delta\, df = 24$, $p < .001$), and the one-factor model ($\Delta \chi^2 = 2041.56$, $\Delta\, df = 26$, $p < .001$).

Descriptive Statistics

Table 1 shows the descriptive statistics and correlations among the study variables. When applicable, both between-person and within-person correlations are displayed. We calculated intra-class correlations (ICC) of the study variables. As shown in Table 1, approximately 72 per cent of the variances in achievement events, 81 per cent of the variances in recognition events, and 42 per cent of the variances in work engagement were within-person variances. Substantial within-person variances also occurred in autonomy-, competence-, and relatedness-need satisfaction. The substantial amount of within-person variances of the study variables suggested that within-person level analyses were appropriate.

Hypotheses Testing

We first tested the direct, main effects of achievement and recognition events on work engagement. The results showed that the effects of achievement events ($\hat{\gamma} = 0.12$, $p < .01$) and recognition events ($\hat{\gamma} = 0.09$, $p < .01$) on work engagement were both significantly positive. The results of the multilevel structural equation modeling are shown in Figure 2.

Hypotheses 1a–1c and Hypotheses 2a–2c addressed the effects of achievement and recognition events on psychological needs satisfaction. As predicted, achievement events had significantly positive relationships with autonomy-need satisfaction ($\hat{\gamma} = 0.11$, $p < .01$), competence-need satisfaction

TABLE 1
Means, Standard Deviations (SD), Within-Person and Between-Person Correlations among Study Variables

Variables	Mean	SD_btw	SD_within	ICC	1	2	3	4	5	6	7
1. Work engagement$_{t+1}$	2.47	0.81	0.59	0.58		0.15**	0.08**	0.20**	0.30**	0.24**	0.22**
2. Achievement events$_t$	0.91	0.60	0.76	0.28	0.49**		0.30**	0.11**	0.34**	0.20**	0.26**
3. Recognition events$_t$	0.32	0.39	0.55	0.19	0.33**	0.48**		0.06*	0.22**	0.28**	0.14**
4. Autonomy-need satisfaction$_t$	3.61	0.78	0.73	0.44	0.46**	0.17**	0.11**		0.47**	0.21**	0.13**
5. Competence-need satisfaction$_t$	3.21	0.71	0.68	0.44	0.77**	0.54**	0.36**	0.63**		0.41**	0.31**
6. Relatedness-need satisfaction$_t$	2.65	0.86	0.75	0.49	0.70**	0.37**	0.38**	0.38**	0.69**		0.19**
7. Positive affect$_t$	2.49	0.77	0.59	0.58	0.73**	0.37**	0.23**	0.38**	0.62**	0.58**	

Note. Number of individuals = 200; t represents measures collected in survey around lunch-break, $t + 1$ represents measures collected in the survey after work before going home. Number of matched observations = 1,396 at time t, and 1,281 at time $t + 1$. Correlations above the diagonal represent within-person associations, and correlations below the diagonal represent between-person associations. ICC = Intra-class correlations.
*$p < .05$, **$p < .01$; two-tailed test.

($\hat{\gamma}$ = 0.29, p < .01), and relatedness-need satisfaction ($\hat{\gamma}$ = 0.13, p < .01), supporting Hypotheses 1a−1c. Recognition events had positive relationships with both competence-need satisfaction ($\hat{\gamma}$ = 0.17, p < .01) and relatedness-need satisfaction ($\hat{\gamma}$ = 0.34, p < .01), but not autonomy-need satisfaction was not significant ($\hat{\gamma}$ = 0.03, p = .41). Thus, Hypotheses 2a and 2b were supported but Hypothesis 2c was not supported.

Furthermore, as shown in Figure 2, competence-need satisfaction ($\hat{\gamma}$ = 0.15, p < .01) and relatedness-need satisfaction ($\hat{\gamma}$ = 0.11, p < .01) were both positively and significantly related to work engagement. However, the effect of autonomy-need satisfaction on work engagement was not significant ($\hat{\gamma}$ = 0.06, p = .06).

Hypotheses 3a–3c and 4a–4c addressed the mediation effects. The results based on Monte Carlo mediation tests are summarised in Table 2. A Monte Carlo mediation test indicated significant mediation effects of competence-need satisfaction (*indirect effect* = 0.044, $CI_{95\%}$ [0.025, 0.065]) and relatedness-need satisfaction (*indirect effect* = 0.015, $CI_{95\%}$ [0.005, 0.026]) between achievement events and work engagement, thus supporting Hypothesis 3a and 3b. However, autonomy-need satisfaction did not mediate the relationship
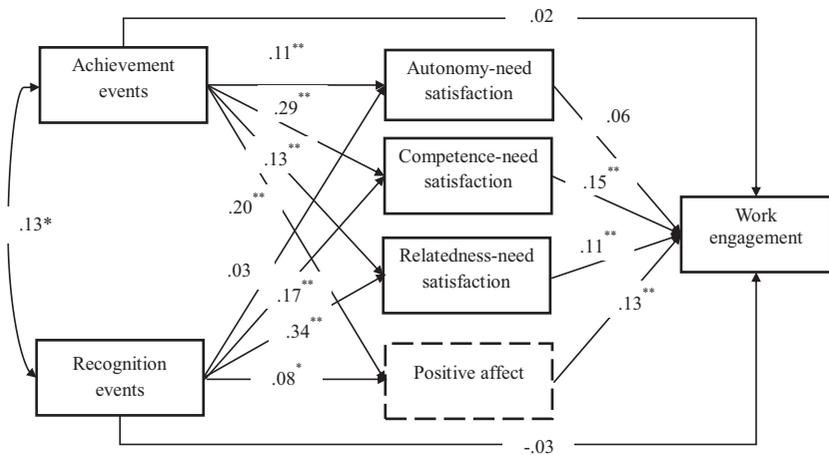

FIGURE 2.   Parameter estimates of the hypothesised model.
Notes. The model explained 13 per cent of the variance in work engagement (Pseudo R^2 = 0.13), 15 per cent of the variance in competence-need satisfaction (Pseudo R^2 = 0.15), 2 per cent of the variance in autonomy-need satisfaction (Pseudo R^2 = 0.02), 10 per cent of the variance in relatedness-need satisfaction (Pseudo R^2 = 0.10), and 9 per cent of the variance in positive affect (Pseudo R^2 = 0.09). Positive affect is shown in the dashed box to indicate that it was treated as a controlled mechanism rather than part of the hypothesised model.

TABLE 2
Indirect Effects of Achievement and Recognition Events on Work Engagement
via Psychological-Needs Satisfaction

Indirect effects	Coefficients	Standard errors	z scores	Monte Carlo 95% CI
Achievement events as the predictor				
Through autonomy-need satisfaction	0.006	0.004	1.684	[−0.001, 0.015]
Through competence-need satisfaction	0.044	0.011	3.846	[0.025, 0.065]
Through relatedness-need satisfaction	0.015	0.005	2.876	[0.005, 0.026]
Through positive affect	0.026	0.009	3.006	[0.009, 0.043]
Recognition events as the predictor				
Through autonomy-need satisfaction	0.002	0.003	0.726	[−0.003, 0.009]
Through competence-need satisfaction	0.026	0.009	2.950	[0.013, 0.042]
Through relatedness-need satisfaction	0.037	0.012	3.044	[0.014, 0.062]
Through positive affect	0.010	0.005	2.066	[0.001, 0.023]

Note. $N = 200$ individuals and 1,396 sets of observations.

between achievement events and work engagement (*indirect effect* = 0.006, $CI_{95\%}$ [−0.001, 0.015]). Therefore, Hypothesis 3c was not supported.

The indirect effect of recognition events on work engagement through competence-need satisfaction (*indirect effect* = 0.026, $CI_{95\%}$ [0.013, 0.042]) and relatedness-need satisfaction (*indirect effect* = 0.037, $CI_{95\%}$ [0.014, 0.062]) were both significant. Therefore, Hypothesis 4a and Hypothesis 4b were supported. However, the indirect effect through autonomy-need satisfaction was not significant (*indirect effect* = 0.002, $CI_{95\%}$ [−0.003, 0.009]); thus, Hypothesis 4c was not supported.

To test whether the specific work events distinctively contribute to the satisfaction of different psychological needs, we conducted contrast analyses by comparing the changed chi-squares and changed CFI before and after constraining a pair of two effects to be equal (i.e., fix their difference as zero) (Cheung & Rensvold, 2002). The results showed that achievement events had a stronger relationship with competence-need satisfaction than with relatedness-need satisfaction (*difference* = 0.16, $\Delta\chi^2 = 22.73$, $\Delta df = 1$, $p < .01$; $\Delta CFI = 0.02$) or with autonomy-need satisfaction (*difference* = 0.18, $\Delta\chi^2 = 36.51$, $\Delta df = 1$, $p < .01$; $\Delta CFI = 0.03$). Recognition events had a stronger relationship with relatedness-need satisfaction than with competence-need

satisfaction (*difference* = 0.17, $\Delta\chi^2$ = 22.41, Δdf = 1, p < .01; ΔCFI = 0.02) or with autonomy-need satisfaction (*difference* = 0.30, $\Delta\chi^2$ = 41.90, Δdf = 1, p < .01; ΔCFI = 0.03).

Post Hoc Analyses

We also conducted a series of post hoc analyses to explore information from the current data. First, we tested whether the positive work events had differentiated effects on different dimensions of work engagement. The results showed that the patterns of our findings generally held for vigour, absorption, and dedication. The main effects of achievement events ($\hat{\gamma}$ = 0.11, p < .01, vigour; $\hat{\gamma}$ = 0.13, p < .05, absorption; $\hat{\gamma}$ = 0.12, p < .01, dedication) and recognition events ($\hat{\gamma}$ = 0.09, p < .01, vigour; $\hat{\gamma}$ = 0.12, p < 0.01, absorption) on the separated dimensions of work engagement were generally significant, except for the relationship between recognition events and dedication ($\hat{\gamma}$ = 0.07, p = .09). Furthermore, the effects of autonomy-need satisfaction, competence-need satisfaction, and relatedness-need satisfaction on these three dimensions of work engagement were generally consistent with our findings when the three dimensions were combined into a single variable for work engagement.

Second, we tested for the possibility of non-linear relationships between positive work events and psychological needs satisfaction. Specifically, we aimed to test whether the effect of positive work events on psychological needs satisfaction diminishes as one experiences more positive work events. Although it is reasonable to expect such a non-linear relationship, it is not an obvious prediction from self-determination theory. Deci and Ryan's (2000) contrasted motivation in self-determination theory and the motivation in drive theories. In drive theories, motivation (or drive) originates from impulses to reduce deficiencies (usually physiological deficiencies such as hunger and thirst). The motivation or drive wanes when the deficiencies are replenished. As a result, more resources may not be necessary to bring greater satisfaction. However, the pursuit of psychological needs is not motivated by a need deficit, and activities that can fulfil psychological needs may even not be consciously intended to satisfy those needs (Deci & Ryan, 2000). Therefore, it is not obvious whether there is a point similar to the homeostatic state in which psychological needs are adequately fulfilled and beyond which point the resources that foster psychological needs have a reduced effect.

Understanding how the facilitative situations or resources (e.g., positive work events) function in psychological needs satisfaction is important because it may provide valuable information for practical intervention. Therefore, we tested the non-linear relationships between the positive work events and psychological needs satisfaction by simultaneously modelling

the linear and quadratic relationships. Interestingly, the results showed that the relationships between achievement events, competence-need satisfaction ($\hat{\gamma} = -0.10$, $p < .01$) and relatedness-need satisfaction ($\hat{\gamma} = -0.04$, $p < .05$) followed a pattern of diminishing returns, where the coefficients of the squared terms were significantly negative. Similar patterns of relationships also emerge between recognition events, competence-need satisfaction ($\hat{\gamma} = -0.05$, $p < .05$) and relatedness-need satisfaction ($\hat{\gamma} = -0.12$, $p < .01$), although no significant results were found for the relationships between positive work events and autonomy-need satisfaction. We also tested the non-linear relationships between the satisfaction of psychological needs and work engagement. The results showed that the non-linear relationships did not exist with non-significant quadratic terms in the effects autonomy-need satisfaction ($\hat{\gamma} = -0.02$, $p = .27$), competence-need satisfaction ($\hat{\gamma} = 0.03$, $p = .19$), and relatedness-need satisfaction ($\hat{\gamma} = 0.02$, $p = .34$) on work engagement.

DISCUSSION

We developed a theoretical model to explore the motivational effects of positive work events, particularly achievement and recognition events. Drawing on self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000), we proposed and examined the satisfaction of the three basic psychological needs as the mediational mechanism that conveyed the motivational effects of positive work events. We found that achievement events were significantly related to competence-, autonomy-, and relatedness-need satisfaction. Recognition events were significantly related to relatedness- and competence-need satisfaction. Furthermore, the effect of recognition events on relatedness-need satisfaction was stronger than their effect on competence-need satisfaction. In contrast, achievement events had a stronger effect on competence-need satisfaction than on relatedness-need satisfaction. Both positive work events had relatively weak relationships with autonomy-need satisfaction, despite a positive direction of the influence. Achievement and recognition events both had significant indirect effects on work engagement through competence-need satisfaction and relatedness-need satisfaction. The implications of our findings and the limitations of the study are discussed below.

Theoretical Implications

Our findings extend previous research in several significant ways. First, our research extends the understanding of positive work events and their functions beyond the dominant theoretical framework of AET (Weiss & Cropanzano, 1996). AET suggested that the affective pathway is a major mechanism through which work events influence work behaviours.

However, there still lacks a useful theoretical framework to incorporate and elaborate the motivational and resource-building functions of positive work events (e.g., Amabile & Kramer, 2011; Bono et al., 2013). Drawing on self-determination theory, we proposed and examined psychological needs satisfaction as the underlying motivational mechanism that explains the relationship between positive work events and work engagement above and beyond the affective pathway. More importantly, beyond a simple prediction of whether employees feel good or bad towards the events, our theoretical framework is informative about what important self- and work-related information that the events convey.

Second, taking a more nuanced perspective, we differentiated the effects of achievement and recognition events according to their relationships with the satisfaction of different psychological needs. We found that recognition events had a stronger effect on relatedness-need satisfaction than on competence-need satisfaction. This finding may suggest that individuals are more sensitive to recognition events as a source of social information than as a source of self-efficiency. In contrast, we found achievement events had a stronger effect on competence-need satisfaction than on relatedness-need satisfaction, which result indicated that employees may more frequently interpret achievement events from an agentic perspective than from a social perspective. These findings correspond to Ohly and Schmitt's (2015) proposition that positive work events vary in their relatedness to agentic and communal values and illustrate what makes each type of positive event important in distinctive ways. Such findings also highlight that examining the effects of positive work events with greater nuance is meaningful. Furthermore, the non-significant relationship between recognition and autonomy-need satisfaction might suggest that recognition represented the control of external criteria, which could not enhance feelings of autonomy even when receiving recognition was generally a positive experience. Therefore, our study implied that the impact of recognition events may be multifaceted. Future research may take this complexity into consideration when examining the effects of recognition events.

Third, the study contributes to the literature on work engagement. We showed that work engagement fluctuated throughout the workday from one performance episode to the next, which is consistent with Kahn's (1990) conceptualisation of engagement as a transient state. As hypothesised, fluctuations in work engagement were found to be a function of specific achievement and recognition events—predictors that have not been identified in previous research on engagement (Bakker, Demerouti, & Sanz-Vergel, 2014). Such events may be most likely in resource-rich work environments, which are characterised by high levels of social support, performance feedback, and opportunities for development. Future research may integrate self-determination

theory and affective events theory with Job Demands-Resources theory (Bakker & Demerouti, 2007; Bakker et al., 2014) and build a cross-level model of stable job resources, fluctuating events, and employee engagement.

In addition, our post hoc analyses showed that the relationships between positive work events and psychological needs satisfaction (specifically, competence-need satisfaction and relatedness-need satisfaction) followed a pattern of diminishing returns. Such findings suggested that psychological needs satisfaction may not constantly increase as employees experience more positive work events, and future research may explore when different work events have the optimal effect on the satisfaction of those three psychological needs, respectively, and what environmental or individual differences moderate their relationships. As such, future research may provide better practical guidance when managers want to enhance employees' psychological needs satisfaction and their subsequent work engagement by creating facilitative conditions for positive work events. In addition, we found that the non-linear relationship patterns did not exist between psychological needs satisfaction and work engagement. That is, although an increase in positive work events had weaker effects on further increasing psychological needs satisfaction, the motivational effect of psychological needs satisfaction (i.e., the effect of psychological needs satisfaction on work engagement) may not decrease as psychological needs are further satisfied.

Practical Implications

Our study yielded several important practical implications for both managers and employees. First, our results demonstrated the importance of achievement and recognition events for psychological needs satisfaction and work engagement. All these psychological experiences are important for employees to enjoy a happy and productive workday (e.g., Deci & Ryan, 2000; Salanova, Agut, & Peiró, 2005). Managers may consider making episodic achievements and recognition more attainable for employees.

Second, our study showed that achievement events were particularly effective for competence-need satisfaction, while recognition events were particularly effective for relatedness-need satisfaction. Therefore, managers will benefit by understanding the functions of specific kinds of positive work events for more effective managerial practices. For example, in socialisation processes in which the goal is to smoothly integrate new employees into the organisation (Kammeyer-Mueller, Wanberg, Rubenstein, & Song, 2013), managers may increase newcomers' relatedness-need satisfaction by creating recognition events as a useful intervention.

Limitations and Future Research Directions

Despite noticeable strengths (e.g., experience-sampling data with a time-lagged design), the study had several limitations that may be addressed by future research. First, data were based only on self-reports, which could raise concerns about common method bias (Podsakoff, Lee, & Podsakoff, 2003). However, the experience-sampling method we used, which recorded experiences at different time points, has been found to reduce the possibility of common method bias (Podsakoff et al., 2003). Moreover, in this study, we focused our analysis on the within-person effect. By using MSEM to portion between-person variance from within-person variance, we examined pure within-person relationships, which enabled us to lower the risk of self-report problems, such as social desirability and personality confounds (Ilies, Scott, & Judge, 2006). In addition, self-report was a reasonable strategy for the study because our aim was to examine individuals' dynamic psychological experiences (Hektner et al., 2007); other methods might not have accurately captured participants' ongoing psychological states. Nonetheless, future studies capable of manipulating the occurrence of achievement and recognition events could shed light on the causal relationships among study variables.

Second, consistent with previous event studies (Bono et al., 2013; Ilies et al., 2011; Kim & Yoon, 2012; Tsai & Huang, 2002; Wang et al., 2011), we used dichotomous items to capture the occurrence of each specific event and calculated the corresponding variable as the sum of the numbers during the morning period. Because discrete events tend not to occur frequently within a short time period (i.e., during the morning work period), event studies commonly adopt this dichotomous measure of event occurrence and use the total number to indicate the experience of events. However, this method counts each specific event as an independent event and does not consider the possibilities that events may be correlated; in addition, it assumes that the specific events have a comparable influence.

Nonetheless, reported achievement and recognition events can be correlated, and task achievement may incur subsequent recognition from others. As event-system theory has suggested, one event may be associated with the occurrence of multiple subsequent events and form an event chain (Morgeson, Mitchell, & Liu, 2015). Moreover, Morgeson et al. (2015) suggested that event novelty, disruption and criticality are important in deciding the salience or influence of organisational events (Morgeson et al., 2015). Therefore, one salient event may be more influential than several smaller events. Although our research is among the first endeavours to study daily work events from a more nuanced perspective, future studies can take this analysis further. Specifically, they can draw insights from event-system theory

(Morgeson et al., 2015) and apply it at the individual level to examine how different events are correlated and how they manifest their influences in individual psychological processes and behaviours.

Third, instead of considering a multitude of common positive work events, we included only performance-related achievement and recognition events. Although the literature agrees that these two clusters are among the most salient positive work events (Basch & Fisher, 2000; Ohly & Schmitt, 2015), future research on the implications of other kinds of positive work events is warranted. For example, Ohly and Schmitt (2015) identified another cluster of frequently encountered positive work events of "perceived competence in or through social interactions", which include satisfactory experiences, such as offering help and assistance, as well as successful teamwork. Although these events are less closely related to individual performance, they could nevertheless have high motivational value for individuals. Future research may conduct further exploration to extract the commonality underlying such events and to study the potential influence they may have.

Fourth, although our focus is on the within-person variation in how achievement and recognition events influence psychological needs satisfaction, individual differences may play important roles in regulating the investigated relationships between the positive work events and psychological needs satisfaction. For example, individuals with a higher growth need strength (Graen, Scandura, & Graen, 1986) or performance goal orientation (VandeWalle, 1997) may be more responsive to achievement and recognition events because such events denote further possibilities of growth and achievement. In contrast, individuals with higher levels of self-esteem may be less responsive to work events because the external variation in conditions is less likely to influence their self-regard. Moreover, previous thwarting experience of basic psychological needs may also cause people to respond to positive work events differently from those who did not have the thwarting experiences (Deci & Ryan, 2000). For example, after an experience in which the basic need for relatedness was thwarted, people may develop an unusually strong desire for connection and thus be more sensitive to positive events, such as recognition. As such, building on and going beyond our current focus of whether and how positive work events contribute to psychological needs satisfaction, future research can further examine important individual differences in order to set the boundary conditions of our findings.

Fifth, although we advocate a fine-grained approach to event studies, we note that our study represents only an initial effort and that there is more work to do for future research. For example, differences in sources and levels of positive work events may cause events with the same label to have different implications. Recognition from customers, supervisors, or the organisation,

for instance, may promote psychological needs satisfaction to a different extent and cause different attributions and subsequent work behaviours. Moreover, as mentioned above, individual differences in the preference or need for recognition and achievements may also play important roles in regulating employees' reactions. We believe that these thoughts may inspire more future research to examine the nuances of the mechanisms and implications of work events. In particular, qualitative research, with its advantages in collecting and interpreting rich descriptions, may be particularly helpful in providing unique insights about how different individuals or different forms of positive work events influence psychological needs satisfaction and its motivational effects.

Finally, future research is needed to replicate our findings across different working samples. Our data were collected from a relatively homogeneous sample from Germany, and the generalisability of our findings across different samples and different countries remains an empirical question. Future research using data from a wide variety of working samples or from different cultural contexts will be helpful in testing the robustness of our findings.

CONCLUSION

By investigating the effect of two clusters of commonly encountered positive work events, achievement and recognition events, on work engagement through their influences on basic psychological needs satisfaction, this study opens new avenues for studying the motivational function of positive work events. The study demonstrates that achievement and recognition events are important encounters that explain, at least in part, within-person variance in subsequent work engagement. Moreover, the study shows that competence- and relatedness-need satisfaction are important mechanisms that explain how achievement and recognition events manifest their effects on work engagement. We hope that our findings will serve as a launching pad for other studies on the effects and mechanisms of specific kinds of positive work events and provide useful guidance for managers seeking to increase employee work engagement.

REFERENCES

Alessandri, G., Caprara, G.V., Eisenberg, N., & Steca, P. (2009). Reciprocal relations among self-efficacy beliefs and prosociality across time. *Journal of Personality*, *77*, 1229–1259.

Amabile, T.M., & Kramer, S.J. (2011). *The progress principle: Using small wins to ignite joy, engagement, and creativity at work*. Boston, MA: Harvard Business School Press.

Anderson, R., Manoogian, S.T., & Reznick, J.S. (1976). The undermining and enhancing of intrinsic motivation in preschool children. *Journal of Personality and Social Psychology*, *34*, 915–922.

Bakan, D. (1966). *The duality of human existence*. Chicago: Rand McNally.

Bakker, A.B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, *22*, 309–328.

Bakker, A.B., Demerouti, E., & Sanz-Vergel, A.I. (2014). Burnout and work engagement: The JD-R approach. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*, 389–411.

Bakker, A.B., & Schaufeli, W.B. (2008). Positive organizational behavior: Engaged employees in flourishing organizations. *Journal of Organizational Behavior*, *29*, 147–154.

Bakker, A.B., Schaufeli, W.B., Leiter, M.P., & Taris, T.W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, *22*, 187–200.

Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, *28*, 117–148.

Basch, J., & Fisher, C.D. (2000). Affective events-emotions matrix: A classification of work events and associated emotions. In N.M. Ashkanasy, C.E. Härtel, & W.J. Zerbe (Eds.), *Emotions in the workplace: Research, theory, and practice* (pp. 36–48). Westport, CT: Quorum Books.

Baumeister, R., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.

Bauer, D.J., Preacher, K.J., & Gil, K.M. (2006). Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods*, *11*(2), 142–163.

Beal, D.J., Weiss, H.M., Barros, E., & MacDermid, S.M. (2005). An episodic process model of affective influences on performance. *Journal of Applied Psychology*, *90*, 1054–1068.

Bem, D.J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 6, pp. 1–62). New York, NY: Academic Press.

Bledow, R., Schmitt, A., Frese, M., & Kühnel, J. (2011). The affective shift model of work engagement. *Journal of Applied Psychology*, *96*, 1246–1257.

Bono, J., Glomb, T., Shen, W., Kim, E., & Koch, A. (2013). Building positive resources, Effects of positive events and positive reflection on work-stress and health. *Academy of Management Journal*, *56*, 1601–1627.

Breevaart, K., Bakker, A.B., Demerouti, E., & Hetland, J. (2012). The measurement of state work engagement: A multilevel factor analytic study. *European Journal of Psychological Assessment*, *28*, 305–312.

Brislin, R. (1986). The wording and translation of research instruments. In W.J. Lonner & J.W. Berry (Eds.), *Field methods in cross-cultural research* (pp. 137–164). Beverly Hills, CA: Sage.

Broeck, A., Vansteenkiste, M., Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work, construction and initial validation of the work-related basic need satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*, 981–1002.

Cheung, G.W., & Rensvold, R.B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, *9*(2), 233–255.

deCharms, R. (1968). *Personal causation: The internal affective determinants of behavior.* New York: Academic Press.

Deci, E.L., & Ryan, R.M. (2000). The "what" and "why" of goal pursuits, human needs and the self-determination of behavior. *Psychological Inquiry*, *11*, 227–268.

Deci, E.L., Ryan, R.M., Gagné, M., Leone, D.R., Usunov, J., & Kornazheva, B.P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former Eastern Bloc country. *Personality and Social Psychology Bulletin*, *27*, 930–942.

De Jonge, J., & Dormann, C. (2006). Stressors, resources, and strain at work: A longitudinal test of the triple-match principle. *Journal of Applied Psychology*, *91*, 1359–1374.

Dyer, N.G., Hanges, P.J., & Hall, R.J. (2005). Applying multilevel confirmatory factor analysis techniques to the study of leadership. *The Leadership Quarterly*, *16*, 149–167.

Graen, G.B., Scandura, T.A., & Graen, M.R. (1986). A field experimental test of the moderating effects of growth need strength on productivity. *Journal of Applied Psychology*, *71*(3), 484–491.

Gagné, M., & Deci, E.L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26*, 331–362.

Grandey, A.A., Tam, A.P., & Brauburger, A.L. (2002). Affective states and traits in the workplace: Diary and survey data from young workers. *Motivation and Emotion*, *26*, 31–55.

Grant, A.M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, *32*, 393–417.

Grant, A.M., & Gino, F. (2010). A little thanks goes a long way: Explaining why gratitude expressions motivate prosocial behavior. *Journal of Personality and Social Psychology*, *98*, 946–955.

Griffin, M.A., Neal, A., & Parker, S.K. (2007). A new model of work role performance, positive behavior in uncertain and interdependent contexts. *Academy of Management Journal*, *50*, 327–347.

Heppner, W.L., Kernis, M.H., Nezlek, J.B., Foster, J., Lakey, C.E., & Goldman, B.M. (2008). Within-person relationships among daily self-esteem, need satisfaction, and authenticity. *Psychological Science*, *19*, 1140–1145.

Hektner, J.M., Schmidt, J.A., & Csikszentmihalyi, M. (Eds.) (2007). *Experience sampling method: Measuring the quality of everyday life*. Thousand Oaks, CA: Sage.

Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The motivation to work*. New York: John Wiley & Sons.

Hetland, J., Hetland, H., Bakker, A.B., Demerouti, E., Andreassen, C.S., & Pallesen, S. (2015). Psychological need fulfillment as a mediator of the relationship between

transformational leadership and positive job attitudes. *Career Development International*, *5*, 464–481.

Hogan, R. (1982). A socioanalytic theory of personality. In M. Page (Ed.), *Nebraska symposium on motivation* (pp. 55–89). Lincoln, NE: University of Nebraska Press.

Ilardi, B.C., Leone, D., Kasser, R., & Ryan, R.M. (1993). Employee and supervisor ratings of motivation: Main effects and discrepancies associated with job satisfaction and adjustment in a factory setting. *Journal of Applied Social Psychology*, *23*, 1789–1805.

Ilies, R., & Judge, T.A. (2005). Goal regulation across time: the effects of feedback and affect. *Journal of Applied Psychology*, *90*, 453–467.

Ilies, R., Keeney, J., & Scott, B.A. (2011). Work–family interpersonal capitalization: Sharing positive work events at home. *Organizational Behavior and Human Decision Processes*, *114*, 115–126.

Ilies, R., Scott, B., & Judge, T. (2006). The interactive effects of personal traits and experienced states on intraindividual patterns of citizenship behavior. *Academy of Management Journal*, *49*, 561–575.

Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, *33*, 692–724.

Kammeyer-Mueller, J., Wanberg, C., Rubenstein, A., & Song, Z. (2013). Support, undermining, and newcomer socialization: Fitting in during the first 90 days. *Academy of Management Journal*, *56*, 1104–1124.

Kasser, V.G., & Ryan, R.M. (1999). The relation of psychological needs for autonomy and relatedness to vitality, well-being, and mortality in a nursing home. *Journal of Applied Social Psychology*, *29*, 935–954.

Kiffin-Petersen, S., Murphy, S.A., & Soutar, G. (2012). The problem solving service worker, appraisal mechanisms and positive affective experiences during customer interactions. *Human Relations*, *65*, 1179–1206.

Kim, E., & Yoon, D.J. (2012). Why does service with a smile make employees happy? A social interaction model. *Journal of Applied Psychology*, *97*, 1059–1067.

Latham, G.P., & Locke, E.A. (1991). Self-regulation through goal setting. *Organizational Behavior and Human Decision Processes*, *50*, 212–247.

Leiter, M.P., & Bakker, A.B. (2010). Work engagement: Introduction. In A.B. Bakker & M.P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 1–9). Hove: Psychology Press.

Lepper, M.R., Greene, D., & Nisbett, R.E. (1973). Undermining children's intrinsic interest with extrinsic reward: A test of the "overjustification" hypothesis. *Journal of Personality and Social Psychology*, *28*, 129–137.

Li, H., & Townsend, L. (2008). Mobile research in marketing: Design and implementation issues. *International Journal of Mobile Marketing*, *3*, 32–40.

Locke, E.A., & Latham, G.P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, *57*, 705–717.

Mignonac, K., & Herrbach, O. (2004). Linking work events, affective states, and attitudes: An empirical study of managers' emotions. *Journal of Business and Psychology*, *19*, 221–240.

Miner, A., Glomb, T., & Hulin, C. (2005). Experience sampling mood and its correlates at work. *Journal of Occupational and Organizational Psychology*, *78*, 171–193.

Morgeson, F.P., Mitchell, T.R., & Liu, D. (2015). Event system theory: An event-oriented approach to the organizational sciences. *Academy of Management Review*, *40*, 515–537.

Muthén, L.K., & Muthén, B.O. (1998–2015). *Mplus user's guide*, 7th edition. Los Angeles, CA: Muthén & Muthén.

Ohly, S., & Schmitt, A. (2015). What makes us enthusiastic, angry, feeling at rest or worried? Development and validation of an affective work events taxonomy using concept mapping methodology. *Journal of Business and Psychology*, *30*, 15–35.

Ouweneel, E., Le Blanc, P.M., & Schaufeli, W.B. (2012a). Don't leave your heart at home: Gain cycles of positive emotions, resources, and engagement at work. *Career Development International*, *17*, 537–556.

Ouweneel, E., Le Blanc, P.M., Schaufeli, W.B., & van Wijhe, C.I. (2012b). Good morning, good day: A diary study on positive emotions, hope and work engagement. *Human Relations*, *65*, 1129–1154.

Petriglieri, G., Ashford, S.J., & Wrzesniewski, A. (2018). Agony and ecstasy in the gig economy: Cultivating holding environments for precarious and personalized work identities. *Administrative Science Quarterly*. Advance online publication. https://doi.org/10.1177/0001839218759646

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879–903.

Preacher, K.J., & Selig, J.P. (2012). Advantages of Monte Carlo confidence intervals for indirect effects. *Communication Methods and Measures*, *6*, 77–98.

Preacher, K.J., Zhang, Z., & Zyphur, M.J. (2011). Alternative methods for assessing mediation in multilevel data: The advantages of multilevel SEM. *Structural Equation Modeling*, *18*, 161–182.

Preacher, K.J., Zyphur, M.J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, *15*, 209–233.

Reis, H.T., Sheldon, K.M., Gable, S.L., Roscoe, J., & Ryan, R.M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin*, *26*, 419–435.

Ryan, R.M., & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68–78.

Ryan, R.M., & La Guardia, J.G. (2000). What is being optimized over development? A self-determination theory perspective on basic psychological needs across the life span. In S. Qualls & R. Abeles (Eds.), *Dialogues on psychology and aging* (pp. 145–172). Washington, DC: American Psychological Association.

Salanova, M., Agut, S., & Peiró, J.M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty, the mediation of service climate. *Journal of Applied Psychology*, *90*, 1217–1227.

Seligman, M.E., & Csikszentmihalyi, M. (2014). Positive psychology: An introduction. In M. Csikszentmihalyi (Ed.), *Flow and the foundations of positive psychology* (pp. 279–298). Netherlands: Springer.

Schaufeli, W.B., & Bakker, A.B. (2003). *UWES, Utrecht Work Engagement Scale. Preliminary Manual*. Utrecht: Occupational Health Psychology Unit, University of Utrecht.

Schaufeli, W.B., Salanova, M., González-Romá, V., & Bakker, A.B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*, 71–92.

Sheldon, K.M., Ryan, R.M., & Reis, H.T. (1996). What makes for a good day? Competence and autonomy in the day and in the person. *Personality and Social Psychology Bulletin*, *22*, 1270–1279.

Song, Z., Foo, M.D., & Uy, M.A. (2008). Mood spillover and crossover among dual-earner couples: A cell phone event sampling study. *Journal of Applied Psychology*, *93*, 443–452.

Sonnentag, S., Dormann, C., & Demerouti, E. (2010). Not all days are created equal: The concept of state work engagement. In A.B. Bakker & M.P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 25–38). Hove: Psychology Press.

Tsai, W., & Huang, Y. (2002). Mechanisms linking employee affective delivery and customer behavioral intentions. *Journal of Applied Psychology*, *87*, 1001–1008.

VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement*, *57*, 995–1015.

Wang, X.H.F., & Howell, J.M. (2010). Exploring the dual-level effects of transformational leadership on followers. *Journal of Applied Psychology*, *95*(6), 1134–1144.

Wang, M., Liao, H., Zhan, Y., & Shi, J. (2011). Daily customer mistreatment and employee sabotage against customers: Examining emotion and resource perspectives. *Academy of Management Journal*, *54*, 312–334.

Weiss, H.M., & Beal, D.J. (2005). Reflections on affective events theory. In: N.M. Ashkanasy, W.J. Zerbe, & C.E.J. Härtel (Eds.), *Research on emotion in organizations* (Vol. 1, pp. 1–22). Oxford, UK: Elsevier/JAI Press.

Weiss, H.M., & Cropanzano, R. (1996). Affective Events Theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. In B.M. Staw & L.L. Cummings (Eds.), *Research in organizational behavior* (Vol. *18*, pp. 1–74). Greenwich, CT: JAI Press.

White, R.W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, *66*, 297–333.