

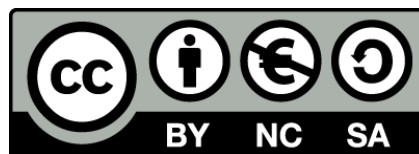


UNIVERSITAT DE
BARCELONA

Cognition, Affect and State Work Engagement: A Diary Study

**Cognición, afecto y *State Work Engagement*:
un estudio diario**

Cibeles Miralles Ortiz



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**COGNITION, AFFECT AND STATE WORK ENGAGEMENT:
A DIARY STUDY**

COGNICIÓN, AFECTO Y STATE WORK ENGAGEMENT: UN ESTUDIO DIARIO

CIBELES MIRALLES ORTIZ

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RESUMEN

La presente tesis doctoral trata de contribuir al estudio intra-individual de la vida interna de los trabajadores, enfocando variables cognitivas y afectivas que pueden estar relacionadas con un estado motivacional como el *work engagement* diario o *state work engagement* (SWE). Aclarar que en esta tesis cuando se dice trabajadores se refiere a hombre y mujeres. Se analiza la experiencia de 117 trabajadores del sector servicios a través de una metodología longitudinal y con la técnica de diario con la intención de captar las fluctuaciones de los estados cognitivos, afectivos y motivacionales de los trabajadores.

Con este objetivo se realizan tres estudios empíricos para entender cómo se relacionan en un proceso dinámico y transitorio las variables internas del individuo a saber: las evaluaciones cognitivas, atribuciones, afecto negativo, afecto positivo, estilos atribucionales y SWE. Además se pretende identificar si las evaluaciones cognitivas de los eventos, el afecto y diferentes emociones discretas son antecedentes del SWE.

Es así que en el primer estudio se elabora un marco teórico —basado en la teoría de los eventos afectivos, la teoría del *appraisal* y el modelo de SWE— para entender la dinámica de las relaciones entre cuatro variables intra-personales transitorias: las evaluaciones cognitivas que hacen los trabajadores a partir de los eventos del trabajo, el afecto positivo, el afecto negativo y el SWE. Se puso a prueba el efecto mediador del afecto en la relación entre las evaluaciones cognitivas y el SWE a través de un análisis multinivel, usando la técnica de regresión lineal jerárquica y el *bootstrapping*. Los resultados demostraron que efectivamente las evaluaciones cognitivas de los eventos y el afecto son antecedentes del SWE, además se confirmó que el afecto positivo y negativo son mediadores en la relación entre evaluaciones cognitivas y SWE. El enfoque novedoso

que nos permiten proponer estos resultados es el de entender el SWE bajo el marco de la teoría de los eventos afectivos como un resultado de las reacciones afectivas influidas por las interpretaciones de los eventos que ocurren en el entorno del trabajador. Este enfoque puede contribuir a futuros modelos que aborden los antecedentes del SWE.

El segundo estudio aborda el tema de la influencia moderadora de otro mecanismo cognitivo, las atribuciones, en la relación entre evaluación de los eventos y afecto transitorio. En este sentido se lleva a cabo un análisis multinivel de las características intra-personales de las atribuciones y el estilo atribucional como moderadores en la relación entre las evaluaciones cognitivas y el afecto positivo y negativo. Los resultados indican que la importancia atribuida a un evento y el estilo atribucional influyen de manera asimétrica en el afecto positivo y negativo de los trabajadores, evidenciándose el efecto moderador en el afecto negativo pero no en el positivo. Con esta evidencia se da soporte a la teoría cognitiva de las evaluaciones (Lazarus, 1991, 1993) y en parte a la teoría atribucional (Martinko, 1995; Weiner, 1980), ya que se demuestra que la importancia atribuida a un evento incide en el afecto negativo. El hecho que esta moderación no ocurra con el afecto positivo coincide con la asimetría en la literatura sobre la existencia de menos estudios sobre los antecedentes del afecto positivo en contraposición al negativo. Se evidencia la necesidad de ampliar la investigación sobre antecedentes cognitivos del afecto positivo transitorio como son las atribuciones y los estilos atribucionales. Esta investigación aporta elementos nuevos para el estudio multinivel de terceras variables en la dinámica diaria de la valoración cognitiva de eventos y del afecto y se constituye en una vía metodológica que permite diferenciar la naturaleza temporal de los antecedentes del afecto.

Y finalmente el tercer estudio aborda la investigación del afecto y emociones discretas como antecedentes del SWE diferenciando el tipo de afecto por su valencia y su

activación como se hace en el modelo circuplejo del afecto (Russel, 1980; Warr, 1990). Los resultados del análisis de redes neuronales artificiales revelan que: a) las emociones placenteras y de alta activación predicen el SWE, b) la emoción “contento” —emoción placentera de baja activación— también predicen el SWE, y c) para que se dé el SWE las emociones displacenteras de alta activación deben estar ausentes en la experiencia afectiva del trabajador. Además se demuestra un hallazgo novedoso que surge a partir del análisis de correspondencias múltiples: se pueden experimentar niveles de SWE medios, altos y muy altos cuando están presentes emociones placenteras tanto de alta como de baja activación, lo que parece apuntar a que las emociones no tienen que tener necesariamente alta activación para favorecer el *work engagement* diario. Los resultados se constituyen en una evidencia empírica innovadora sobre las emociones —de diferente valencia y activación— que predicen o impiden la aparición del SWE.

Los resultados de estos tres estudios destacan la importancia de la consideración temporal de estados como el afecto, el *work engagement* diario y las valoraciones cognitivas sobre los eventos en el trabajo y proponen un enfoque multinivel para estudiar la dinámica del proceso de generación del *work engagement* diario.

ABSTRACT

This doctoral dissertation has the purpose to contribute to the intra-individual research of the internal life of workers, focusing on cognitive and affective variables that might be related to a motivational state such as *daily work engagement* or *state work engagement* (SWE). Experiences of 117 workers are analyzed by means of a longitudinal methodology and the diary technique, with the intention to capture the fluctuations of cognitive, affective and motivational states of workers.

With this purpose, three empirical studies were designed to further our understanding of the way the internal variables of the individual relate to each other in a dynamic and transitory process. These variables are: cognitive appraisals, attributions, negative affect, positive affect, attributional states, and SWE. Moreover, the intention was to find out if the cognitive appraisals of events, affect and the different discrete emotions are antecedents of SWE.

This is how the first study was prepared within a theoretical framework —based upon the theory of affective events, the appraisal theory and the SWE model— to understand the dynamics of the relationships between four intra-personal transitory variables: the cognitive appraisals of events at work, positive affect, negative affect and SWE. The mediator effect of affect was tested in the relationship between the appraisals of the events and SWE by means of a multi-level analysis, applying hierarchical linear regression and bootstrapping. The results show that indeed, appraisals of events and affect are antecedents of SWE; moreover, positive and negative affect are mediators in the relationship between appraisals of the events and SWE. The novel and original concept, which allows us to propose these results, is understanding SWE under the framework of

the appraisal theory as a result of affective reactions influenced by the interpretation of events that occur in the workers' environment. This approach may contribute to future models that address the antecedents of SWE.

The second study addressed the topic of the moderating influence of another cognitive mechanism, attributions, in the relationship between events appraisal and transient affect. Specifically, this study consisted in a multi-level analysis of the attributions and the attributional style as moderators in the relationship between cognitive appraisals and, respectively, positive and negative affect. The results indicate that the importance attributed to an event and the attributional style exert an asymmetrical influence on workers' positive and negative affect: there is a moderator effect on negative affect but not on positive affect. This evidence provides support to Lazarus' appraisal theory and partially to Weiner's attributional theory as described by Martinko in 1995, as these theories would require the importance attributed to an event to exert an influence on negative affect. The finding that this moderation does not occur with respect to positive affect, is consistent with an asymmetry in the literature, which features less studies on the antecedents of positive affect than of negative affect. The need to carry out more research on cognitive antecedents of transient positive affect is evident, such as the attributions and the attributional styles. The methodological design of this multi-level study adds to the state of the art in the research of the daily dynamics between events' appraisal and affect, as an example that shows how to differentiate between the more or less temporary or transient nature of antecedents of affective reactions –such as a personality trait and transient cognitive mechanism. Affective events theory would require such differentiation. It should be expected that this line might continue in future research about affect.

Finally, the third study was focused on affect and discrete emotions as antecedents of SWE, differentiating the type of affect based on the dimensions of pleasure and arousal, in the way it is done in the circumplex model of affect (Russel, 1980; Warr, 1990). The results of the artificial neuronal network analysis reveal that: a) pleasant emotions with high activation predict SWE. b) the “contented” emotion –pleasant with low activation— also predicts SWE, and c) in order for SWE to occur, the high activation unpleasant emotions should be absent in the affective experience of the worker. Moreover, there is a novel and original finding, which emerges from multiple correspondences analysis: intermediate, high and very high levels of SWE may be experimented when pleasant emotions are present, both of high and low activation; this indicates that emotions do not necessarily have to be of high activation to foster the daily work engagement. These results become a novel empirical evidence about the emotions, which predict or hinder the emergence of SWE.

The results of these three studies highlight the importance of the temporal character of states such as affect, daily *work engagement* and cognitive appraisals about events at work and propose a multilevel approach to study the dynamics of the process which generate work engagement on a daily basis.

“Inner work life matters for companies because, no matter how brilliant the company’s strategy might be, the strategy’s execution depends on great performance by people inside the organization”

Teresa Amabile

"Employee contribution becomes a critical business issue because in trying to produce more output with less employee input, companies have no choice but to engage not only the body, but also the mind and the soul of every employee"

Dave Ulrich

INTRODUCCIÓN

La presente investigación está enmarcada en la línea de investigación de Recursos Humanos y Organizaciones del Doctorado de Psicología Social y de las Organizaciones de la Universidad de Barcelona. La contribución de este trabajo se ubica en la línea de estudio de la Psicología Organizacional Positiva (POP) y los modelos intra-individuales del bienestar en el trabajo (Ilies, Aw & Pluut, 2015). La POP como un sub-ámbito de estudio de la psicología organizacional se ha desarrollado en las últimas dos décadas prestando especial atención a los fenómenos y elementos que potencian a las personas en el trabajo, se centra en sus fortalezas y todo aquello que contribuya a su bienestar y desarrollo óptimo. En el tema del bienestar en el trabajo en la última década el estudio se ha centrado en los antecedentes y consecuencias del bienestar, y esto se ve reflejado en la proliferación de teorías, constructos, y estudios que describen cómo los trabajadores florecen.

Más específicamente el presente trabajo se ocupa del *work engagement*, que es un estado motivacional caracterizado por el vigor, la dedicación y la absorción. Nos ocupamos de estudiar las fluctuaciones intra-individuales del *engagement* en el trabajo y sus antecedentes. Esta aproximación reconoce que los individuos que se sienten comprometidos y *engaged* con su trabajo a diario, puede que no estén igualmente *engaged* o comprometidos cada día. Varios estudios han mostrado que las fluctuaciones pueden ser predichas y usadas a su vez para predecir importantes resultados tanto en los trabajadores como en la organización. Indicadores transitorios de bienestar laboral (o cambios intra-individuales) son mejores predictores de ciertas actitudes y aspectos del desempeño organizacional que los indicadores más estables en el tiempo (diferencias inter-personales).

Es especialmente relevante el análisis de las fluctuaciones en el caso del estudio de variables altamente dependientes de situaciones y contextos organizacionales, tales como el afecto o indicadores transitorios del bienestar. Los modelos que han abordado el estudio de elementos transitorios y altamente dependientes de situaciones organizacionales, lo han hecho obviando su carácter efímero y de corta duración. En la psicología organizacional se ha dado este caso en el estudio de constructos como el afecto, actitudes, personalidad y características del trabajo, abordándolos desde una perspectiva que analiza las diferencias individuales y los toma como constructos estables en el tiempo. De hecho el tipo de diseños de investigación más usados han sido los diseños transversales basados en cuestionarios de auto-reporte.

Esta perspectiva no es útil si lo que se quiere es entender las fluctuaciones de elementos relacionados al *engagement* de los trabajadores, tales como las cogniciones y estados afectivos generados por eventos en el contexto laboral. Sucede algo similar con los modelos que explican la dinámica interna de elementos cognitivos, afectivos y actitudinales, se han abordado desde una perspectiva que no toma en cuenta el carácter transitorio de las variables.

Con el propósito de contribuir al estudio de las dinámicas intra-individuales cognitivas, afectivas y del *engagement* en el trabajo, en este trabajo se propone una aproximación teórica basada en la teoría de los eventos afectivos (AET) y la teoría de la evaluación cognitiva de las emociones, los estilos atribucionales y el modelo del *state work engagement* (SWE). A partir de este marco se presentan tres estudios empíricos abordados con la técnica de diario y realizados con trabajadores del sector servicios de diferentes organizaciones. Los estudios abordan las cuestiones de si las evaluaciones cognitivas de los eventos laborales y el afecto son antecedentes del *work engagement* diario y si se puede hacer una aproximación hacia un modelo que explique cómo se

relacionan los elementos cognitivos y afectivos ocasionados por los eventos laborales, con el *work engagement* diario.

De esta manera, en el primer estudio se presenta el marco conceptual donde los antecedentes de SWE pueden ser entendidos como parte de un proceso dinámico que genera un fenómeno transitorio. Se presenta una original propuesta desde el marco de la AET y la teoría del *appraisal* para explicar el SWE como un estado influenciado por las reacciones afectivas y por las evaluaciones cognitivas de los eventos del trabajo. Ningún estudio del *engagement* en el trabajo plantea las evaluaciones cognitivas de los eventos como un antecedente del SWE, a pesar de que las evaluaciones cognitivas están estrechamente relacionadas con los eventos diarios del trabajo, y los eventos en el trabajo son un elemento que se ha tratado de vincular o incluir en otros modelos de *work engagement*. (e.g. mediante la identificación de recursos y demandas de trabajo como antecedentes del *engagement*). En este primer estudio empírico se analizaron las evaluaciones cognitivas, afecto y SWE desde un enfoque intra-individual y se probó la mediación del afecto en la relación entre las evaluaciones cognitivas y el SWE a través de un análisis multinivel. En el segundo estudio se estudió la influencia moderadora de las características intra-personales (e.g. atribuciones de importancia del evento y estilo atribucional) en la relación entre las evaluaciones cognitivas y el afecto positivo y negativo. Se usó un análisis multinivel considerando relaciones entre variables en los niveles entre-persona e intra-persona. Finalmente en el tercer estudio se estudio el afecto como antecedente del SWE diferenciando el tipo de afecto en su valencia y nivel de activación (usando el modelo circuplejo del afecto). Se probó a través de un análisis de redes neuronales artificiales que principalmente las emociones activadas y placenteras diarias son antecedentes del SWE, así también se evidenció a través de un análisis de

correspondencia múltiple que no es imprescindible que las emociones placenteras tengan una alta activación para asociarse al estado del *work engagement*.

En los tres estudios empíricos se ha usado un diseño longitudinal con una metodología de diario y se obtuvo información durante diez días, de un gran número de participantes, lo cual no se logra frecuentemente. El diseño longitudinal no se usa extensamente debido a la complejidad de dos aspectos: la dificultad de controlar a los participantes durante varios días; y la dificultad de análisis de la información que generalmente se encara con un enfoque multi-nivel. La intención de esta disertación ha sido capturar la información de los participantes, a medida que vivían los hechos de su experiencia en el trabajo. El medir los estados en el lugar de trabajo permite tener un reporte o informe de eventos y experiencias en el contexto del sitio de trabajo donde fueron vividos, lo que incrementan la validez ecológica de los estudios y disminuye el sesgo posible producido por el recuerdo posterior (Beal, Davis & Rafaeli, 2003), especialmente si se compara con estudios transversales que piden a los participantes reportar sobre estados ocurridos en las últimas semanas o meses.

Esperamos que esta disertación se constituya en un peldaño para seguir construyendo el conocimiento científico sobre los antecedentes transitorios del *work engagement* de los trabajadores y a su vez que sea una base para el diseño de intervenciones dirigidas a aumentar el bienestar organizacional.

CHAPTER 1. GENERAL INTRODUCTION

1.1. Theoretical Framework

1.1.1. Relevance of Work Engagement Nowadays

Nowadays organizations are struggling to survive in a context characterized by change and global competitiveness. During the period that this thesis was written, we lived in Europe a financial crisis which had a global impact in other regions' economies. Since we are living in a global economy with high interdependency with the economy of other regions, its context is very sensitive to changes in a wide variety of regions, competitiveness is required in most organizations more than ever. In this context societal concerns shift from economic survival, competitiveness and elements concerning with quality of life; scholarly interest in employee well-being has risen considerably in recent years. Studies about concepts linked to employee well-being have risen recently such as resilience, happiness, employee engagement (Ilies et al., 2015).

The concept of work engagement (WENG), understood as a positive and energetic state of vigor, dedication and absorption (Schaufeli & Bakker, 2004), has gained a lot of attention in academia and organizations, because it is linked to performance and a positive state of realization for the employees. Research has shown that engaged employees are more productive than non-engaged employees (e.g. Harter, Schmidt & Hayes, 2002), moreover they are satisfied with their work, are committed and loyal to the organization, show proactive behavior and are willing to walk 'the extra mile' for the organizations (Schaufeli & Salanova, 2007). Especially the evidence of engaged employees being more productive is an advantage of the concept compared with job satisfaction –a concept organizational psychology focused on during a long time – which relation with productivity continues to be controversial. Moreover, empirical evidence about benefits of WENG has been proven in diverse work contexts. Furthermore, there is evidence that engaged employees experience positive emotions at work -a sign of well-being in the

organizational life- (Bakker & Oerlemans, 2011; Diener, Sandvik & Pavot, 1991; Warr, 1990) and feel healthy and energetic. It seems important to enhance work engagement, not only because enhancing well-being at work is a goal in itself, but also because it influences on positive organizational outputs (e.g. customer loyalty and satisfaction; Zwetsloot & Pot, 2004).

1.1.2. Work Engagement Trait and State Approach

In organizational psychology, there is a dominant conception of constructs as relatively stable over time, even though many concepts (e.g. job satisfaction, well-being, affect, attitudes) are highly sensitive to context, which is characterized by constant change. The study of short-term fluctuations of variables is of high interest because there is a dynamic change in the inner-life of a worker influenced by the constant change of environmental situations and characteristics.

This has been also the case of the study of WENG, which has been done mainly analyzing data at between-person level, meaning that the unit of analysis is the person and the statistical analyses are based on inter-individual variation. According to this approach, the construct is conceptualized as a stable condition over time and taken as a quasi-trait of the person. Given its study is focused on differences that exist between people, daily fluctuation in engagement has been treated as a measurement error (Sonnentag, Dormann & Demerouti, 2010).

Although, there is another approach initiated by Sonnentag (2003) who questioned the dominant conceptualization of work engagement as a construct referred as a persistent and generalized cognitive-affective state (Schaufeli et al., 2002). This author proved that the levels of work engagement vary within the same worker from day to day, answering to specific situations influenced by personal and contextual conditions. Sonnentag proposes to consider the concept of work engagement not only as an enduring state, but

also as a daily state. Specifically, as a “*momentary and transient state which exists in a given moment and fluctuates within individuals within short periods of time*” (Sonnentag et al., 2010 p. 26).

According to this, we propose to follow a within-person approach in order to capture and analyze the fluctuation of SWE (Ohly, Sonnentag, Niessen & Zapf, 2010). This approach emphasizes the importance of capturing the transient character of WENG, examining short-term fluctuations, variability and identifying relations among related transient variables. Other authors joined this approach, Bakker (2014) states there is a need of a more dynamic approach that can model short-term changes in work engagement and its correlates.

1.1.3. The Study of State Work Engagement Needs to be Broadened

We believe that an approach that analyzes the change of engagement is essential for developing a more comprehensive understanding of the work engagement phenomenon, both from a conceptual and theoretical point of view. Studying SWE from a within-person perspective allows differentiating transient engagement from enduring engagement (Xanthopoulou & Bakker, 2013); furthermore studying the concept at different levels favors the homology of the proposed assumptions across levels of analysis (Kozlowski & Klein, 2000), which adds to the parsimony and breadth of the theoretical framework.

When studying work engagement in its state facet (within-person perspective), it is expected to function similarly to its enduring facet (between-person perspective), that is also the case of other concepts studied in its state and enduring facets (e.g. satisfaction, affect). In the case of SWE, results of diary studies generally parallel the findings concerning enduring WENG, however some antecedents seem to act differently. Job Demand Resources Model (JD-R; Bakker & Demerouti, 2007) is a reference model in

WENG literature, it proposes that job and personal resources and job demands are antecedents of work engagement and findings have been similar when testing the influence of them on work engagement either as in its state or trait form (Bakker, 2014). However, Sonnentag et al. (2010), propose a different interplay among its antecedents, for work engagement as state, giving a more prominent role to personal resources and adding recovery as a relevant antecedent just for SWE (Sonnentag, 2003). It was proven that when workers can detach from work in the evening and manage to recover; they are more engaged the next morning. This is a relevant antecedent just when considering short-term changes in SWE from day to day. When considering the temporal character of variables, the model that explains SWE antecedents might change and we might consider additional theories or rationales to explain its dynamic process.

1.1.4. Difference between State-Level and Trait-Level of Work Engagement

We want to clarify also the difference in the contributions of the state-level or within-person view of WENG from the trait-level or the between-person view. The differentiation is important because each approach covers different types of needs in the organization. For instance, measuring engagement and analyzing it with a between-person view (as traditionally done) can be informative for the organizations. Hence, it allows the organization to know which employee is more engaged, and maybe compare engagement between team members, work teams, departments, etc. However, when the analysis of the measurement of daily engagement is done with the within-person view, it may reveal why organizational results change from day to day. It may reveal the answer to a question that many managers have asked: why under (apparently) the same resources and conditions the results of workers are different from day to day? When we are dealing with WENG under the between-person approach, WENG is taken as a quasi-trait of the person. Moreover, when we deal with WENG under the within-person approach, WENG

is taken as a transient and fluctuating state. Additionally, it is also important to clarify that each approach allows scholars to answer different research question. The within-person view answers questions like why one person feels more engaged at work on specific days and on others days not?; and the between-person view answers questions like why one person feels engaged at work while other persons do not?

1.1.5. Implications of Studying Work Engagement as a State

Furthermore, the concept of SWE is especially interesting for organizations and for organizational psychology. On one hand, for organizations because SWE has been proven to be predictive of important organizational outcomes, including job performance and proactive behavior (Sonnentag, 2003; Xanthopoulou et al., 2008; Xanthopoulou et al., 2009). Moreover, in organizations there are periods where it is necessary for the employees to be particularly engaged, like facing a new project or client demands, entering in high seasons, etc. Thus, disentangling the antecedents of SWE may facilitate to foster engagement among workers in those periods, if not all year long. On the other hand, it is also interesting for organizational psychology because the concept of SWE comprises the promise of understanding work situations and occasions when there are high levels of state work engagement. This enables us to understand its proximal antecedents and consequences for employees and their contexts aspects also indicated by Sonnentag et al. (2010). Knowing the proximal situational and person-related predictors of work engagement may allow the organization to create working conditions that support work engagement enhancement. It is an especially interesting approach which enables to focus on the proximal antecedents of a desirable state like SWE. Proximal situational and person-related predictors of SWE are our main interest, because they might have a deeper impact in the state of engagement than distal predictors might. To illustrate the different impact that diverse elements of our environment could have on people, we could take the

example of antecedents of personality. A distal antecedent that influences personality might be culture and a proximal antecedent might be close relationships and experiences. Both elements determine personality, but certain ones are more closely related than others to the studied phenomenon.

1.1.6. State Work Engagement Model

There is a theoretical model about work engagement (Sonnentag et al., 2010), which proposes distal and proximal antecedents and consequences and refers exclusively to its transient character. Sonnentag and colleagues (2010) point out that in order to experience state work engagement, the states that activate positive aspects of the self (e.g. personal resources) are of particular importance. SWE model compared with other models of work engagement (e.g. Job Demand Resources Model; Bakker & Demerouti, 2007) gives prominence to personal resources, which are taken as proximal antecedents of SWE. Moreover, work demands are considered to mediate the relationship of personal resources and SWE, not the relationship between job resources and engagement as proposed in previous models.

The model states that there are three concepts that are daily antecedents of SWE: distal day-level processes (e.g. recovery), day-level job resources (e.g. autonomy, team climate), personal resources (e.g. self-efficacy, self-esteem, optimism, positive affect, energy). Day-level processes and day-level job resources are distal antecedents that influence SWE in an indirect manner. They have an impact in SWE through the influence of the daily personal resources on SWE and this relationship is mediated by day-level demands. This model states that these resources enhance SWE; nevertheless personal resources are given major relevance than the other resources (Figure 1.1).

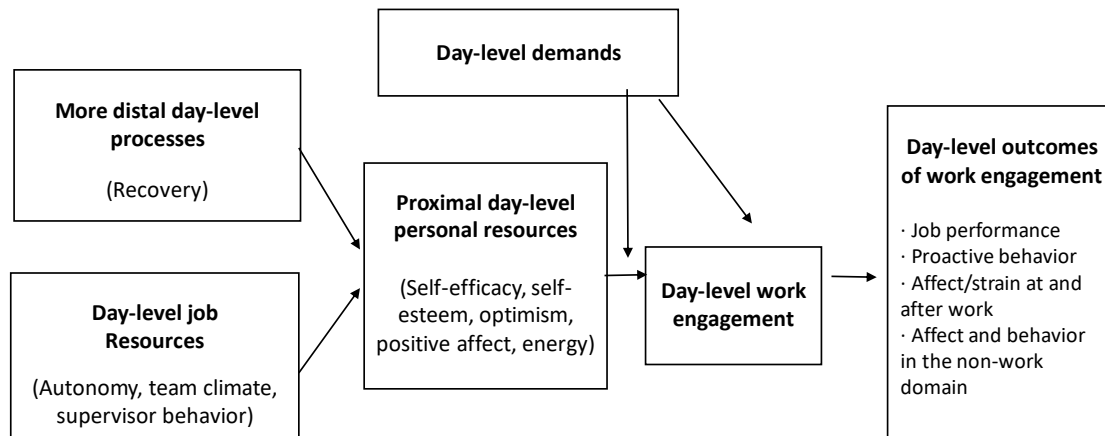


Figure 1.1. Model of state work engagement. Adapted from Sonnentag, Dormann & Demerouti (2010)

Personal resources are conceptualized as cognitive beliefs valued by employees, which could serve as a means to attain other resources such as objects, energies, or work conditions (Xanthopoulou, Bakker, Demerouti & Schaufeli, 2007). When referring to day-level personal resources the same definition applies but with the differentiation, that these are transient and fluctuating states.

Some studies have proven that day-level personal resources influence on SWE. Xanthopoulou, Bakker, Heuven, Demerouti and Schaufeli (2008) in a diary study among flight attendants proved that personal resources of self-efficacy enhance SWE. In addition, Xanthopoulou, Bakker, Demerouti and Schaufeli (2009) in a study among workers of fast food restaurants proved that job resources influence SWE indirectly through personal resources of self-efficacy, self-esteem and optimism and daily performance. It is of high interest to reflect about which other cognitive mechanisms could facilitate the emergence of the state and broaden this line of research. For instance, it would be plausible to consider cognitive mechanisms, which are involved in motivational processes such as appraisal of the work events, cognitive styles, attributional

bias, and locus of control. As far as we know, no research has related any of these concepts with work engagement.

Finally, transient positive affect is included in the model among the proximal antecedents of SWE. If positive emotions are important to initiate actions directed to a goal, a precondition of work engagement, it is very plausible that affect is a proximal precursor of SWE. Two studies provide empirical evidence of its influence. Results of diary studies of Bledow, Schmitt, Frese and Kühnel (2011) and Oweenel, Le Blanc, Schaufeli and Van Wijhe (2012) point out that positive affect is positively related to SWE and negatively related to negative affect (just in Bledow et al., 2011).

Mainly in studies about affect and work engagement, an omission is made when measuring positive affect. There is the expectation of covering all kinds of emotions -the one high and low in activation- instead exclusively positive and negative affect of high arousal is been considered. The same tendency is found in organizational psychology according to Warr, Bindl, Parker and Inceglou (2014). Also, Sonnentag and colleagues' proposal does not do this differentiation when referring to positive affect as an antecedent of SWE. Nevertheless, there is one theoretical proposal that makes the distinction of the kind of affect that would be associated to work engagement. This is an interesting proposal that associates positive affect high in activation and pleasure to WENG (Bakker & Oerlemans, 2011). Notwithstanding, there is no empirical study or evidence about the kind of affect which is related to WENG; neither are there studies, as far as we know, that specify which kind of affect is related with transient WENG.

1.1.7. Theories About the Inner-Life of a Worker

In the next two paragraphs, we are going to describe briefly some key points of three theories that explain short-term changes in the inner life of workers: affective events theory, appraisal theory and attributional theory. There are numerous theories and models

have been put forth in the literature seeking to describe and explain how various job characteristics and situational or intra-individual factors influence individuals' experiences related to work (e.g. well-being at work, job satisfaction). Nevertheless, we believe these are the most adequate to explore the transient character of the interplay of intra-individual antecedents of SWE.

1.1.8. Affective Events Theory

Affective events theory (AET; Weiss & Cropanzano, 1996) is a central theory, which explains how affect is generated in the workplace and explains the influence that affective reactions have on attitudes and behavior of workers. AET explains the elicitation of transient affect as a process, which takes into account both contextual factors of work environment and intra-individual factors. Starting from this theory four aspects are clear: 1) affect is the consequence of certain events happening in the work context, 2) there are individual differences in the way the employees react to this affective events, 3) affect is transient and a phenomenon of a short term life, 4) affect influence on attitudes and behaviors.

Alike other theories of its time AET includes among the antecedents of affect, contextual factors and intra-individual factors of workers; other theories just focus either on one or another. The theory states that contextual factors are the environmental job characteristics of the workplace and work events, and that internal antecedents are personal dispositions, cognitive mechanisms of appraisal and attributions of workers. It states that these antecedents elicit affective reactions and affective reactions in turn cause transient outputs such as attitudes and affect-driven behavior (see Figure 1.2).

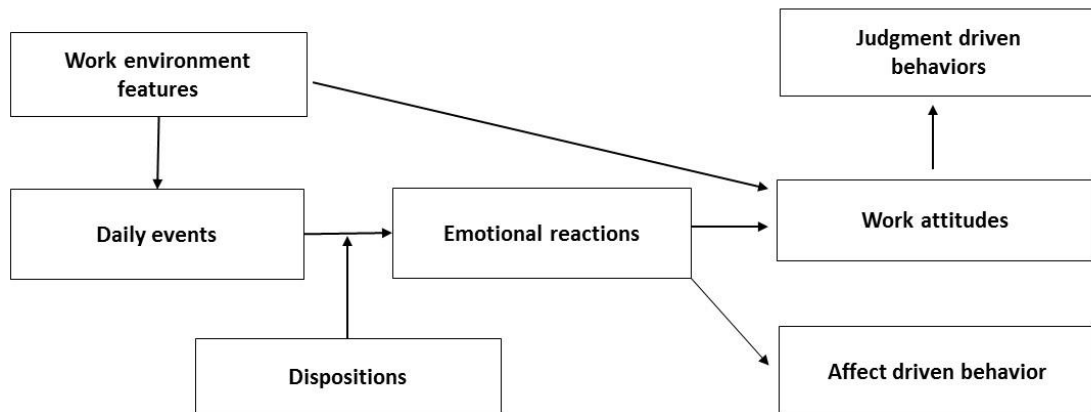


Figure 1.2. The affective events theory. Adapted from Weiss & Cropanzano (1996)

Thus, affect is elicited by events happening in the workplace, which are affect related, meaning that not all events elicit affective reactions. Important events related with the goals of the workers (e.g. events that hinder or enable goal attainment) do generate affective reactions. Events are related also with the characteristics of work context, for instance organizational culture and climate is going to contribute for certain events to happen and most importantly for a certain interpretations of the events to occur.

Moreover, AET states that workers are going to react differently to the same events influenced by personal dispositions. The theory states that personal dispositions (positive and negative affect as disposition, optimism, explanatory styles) are moderators in the way people react affectively to work events. An important gap can be found in most research about personality and affect on this respect. The transient nature of affect has been overlooked, because most research studies aggregate affect measures, treat it as a trait variable or do not clarify if it is addressed as a trait or a state variable (Weiss & Kureck, 2003).

AET points out that once that affect is elicited, it may influence directly or indirectly on behavior. Directly when it influences on affective driven behavior, which is transient behavior such as effort, turn over, citizenship behavior. Moreover, it influences indirectly when influences on attitudes, which are antecedents of behavior, such as work motivation, satisfaction and work engagement.

AET emphasizes the study of the episodic structure of affect experiences at work. Episodes of emotional experience show a structure that comprises peak moments, and persistent and recurring patterns; thus, representing them just by simple aggregation of experiences on time, is far away from an adequate way to reflect them (Weiss & Beal, 2005). According to this theory, affect would require the consideration of its fluctuations through the pass of time. Despite AET's authors emphasize the episodic character of affect, a great portion of the research conducted around AET does not measure affect as a transient phenomenon, but rather as a stable phenomenon (Brief & Weiss, 2002). More research is needed which would be coherent with the conceptualization of the authors about affect and its antecedents regarding their transient nature (Weiss & Brief, 2001).

Moreover, even if there are solid studies that confirm the proposed relationships between variables, especially between affective events-affect-attitudes (the core of the theory), most studies test the relations of the model partially. Most of these studies addressing affect and its correlates do not go further than testing two relations of the model, losing the dynamic process of the whole proposal (e.g., Velasco, Navarro & Rueff-Lopes, 2017; Weiss & Brief, 2001).

New research that addresses the influence of more elements of the process (e.g. events, personal dispositions, appraisal, affect, affect-driven behavior) is needed in order to clarify the functioning of the dynamic process of affective-driven behavior and

attitudes elicitation. Patterns of relations between all contextual and intra-individual variables might be discovered which could foster desirable work behavior or attitudes.

1.1.9. Appraisal Theory of Emotions and Attributional Theory

Other important theories about the internal functioning of intra-individual processes of people are appraisal theory of emotions and attributional theory. Appraisal theory has two fundamental assumptions: a) that there are regularities to be discovered between situations and components of emotional episodes and b) that a mental process called appraisal causally mediates the influence of these situations on emotional components.

According to appraisal theory, the sequence of affect elicitation starts with an event that is relevant to the person. Then there is an evaluation about this event, which in turn triggers an affective reaction and causes subsequent employee behaviors. Classic authors sustain that people evaluate events initially as positive or negative (Lazarus, 1991, 1993; Weis & Cropanzano, 1996), and that after the appraisal, a pleasant or unpleasant state is experienced. For example, when a worker evaluates a work event as a success, the generated affect will be pleasant and when the event evaluated as less positive, the affect will be unpleasant. Appraisal mechanisms give meaning to workplace events.

Theory of attributions (Weiner 1985b, Martinko, 1995) complements the theory of appraisal in explaining how employees give meaning to the events using causal explanations and its dimensions. According to the attributional theory of emotions (Weiner, 1985a) the causal attributions given to each life event might determine the affective reactions of people. For instance, if a successful event is attributed to an internal causal explanation (e.g. own effort) the emotions that arouse may be of proud or happiness, nevertheless if it the attribution is external the emotions might change. The

theory states that causal attributions determine not only affective reactions, but also behavioral reactions.

Attributional theorists (Moors, Ellsworth, Scherer y Frijda, 2013) propose different classification of dimensions of the causal attributions that will influence in the elicited emotions (e.g. importance of the event, locus of causality, generalizability, globality, among others). The research of these dimensions will give some light to the topic of how appraisals are constructed in order to produce one emotions or another.

It is relevant to keep on advancing in the knowledge of patterns and similarities among appraisals of work events, attributions, emotions and work-related states and behavior. Moreover, given we are dealing with transient sates and mechanisms, it is advisable to use an adequate methodology to capture these transient states and mechanisms (e.g. daily studies or experience sampling methodology). Nevertheless, traditionally appraisal was measured with predefined vignettes and with cross-sectional designs, most probably subjects averaged emotions and had recall-bias influence on their answers. Fortunately, there has been a shift in the way appraisal is measured; recent lines of research considered it a transient phenomenon and it has been proven it has an influence on transient emotions (Nezlek et al., 2008).

1.2. Our Proposal

Some referent theories about the functioning of the inner life of workers such as affective events theory and appraisal theory of emotions concur in the idea that emotions and affective reactions are highly sensitive to situational factors (e.g. context and intra-persona variables) and that this process is characterized by a transient nature and its component are mainly short-term variables.

We believe that the key to disentangle the transient character of some phenomena of organizational psychology (e.g. SWE) lies on examining short-term fluctuations and

variability of its variables and identify relations among related transient variables (Ohly et al., 2010). We align ourselves to the perspective of other authors that point out time perspective has been neglected in some key topics of organizational psychology (e.g. motivations, affect, team processes). These kinds of phenomena need to be understood as a dynamic processes characterized by change, processes that have a beginning, a development and an end.

Going along with this approach, we are basing on the affective events theory (Weiss & Cropanzano, 1996) and on the postulates of the SWE model to present a proposal to study the antecedent of SWE and affect. Precisely, AET is a theory that paves the way for within-individual conceptualization of employee well-being, because it acknowledges fluctuations in employee mood states and emotions over time (Ilies et al., 2007). We recognize that AET presents a model to guide the study of affect elicitation, it is not just a model to be tested. On this line, we present a proposal that integrated other theories to AET, in order to understand the dynamic process of SWE and affect elicitation. We analyzed fluctuations of intra-individual data about the process of SWE elicitation by applying longitudinal methodology with the diary study technique.

We have mentioned that within the study of AET, studies that comprise the study of relations between the proposed variables that go beyond taking into account only two variables, are uncommon; thus, losing the approach of the dynamic process. In our proposal, we want to establish the relationship between several important elements in the dynamics of affect generation and SWE. Specifically, we aim to contribute to the understanding of patterns between contextual and intra-individual variables on the process of generation of phenomena similar to affect-driven-behavior (e.g. impulsive acts, help behavior, transient effort). Let us remember AET explains the dynamics among work events, cognitive mechanisms, affective reactions and affective-driven behavior.

The theory states that work events trigger transient appraisal and affect, which in turn influence employees' affective-driven behavior (Brief & Weiss, 2002). We are not focusing on specific affective-driven behavior, but on an antecedent of behavior, namely SWE. We mentioned before that work engagement has been proven to be a precursor of proactive behavior and in-role behavior (Sonnentag, 2003). An affective-driven behavior may be by definition the outcome of two precursors such as cognition and affect (Weiss & Cropanzano, 1996). Hence, we consider plausible that both SWE and affective-driven behavior might be a result of a configuration of certain appraisals of the event and affective reactions.

Given we want to study intra-individual variables that foster WENG, we will establish a parallelism between daily personal resources as proposed in the SWE model of Sonnentag et al. (2010) and daily intra-individual characteristics of the worker. We conceptualized intra-individual cognitive and affective characteristics (e.g. affect, appraisal) as states that might be valued by employees and might serve as means to attain other resources such as objects, energies, or work conditions. In our opinion, the SWE model proximal day-level antecedents studied (e.g. self-efficacy, self-esteem, optimism) are somewhat similar to cognitive concepts, because all can activate positive aspects of the self. Self-efficacy and self-esteem are referred to oneself belief of efficacy and esteem; and optimism is not only referred to one's performance but also to external events. In SWE studies we found out that there are no other concepts included as antecedents of SWE that can be considered cognitive variables referred to work events. We state that cognitive interpretation or appraisal that workers give to the events happening to them in their daily work might influence in their affective reactions and engagement states. In consequence, we propose to study work event appraisals of workers as cognitive precursors of SWE.

Moreover, taking into account evidence of affect as an antecedent of SWE and AET framework, we propose that affect is going to have a mediation role between work event appraisal and SWE. Consequently, we will evaluate if appraisal and affect are transient antecedents of SWE (Study 1). Our intention is to consider event appraisal as a cognitive intra-individual variable linked to work events (contextual factor) and affect which function as an antecedent of SWE (intra-individual factor) and study their interaction based on AET. AET in concordance with the cognitive appraisal theory of emotions (Lazarus, 1993), points out that individuals' psychological beliefs, expectations and appraisals may be a source of emotions and cause subsequent employee states or behaviors. Thus, these cognitive mechanisms give meaning to workplace events and trigger the affective reactions and its consequences (e.g. SWE).

Furthermore, as AET, appraisal theory (Lazarus, 1993) and attributional theory (Weiner, 1985b) state there are some moderators in the relationship between appraisal and affect, such as attributions and trait characteristics. Given it has been proven that momentary appraisal influence on transient affect (Nezlek et al., 2008), we propose to study the moderator influence of attributions and explanatory style in the relationship between appraisal and affect (Study 2). Additionally, we consider that a differentiation should be made about the transient characteristic of momentary appraisal and the durable character of explanatory style as a trait variable with a multilevel research design. Let us remember that AET contemplates the influence of trait variables (e.g., personality traits) on affective reactions as moderators between work events and affective reactions. Therefore, it is interesting for us to test a moderator similar to a trait variable such as the explanatory style in the relationship between events' appraisal and transient positive and negative affect. By doing this, we are addressing a gap in AET studies where there is a

lack of differentiation between the dispositional variables taken as rather stable on time and transient affective reaction (Brief & Weiss, 2002).

Finally, although Sonnentag and colleagues' model states that positive affect is a precursor of SWE, studies about this relationship do not differentiate which kind of affect is predicting SWE. We aim to clarify this gap by studying discrete emotions that vary in their valence and arousal (Russell, 1980, 2003) and its relationship with SWE. In previous studies about affect and SWE when measuring positive affect, mainly there is the expectation of covering all kind of emotions, both high and low in activation. Instead exclusively positive and negative affect of high arousal are been considered; the same tendency is to be found in organizational psychology according to Warr, Bindl, Parker and Inceglou (2014). As far as we know, there is no empirical evidence to sustain the theoretical proposals that associate positive affect high in activation and pleasure to WENG (Bakker & Oerlemans, 2011); neither are there studies that specify which kind of affect is related with transient WENG. We consider this topic of high interest, because it lays on the reasoning that fleeting affect could lead to positive states that could lead to workers well-being (Fredrickson, 2001). Consequently, discrete emotions are going to be proposed as precursors of SWE differentiating its valence and activation (Study 3).

In Figure 1.3 we present the research model we proposed for this dissertation, which contains all the variables addressed in our studies and their expected relations. This model explains the dynamic interplay between all the studied variables, which we find plausible to determine based in the aforementioned theories. In the model, we make a differentiation when dealing with variables in the between-person level and with variables in the within-person level.

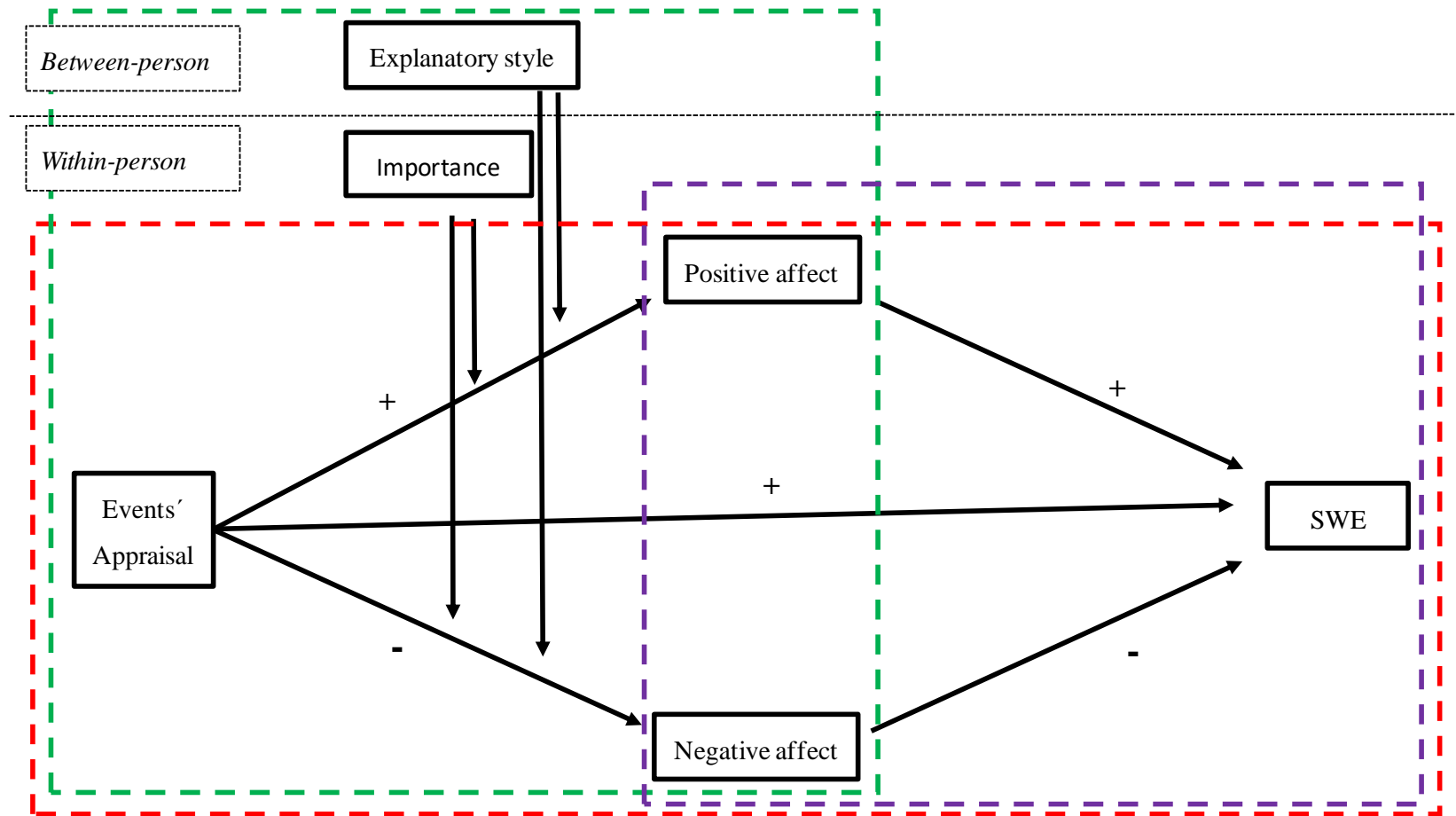


Figure 1.3. Model of the thesis. Note. Study 1 (in red) comprises the variables, events' appraisal, positive affect, negative affect and SWE. Study 2 (in green) comprises the variables, events' appraisal, explanatory style, importance of the event and positive and negative affect. Study 3 (in violet) comprises the variables, positive affect and negative affect, discrete emotions and SWE. The labels "between-person" and "within-person" refer to the approach used to analyze the respective variables.

1.3. Research Aim

The previous section offered an overview of the theories we chose to build our proposal and the current antecedents of research's needs around the topic of person-related precursors of SWE. We pointed out that the topics of cognition, affect and SWE have been mainly approach with surveys and cross-sectional research designs as with other person-related concepts studied in organizational psychology. The consequence is that these studies fail to capture the transient and fluctuating character of the concepts. Therefore, research is needed to analyze these phenomena as transient processes.

Aiming to capture intra-individual life of workers, we focus on cognitive concepts that could be linked to affect and could be linked to a state of vigor dedication and absorption such as work as work engagement. Specifically, we aim to determine how cognitive and affective intra-individual mechanisms such as appraisal of events, positive and negative affect, attributions and explanatory style are related to SWE, and determine if transient cognitive and affective intra-individual concepts of appraisal of the events, attributions, positive affect, negative affect, and different affective states can be antecedents of SWE. In consequence, two main questions that guided our research were:

- a) How affective experiences and cognitive mechanisms of appraisal of the events (intra-individual and inter-individuals) and state work engagement are related in a process and daily dynamic?
- b) To what extent are the affective experiences and cognitive mechanisms of appraisal of the events, antecedents of state work engagement?

These two main research questions are broken down into more specific research questions and hypothesis, which were dealt with and solved in each one of the empirical studies. In Table 1.1 shows a summary of the three studies, where those questions are specified, moreover, the objective of each study is stated, the fundamental findings, the

main theoretical frameworks, the methodology used to address them, and the main findings and key words. Please refer to such Table to see this information. You may also consult Figure 1.3 to see the research model of the thesis, which contains all the studied variables, distinguishing them according to each study and level of analysis.

In the next section, we want to point out some general aspect of the methodology we used in our studies. We outline some aspects of the research context, the diary methodology and the multilevel analysis. Regarding the research context, we characterize the service sector and explain why is it relevant to study transient affect and work engagement in this work context. With respect to the diary methodology, we explain the advantages of this technique and why it was useful for the study of SWE. Finally, we clear out some concepts of multilevel analysis for readers that are not familiarized with this approach.

Table 1.1. Empirical studies

Context	Title		
	Study 1	Study 2	Study 3
Empirical studies	Daily work events and SWE: the mediating role of affect	Asymmetric relationships between attributions and affect at work. Spanish title: Relaciones asimétricas entre atribuciones y afecto en el trabajo	The affective map of SWE: A diary approach
Main research questions and goals	<ul style="list-style-type: none"> ▪ Can event´s appraisal and affect be considered antecedents of SWE? ▪ Which is the dynamic among event´s appraisal, affect and SWE? ▪ Are positive and negative affect mediators in the relationship between appraisal and SWE? 	<ul style="list-style-type: none"> ▪ Are events appraisal related with positive and negative affect? ▪ Are attributional mechanisms (Attributional styles/importance of the event) moderators in the relationship between event´s appraisal and affect? 	<ul style="list-style-type: none"> ▪ Which emotions – considering their valence and activation – predict SWE? ▪ Which emotions – considering their valence and activation – predict the dimensions of SWE: vigor, dedications and absorption? ▪ Could other emotions- besides the ones that are high in pleasure and activation – be related to SWE?
Key findings	<ul style="list-style-type: none"> ▪ Positive and negative affect are mediators in the relationship between events appraisal and SWE. ▪ The way employees evaluate an event might facilitate or impair experiencing SWE at the daily level. The appraisals elicit affect, which boosts SWE when positive affect is felt and decrease it when negative affect is aroused. 	<ul style="list-style-type: none"> ▪ Moderation of attributional mechanisms in the relationship between appraisal and affect is asymmetrical. ▪ Multilevel analysis point out that - at within-person level – importance of the event was a moderator between appraisal and negative affect, but not with positive affect. In a similar way, but with cross-level influence, attributional style moderates the relationship between events appraisal and negative affect, but not with positive affect. 	<ul style="list-style-type: none"> ▪ Pleasant emotions with high activation predict SWE. Not only pleasant emotions of high activation do, also a pleasant emotion of low activation (i.e. content) does. Unpleasant emotions of low activation should not be present if SWE is going to emerge. ▪ To experience high levels of SWE, pleasant emotions of high and low activations might be present. Pleasant emotions might not necessarily have high activation to enhance SWE.
Main theoretical framework	AET; Cognitive Appraisal Theory; SWE model	Appraisal theory; AET; Personal dispositions	Affect; Circumplex model; SWE
Methodology	Multilevel analysis – Hierarchical Linear Regression / Bootstrapping	Multilevel analysis – Growth Modeling	Artificial Neural Networks; Multiple Correspondence Analysis
Key words	events appraisal, affect, SWE,	appraisal, affect, attributions	affect, emotions, SWE

1.4. Method

1.4.1 Research Context

We conducted our study within the context of workers of organizations that belong to the service sector. The service sector or tertiary sector of the economy is the one that provides the society with services such as public and private services for instance, commerce, transport, tourism, communications and financial services. The tertiary sector is very relevant for countries in the European Union (EU) because it is the main source of employment in all the countries of the EU and 66% of the job positions are within this area.

In the past decades the nature and context of work has changed, we have witnessed the emergence of the knowledge work and in this sector more than in others, a challenge has raised with these changes. The knowledge work has resulted in a growing importance of psychological capabilities of employees in order for them to have a good performance. Even some authors have argued that mental capital is becoming one of the most important resources of today's organization to survive (Weehuizen, 2008). The work nowadays has psychological demands that imply that employees have to invest emotional and cognitive resources. In opposition to what happened years ago when the work mainly had physical demands.

In this context, the research of affective and cognitive concept such as work engagement gains relevance. Organizations are in need of employees who are willing to psychologically invest in their work (Ouweneel, 2012). Business is getting 'psychologized' as performance of organizations is increasingly dependent on the affective, cognitive, behavioral, and motivational characteristics of employees. This psychological investment could resemble employees who are energetic, dedicated,

intrinsically motivated, committed and proactive and fully absorbed in their work, which comes close to the characteristics of engagement (Macey & Schneider, 2008).

The participants of our studies were workers of different organization in the service sector where the topic of transient affect and work engagement has a vital importance because of the positive consequences of positive affect and WENG in organizations. In total 117 workers of 89 organizations participated in the research. Organization were public and private and belong to different sectors such as education, health, telecommunications, tourism and hotel industry, mass consumption, consultancy among others. For further specificities of the sample description, please refer to each study in the next chapters.

1.4.2 Diary Methodology

Diary methodology was chosen because it is a technique that enables us to deepen in the study of the within-person view of SWE (Ohly, Sonnentag, Niessen & Zapf, 2010). This perspective seems adequate for the purpose of this dissertation for three reasons.

First of all, the within-person allows for a closer look at temporal patterns of work-related experiences and behaviors (Sonnentag et al., 2010). Individuals are not equally engaged across all days. There are days when employees feel more vigorous, absorbed and dedicated than other days or weeks. By averaging across situations by assessing a general level of work engagement, we would be ignoring the dynamic and configurational part of the work engagement phenomenon.

Second, as an experiential state, SWE is probably much causally tied to real work-related events and behavioral outcomes, than a judgment that requires aggregating previous experiences over an extended period of time (Xanthopoulou et al., 2012). Investigating SWE may yield much stronger evidence of its antecedents and consequences than investigating its trait-like counterpart because it might involve fewer

human judgmental processes and errors than more trait-like conceptualizations, and therefore might better reflect causal relations.

And third, the within-person approach enables us to examine proximal predictors of work engagement. There are specific situational features that have to be present during a specific day in order to feel engaged. In general, through this approach we answer the question: *when* do people feel work engagement? In the case of this dissertation, our focus is to know under which intra-personal circumstances workers feel work engagement.

1.4.3 Multilevel Analysis

In social science, multilevel analysis is used commonly to study the effect that variables on different levels have, for instance in organizations, variables in the upper level could be teams, departments, areas, etc. and variables in a lower level could be daily beliefs, affect, and behavior of workers. When referring to a person the variables that change across days are said to be in the within-person level (level 1) and variables related with traits are said to be in the between-person level (level 2; Hox, 2002).

The term multilevel refers to the fact that observations called units of analysis are simultaneously collected at multiple levels of analysis. Multilevel data sets are sometimes referred to as nested or hierarchically nested because observations at one level of analysis are nested within observations at another level (Nezlek, 2011).

In diary studies a common conceptualization of the data is to think about data nested within individuals. For instance, multiple observations about a single person are collected and these daily observation (e.g. affect, mood) are treated as nested within persons. Person level measures, such as gender or a personality trait that exist at the person level and the daily level observations for each person would have these characteristics in common. In

contrast, at the daily level, data describing the events that occurred each day and how an individual thought about him or herself that day might be collected.

Multilevel analysis was used in studies 1 and 2 because we aimed to analyze short-term dynamics of experiences within and between individuals in the work context. This methodology allows us to examine the fluctuation of our daily variables and in the case of study 2, to check for cross-level interaction of trait variables (e.g. explanatory style) on daily variables (e.g. appraisal, attributions, affect, SWE). Moreover, in study 1 all the variables were at level 1, but multilevel analysis was needed because the daily registers of states (e.g. affect, appraisal and SWE) were nested in workers. Thus, the observations assessed daily are not independent from each other and this non interdependency must be taken into account in the analysis (Snijders & Bosker, 1994). For example, daily experiences of affect may be more similar when they come from the same person as opposed to different persons. We also aimed to improve estimation of effects within persons using multilevel analysis (Xanthopoulou & Bakker, 2013).

1.5. Main Contribution and Strengths of the Work

In our opinion the main contributions of this work resides in two aspects: 1) integration of AET and appraisal theories contribute to the understanding of antecedents of SWE and affect, 2) the effort in research design to capture the transient character of the variables (regarding design and sample size).

A key part of this work was finding a framework where antecedents of SWE could be explained as a transient phenomenon. The integration of AET, appraisal theory and SWE literature was a challenge. We must say that AET already integrates in its original proposal (Weiss & Cropanzano, 1996) the cognitive appraisal theory of emotions (Lazarus, 1991; 1993) to explain the process of affect elicitation and explain the appraisal

mechanism which enables worker to assess work events and that had affective reactions as outcome. Even though appraisal theory is considered in AET, few studies have included events appraisal to explain affective reactions and affective driven behavior in the workplace. Moreover, no theory that intended to explain antecedents of work engagement has included events appraisal either. Here resides one aspect of the originality of our proposal. We consider that the inclusion of events appraisal as a construct that can help to explain SWE is a contribution in the sense that events appraisal can be considered a construct similar to personal resource, an antecedent considered in SWE model. In addition, appraisal is tightly related to daily work events, precisely work event is an element that has been tried to be linked by other models of work engagement (Job Demand-Resources model: Bakker & Demerouti, 2007), through the identification of job resources and job demands as antecedents of engagement.

Moreover, we used a longitudinal design with a diary methodology, which is not largely used in organizational psychology, and we got data for ten days from a large number of participants, which is not frequently achieved. First longitudinal design is not largely used because of the complexity of two aspects: the difficulty to monitor the participant for several days and the difficulty in the analysis of the data that is frequently addressed with a multi-level approach. It was almost imperative for this work the use of this approach, because we aimed to capture SWE as a fluctuant and transient state, which can change across days and weeks, even within the same day; not only this state but also cognitive and affective antecedents that were as well transient and fluctuant. This approach also allows us to explore the antecedents and correlations of the studied daily intra-individual experiences. Given our aim was to explore daily variables and their interplay, it was necessary to collect longitudinal data and temporal information. This research design has other advantages as well, it allows us to have a report of events and

experiences in the work context where they occurred. These aspects enhance the ecological validity of our study (Beal, Davis & Rafaeli, 2003). Moreover, being in the context where work events occurred also facilitated participants to recall the lived experiences more vividly, which enables us to minimize considerably the recall biases, especially if compared to cross-sectional studies that request participants to report states regarding the last months or weeks.

Finally, we got data from a large number of participants for ten days, usually diary studies comprise periods of five to seven days. In addition, we have a rather heterogeneous sample, including workers from diverse organizations of the service sector. Furthermore, we had a high response rates in our studies because we gave effortless accessibility to the questionnaire through Internet. These characteristics help to increase the validity of our findings.

1.6. Structure of the Empirical Work

We present the three studies that we conducted. The first one consists in the preparation of the framework where the dynamics among events appraisal, affect and SWE could be understood at the within-person level. The mediation of the affect was tested between the relationship of events appraisal and SWE with a multilevel analysis. The second study consists of the study of intra-personal characteristics (e.g. attributions and explanatory style) as moderators in the relationship of appraisal and positive and negative affect. We tested cross-level interaction also with a multilevel analysis. Finally, the third study approaches the study of affect as an antecedent of SWE, differentiating the kind of affect related to SWE by its valence and arousal by using the circumplex model of affect. As a general overview of the empirical work done in this research, Table 1.1 presents a synopsis of the three studies conducted including the research questions, key findings, main theoretical framework, methodology used and key words.

CHAPTER 2. STUDY 1

DAILY WORK EVENTS AND STATE WORK ENGAGEMENT: THE MEDIATING ROLE OF AFFECT.

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Daily Work Events and State Work Engagement: the Mediating Role of Affect.

Eventos Diarios y *State Work Engagement*: el Rol Mediador del Afecto.

Abstract

According to Affective Events Theory, the emotional elicitation process is initiated by the appraisal of affective events happening to employees. Moreover, the theory states that these elicited affective experiences influence on attitude and behavior in the workplace. In the present study this theoretical frame is applied to explain the interplay of variables influencing state work engagement. We analyze the mediating role of affect between work events' appraisals and daily work engagement, using a diary study. One-hundred-seventeen workers answered a daily questionnaire for at least ten days generating a total of 1203 registers. Multilevel analysis proved that daily events' appraisal is positively related to state work engagement, and that this relationship is partially mediated by positive and negative affect. Moreover, the effect of positive affect was bigger than the one of negative affect. The explored relations provide new theoretical elements for models that explain which variables influence on state work engagement.

Keywords: affective events theory; affect; state work engagement; events' appraisal; diary studies.

Resumen

De acuerdo a la teoría de los eventos afectivos, el proceso de generación de emociones se inicia con las valoraciones cognitivas que los trabajadores hacen de los eventos afectivos que viven. Además, esta teoría sostiene que las experiencias afectivas generadas influyen en las actitudes y comportamiento del trabajo. En este estudio este marco teórico es aplicado para explicar la dinámica de algunas variables que influyen en el *work engagement* diario. Usamos un diseño de diario para analizar el rol mediador del afecto en la relación entre las interpretaciones de los eventos y *work engagement* diario. Ciento diecisiete trabajadores respondieron a un cuestionario diario durante diez días obteniendo un total de 1203 registros. El análisis multinivel evidenció que las valoraciones cognitivas diarias de los eventos están positivamente relacionadas al *work engagement*, y que ésta relación está mediada parcialmente por el afecto positivo y negativo. El efecto del afecto positivo fue más grande que el del afecto negativo. Las relaciones exploradas brindan nuevos elementos teóricos para los modelos que explican qué variables influyen en el *work engagement* diario.

Palabras clave: teoría de los eventos afectivos; afecto; *work engagement*; valoración cognitiva de los eventos; estudio de diario.

2.1. Approach to Study Antecedents of State Work Engagement

Recently the study of work engagement as a state, has gained attention in organizational psychology (Bakker & Demerouti, 2008; Leiter & Bakker, 2010). Work engagement is defined as a “positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli, Salanova, González-Romá & Bakker, 2002, p.74). When referring to work engagement as a state, other characteristics are added to its definition. It is characterized as a momentary and transient experience, which fluctuates within individuals within short periods of time (Sonnentag, Dormann & Demerouti, 2010). The concept as a state resembles a short-lived experience in workers` life. State work engagement (SWE) has proved its importance in several studies that showed that being engaged at work enhances desirable work outcomes, such as proactive behavior, learning behavior and job performance (Xanthopoulou, Bakker, Heuven, Demerouti & Schaufeli, 2008; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009).

Regarding the study of antecedents of work engagement, many studies have identified positive variables which influence on work engagement, for instance job and personal resources and positive affect. Even though, not all of them focus on state work engagement, but on work engagement, as a relatively stable concept. This means, the study of state work engagement, helps to support processes evidenced or presupposed in different levels of analysis (Xanthopoulou & Bakker, 2013). There is the need to study processes which could influence on SWE; for instance, affect or other variables which have been linked to motivation and positive states (Sonnetag et al., 2010).

Affective events theory (AET; Weiss & Cropanzano, 1996) and cognitive appraisal theory (Lazarus, 1993) are proper frameworks to understand the affect elicitation process, because they studied their antecedents and consequents. They propose

that the appraisals that individuals do, are going to influence on their affective experiences and these in turn are going to impact on their attitudes and behaviors. The majority of the research about this process of affect elicitation has been studied analyzing variance attributable to between-persons variations, but not taking into account within-person fluctuations produced along the day. However, precisely the opposite is what authors of the referent theories recommend, they emphasize the importance of capturing the transient character of affective experiences. There is the need to broaden the study of affect elicitation process, and its related variables in a daily basis for many reasons. First, there are few investigations about how affective experiences with their transient character influence on attitudes and behavior in an immediate manner (Ilies, Schwind & Heller, 2007; Weiss & Beal, 2005); second, more research is needed about the antecedents of state work engagement as a vivid experience (Sonnentag & Ilies, 2011); and third, the relationship between variables involved in the affect elicitation process such as events` appraisal, affect and state work engagement remain to be proven at the daily level.

2.2. Aim of the Study

In this study we will consider the main ideas propose by AET, the main postulates of cognitive appraisal theory and the concept of state work engagement, to study how work events` appraisals generate positive and negative affect in workers and how then these positive and negative affects are related with their state work engagement. Specifically, we want to explore whether work events` appraisals and affect can be considered as daily antecedents of state work engagement. Likewise, we want to test if affect has a mediating role in the relationship between work events` appraisals and state work engagement on the daily level. We explore not only the relationship of positive affect, but include negative affect in the analysis, because both kinds of affects arise in the workplace. Figure 2.1 displays our research model.

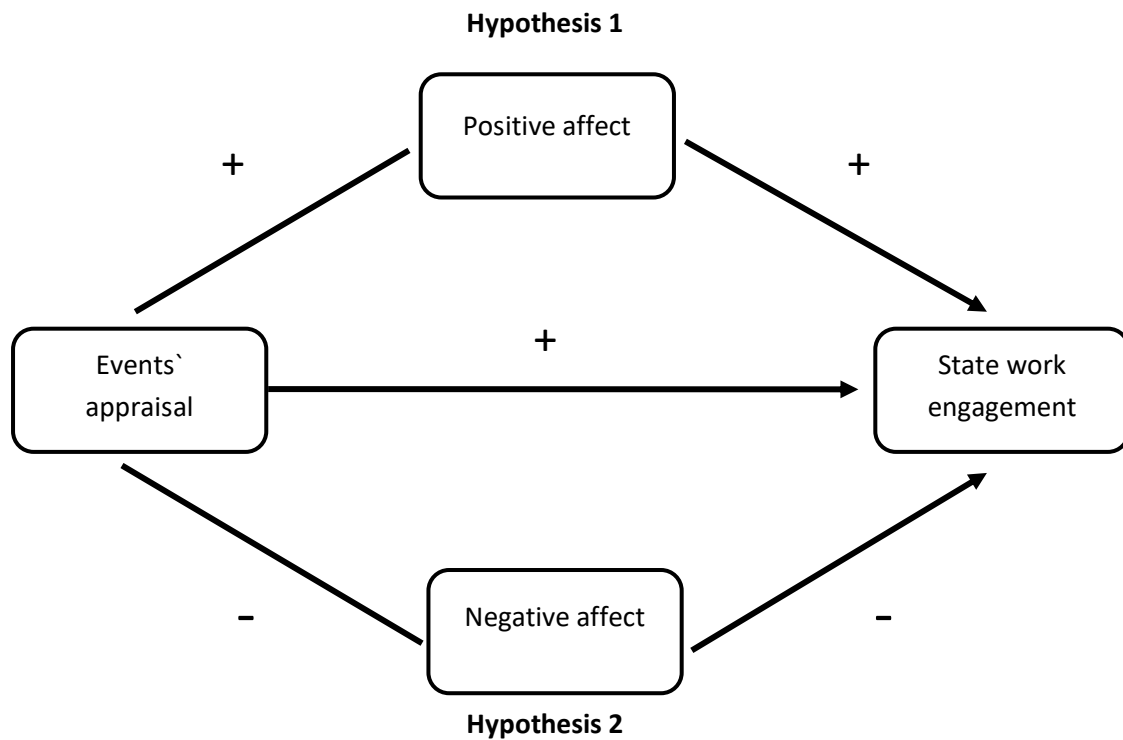


Figure 2.1. Outline of the Research Model.

2.3. Theoretical Framework

We present here an introduction of the main concepts of this paper, state work engagement and its relations with affect; then we explain the mediation of affect between work events' appraisal and work engagement, upon the basis of the main AET's standpoints; finally, we state our hypotheses.

2.3.1. Work Engagement as a State

Research has shown that employees are more engaged at work on certain days than on others, in response to specific situational and personal conditions (Bakker & Leiter, 2010; Sonnentag et al., 2010). The concept of state work engagement (SWE) is supported by several studies which state that work engagement fluctuates over short periods of time. These studies show work engagement changes over the week and also along the day (Bakker & Xanthopoulou, 2009; Xanthopoulou et al., 2008). To illustrate

the changes on this state, we just have to imagine a worker in a common day at his/ her workplace. For instance, a commercial executive in the banking sector might feel vigorous, dedicated, and absorbed while selling a financial product to a client, whilst engagement might decrease during the performance of mandatory paper work. Taking the latter into consideration, an interesting question to answer would be, what is it on a specific day that explains employee`s high levels of engagement?

To approach these topics, a line of research about the study of the antecedents and consequences of state work engagement has been developed during the latter years (Xanthopoulou & Bakker, 2013; Sonnentag & Ilies, 2011). We identify two prominent reasons for this growing interest. First, studying work engagement at the times and situations when it happens, enables the investigation of its antecedents more accurately. And second, investigating the interplay of variables influencing work engagement holds the potential of an improved psychological understanding of the concept and may generate guidelines to enhance it among workers. That might be of interest to organizations, which are in economic contexts where tough competition occurs. They consistently need more and more employees who among other characteristics are proactive, show learning behavior and have better performance. Research shows that SWE and these behaviors are related positively; the same happens with performance (Xanthopoulou et al., 2008; Xanthopoulou et al., 2009).

Regarding the study of antecedents of SWE, different factors related to invigorating the person have been proposed to be related to the concept, for instance affect. More specifically, positive affect has been proposed as SWE`s proximal antecedent (e.g. Sonnentag et al., 2010). Taking this proposal into consideration, we are going to address how affective experiences at work might be facilitators to make an employee feel less or more vigor, dedication and absorption. By affect we refer to short

term discrete emotions, which are characterized by a certain degree of pleasure or displeasure, and may be accompanied by high or low levels of activation (Russell, 1980; Warr, 1990; Warr & Parker, 2010). The pleasure, activated and unactivated emotions, constitute the positive affect; and the displeasure, activated and unactivated emotions, are the negative affect. Having said that, we have to point out that there are also other theoretical bases, besides the ones mentioned above, which show the relationship between positive affect and SWE (Fredrickson, 1998; Sweetman & Luthans, 2010). For instance, self-regulation theory (Carver, Sutton & Scheier, 2000) supports the link between positive emotions and states like work engagement. The theory states positive affect functions as a signal to approach and to continue a line of action (Bledow, Schmitt, Frese & Kühnel, 2011). Bledow and colleagues, for example, state that positive emotions could have an effect on work engagement because they facilitate approach behavior, which prompts individuals to set goals and to get engaged in attaining these goals and work-related activities. This would play an important role for initiating goal-directed action, a precondition for work engagement. As Bledow and colleagues (2011) argue, positive affect supports the distinctive mindset of state work engagement.

In addition, research shows that affect is linked to concepts related to motivation and positive states (Barsade & Gibson, 2007; Lyubomirsky, King & Diener, 2005), but there are few studies that analyze the influence of affect on SWE. Even though some studies link positive affect to work engagement (Ouweneel, Le Blanc, Schaufeli & Van Wijhe, 2012; Salanova, Llorens & Schaufeli, 2011), not all of them focus on state work engagement, but on work engagement; this means, it is needed to study this relationship in a daily basis as well. More evidence about this relationship could confirm previous studies. Furthermore, it is needed to understand how positive affect arises to influence SWE and which elements elicit positive or negative affect.

It might be advisable to consider both positive and also negative affect when analyzing their influence on SWE, because both affective reactions arise within a work context. Although, little is known about the influence of negative affect on SWE. Theoretically, negative affect (i.e. feeling anxious, tense, gloomy or worried) is not compatible with being absorbed in an ongoing activity, feeling vigorous at work, and being dedicated to a task. According to Fredrickson, Tugade, Waugh and Larkin (2003) negative emotions interrupt the ongoing stream of action and lead to a “tightening” of mental processes. Thus, negative affect might be negatively related to state work engagement. Bledow and colleagues (2011) studied the functions of positive and negative emotions in work engagement. They showed that negative emotions are not compatible with work engagement in the short term. More research would be needed to support such point of view. Going beyond the evidence that affect might enhance or diminish SWE, it would be interesting to study more in depth which are the antecedents of affect. We address this topic in the next section of this paper.

2.3.2. Work Events` Appraisals, Affect and State Work Engagement

We are going to refer to affective events theory as a basis for our explanation of how affective experiences are going to influence on state work engagement. As we mentioned before, specifically interesting is the study of positive affect as antecedent of work engagement, accordingly with models which propose they are daily antecedent for work engagement (Sonnentag et al., 2010). Upon the basis of this proposal, we are going to address an element which elicits not only positive emotions but negative emotions as well.

Affective experiences do not arise in the vacuum; they are referred to work events. More specifically, theory states that what gives meaning to events is the appraisal that workers carry out about them (Lazarus, 1993). A key variable to which the emotions are

referred to and that initiates the emotional reactions process is the appraisal that employees make about events happening in their workplace.

Cognitive appraisal theory states that employee`s psychological beliefs, expectations, and appraisals may be a source of emotions and cause subsequent employee attitudes and behaviors. In consequence, we assert that employee`s appraisal is what makes a difference in the interpretation of what happened in their day-to-day life, specifically on the consequent affective reactions and resulting behaviors (e.g. work motivation, engagement, etc.).

It is important to bear in mind that not all people assess events in the same way; moreover, the same event can be assessed in different ways by the same person. Studies have demonstrated that appraisals fluctuate within and between individuals (Nezleck, Vansteeland, Mechelen & Kuppens, 2008). Both appraisals and affective experiences are transient experiences, which might influence on attitudes and behaviors at work.

Both theories, AET and cognitive appraisal theory, concur on the idea that when an event occurs to a worker he/she makes a first appraisal to evaluate if the event is beneficial to attain a desired goal or if it hinders it and that the resulting affect is positive or negative. The event is going to be appraised in terms of success or failure. An example of an event interpreted as successful could be receiving positive feedback about one`s performance. The employee might interpret this work event as a success, because it is a proof that his/her effort is obtaining the desired outcomes. Whereas, an event appraised as less successful or as a failure, could be worker facing errors in production work, which delay the accomplishment of a deadline on due time. In the latter case, the accomplishment of the goal was hindered. Likewise, affective experiences are going to influence attitudes and behaviors at the workplace, as AET asserts. However, these assertions remain to be tested, especially in a daily basis.

Upon the basis of this rationale we propose that when an event happens to a worker and it is interpreted as a success, positive affect might arise. In turn, this positive affect may facilitate a high level of state work engagement (Sonnentag et al., 2010). On the other hand, when an event interpreted by the worker as less successful (failure), negative affect will arise, and this negative affect is going to decrease the level of state work engagement (Bledow et al., 2011).

We propose that affect has a mediating role between work event`s appraisal and state work engagement at a daily level. We aim to go beyond to what is stated theoretically and examine if the interplay of variables influencing SWE can be explained using AET rationale. Accordingly, a positive relationship is expected in the relations work events` appraisal, positive affect, and state work engagement. And a negative relationship is expected in the relations between work events` appraisal, negative affect, and state work engagement.

These relationships are examined taking into account both daily and individual level. As we explained previously, the contribution of this study is to focus on the daily level.

2.4. Hypotheses

According to this we state our hypotheses:

Hypothesis 1. Positive affect partially mediates the positive relationship between work events` appraisal and state work engagement at a daily level.

Hypothesis 2. Negative affect partially mediates the positive relationship between work events` appraisal and state work engagement at a daily level.

2.5. Method

We used a diary-study approach to test the above-mentioned hypotheses. To test the mediation, we used a multilevel modeling approach.

2.5.1. Procedure and Participants

2.5.1.1. Procedure. Invitations to participate in the study were sent by e-mail to workers in the service industry. We asked them to extend the invitation to employees that adjust to two criteria: that they work in the service industry and that they have access to Internet at work. An on-line survey was sent to people who showed interest in participating, in order to gather demographic data about participants and information about the characteristics of the organizations. Then, the purpose of the study was explained by means of on-line instructions, along with an explanation of the concepts involved and what was expected from their participation. As a result we got employees from different organizations engaged on participating. They answered an on-line survey once every day (at the end of the day) during at least 10 working days; the survey assessed events` appraisal, affect and state work engagement. The on-line questionnaire provides the possibility to check if participants have answered every day. The advantage of diary methodology is that diary studies can capture live as it is lived (Bolger, Davis & Rafaeli, 2003). Another advantage is that diary research relies less on retrospective recall than regular surveys (Ohly et al., 2010).

2.5.1.2. Participants. A sample of 117 workers answered a daily questionnaire for at least ten days ($N = 1203$ observations). The response rate obtained was 80%. Of the total number of the sample, 59% were women and the mean age of the participants was 33 years old ($SD = 8.59$). Moreover, 81% had a full-time job, and 19% had part-time jobs; none of the participants were self-employed. 60% of participants had more than 3 year working in the company, the other 40% had been with the same company for a period between one and two years. 82% had less than 5 years in the position, the other 18 % had more than 5 years; 78% had no managerial positions and just 22% had people under their

charge. Finally, 89 different organizations were involved in the study; the majority belongs to the service sector.

2.5.2. Measures

The daily survey contained questions to assess work events` appraisal, positive and negative affect, and state work engagement.

2.5.2.1. Events` Appraisal. Participants were asked to record a relevant fact or event which had happened to them since the start of their working day in an open-ended question (e.g. “Describe briefly a fact that occurred at work today during your working day. Make a comment on what you did and what was the outcome”). After that, participants were requested to rate the degree in which the event was a success or a failure with a 7 point Likert scale ranging from 1 (Failure) to 7 (Success).

2.5.2.2. Affect. We used the scale “feelings at work” (Warr & Clapperton, 2010) to measure positive affect and negative affect. The scale comprises twelve items: six items measure positive affect (e.g., “excited” and “relaxed”) and six items measure negative affect (e.g., “tense” and “anxious”). Participants were asked to record the emotional states that they felt about the event. The question was “How did you feel about this event?” and they could choose from the twelve affective states. The scores of positive affect (6 emotions) and negative affect (6 emotions) were created adding up all the adjectives chosen (ranging from 0 to 6).

2.5.2.3. State Work Engagement. SWE was assessed with six items of the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002). The scale consists of two items measuring vigor (e.g., “I felt strong and vigorous with this event”), two items measuring dedication (e.g., “This event inspires me”), and two items measuring absorption (e.g., I get carried away when I`m facing this kind of events”; Seppälä & Schaufeli, 2009). Participants were asked to state the level of engagement they felt as a

consequence of the event they recorded before. All items were scored on a 7 point scale ranging from 1 (“little”) to 7 (“much”).

2.5.3. Data Analysis

Due to the structure of our data (i.e., days nested in persons) we used a hierarchical linear modeling approach (Preacher & Hayes, 2008; Preacher, Zyphur & Zhang, 2010). Furthermore, to test the significance of the mediation effect we used the method recommended by Krull and Mackinnon (2001), and by Baron and Kenny (1986). Additionally we used the bootstrapping approach for multiple mediators as described by Preacher and Hayes (2008), to contrast the level of significance of the various estimated parameters. In a similar manner, other authors recommend to use this method stressing that bootstrapping has higher power while maintaining reasonable control over the Type I error rate, compared to other methods (i.e. Sobel test). Another advantage of this method is that it does not impose the assumption of normality of the sampling distribution. For both analyses the data was person-centered, as recommended by Ohly et al. (2010). We used Mplus statistical package for running the analysis.

2.6. Results

2.6.1. Descriptive Statistics

Firstly, we present the descriptive statistics and correlations for all variables. We computed the correlations for all variables at a within-person level and at a between-person level. All correlations pointed in the expected directions ($p < .01$; see Table 2.1.).

Table 2.1.

Means, standard deviations, minimum and maximum values and correlations of the studied variables

	M	SD	Min	Max	Events` appraisal	Positive affect	Negative affect	State work engagement
Events` appraisal	5.00	1.87	1	7	NA	.53**	-.51**	.68**
Positive affect	1.42	1.27	0	6	.35**	NA	-.51**	.66**
Negative affect	0.69	1.03	0	6	-.43**	-.12	NA	-.50**
State work engagement	4.10	1.75	1	7	.56**	.51**	-.28**	.93

Note. M and SD are calculated at within level (daily-level). Within-person correlations are located in the upper side of the diagonal; the ones below the diagonal are correlations at between-person level. Cronbach`s alphas are situated in the diagonal.

* $p < .05$. ** $p < .01$. NA = not available

2.6.2. Hypotheses Testing

Before our hypotheses testing, the intraclass correlations coefficient (ICC) of the dependent variable SWE was calculated, $ICC_{SWE} = 0.128$. This result showed that there is an important amount of the variance in SWE that may be explained by within-person variations and, in consequence, a within-person analysis of the relations among variables becomes necessary.

As we have said, to assess the multilevel mediation analysis, we followed the procedure proposed by Krull and Mackinnon (2001) and Baron and Kenny (1986). Mediation is proven if the following conditions are met: 1) a significant relationship between predictor and mediator, 2) a significant relationship between predictor and outcome variable, and 3) a significant relationship between mediator and outcome variable in the full model, along with a declining effect for the predictor. Hypotheses stated that positive affect and negative affect partially mediate the relationship between work events` appraisal and state work engagement. Results are presented in Table 2.2.

Events' appraisal was a significant predictor of positive affect ($\beta = .38$, $SE = .02$, $p < .01$), and correspondingly of negative affect ($\beta = -.28$, $SE = .02$, $p < .01$). Events' appraisal was also a significant predictor of state work engagement ($\beta = .66$, $SE = .03$, $p < .01$). Consequently, conditions 1 and 2 were met. When both variables were simultaneously included in the full model to predict state work engagement, the coefficients for events' appraisal dropped to $\beta = .38$, $SE = .04$, $p < .01$, whereas the relationship between positive affect and state work engagement stayed significant ($\beta = .62$, $SE = .04$, $p < .01$) and the same happened for negative affect ($\beta = -.10$, $SE = .06$, $p < .01$). The indirect effects and the relationships between variables are still significant even after controlling for time (Day variable) in the analysis. In consequence, partial mediations proposed in Hypothesis 1 and 2 were confirmed.

Table 2.2.

Mediation of the events` appraisal-state work engagement link by positive and negative affect.

Predictor	Outcome									
	Positive affect			Negative affect			State work engagement			
	Beta	SE	t	Beta	SE	T	Beta	SE	T	
Step 1										
Events` appraisal	.38	.02	17**	-.28	.02	-12**				
Step 2										
Events` appraisal							.66	.03	20**	
Step 3										
Events` appraisal							.38	.04	9.7**	
Positive affect							.62	.04	13**	
Negative affect							-.10	.06	-2.0*	
Day							.01	.01	2.0*	

Note: All variables are at within level.

Fit indices referred to the third model CFI = 0.99, TLI = 0.99, RMSEA = 0.02, $\chi^2(18, N = 1203) = 1640.79, p < .001$.

* $p < .05$, ** $p < .01$

Additionally, to assess the significance of the mediation, we followed the bootstrapping approach (Preacher et al. 2010) for multiple mediators. We found evidence, that there are indirect effects of events` appraisal on state work engagement via positive affect (.24, 95% CI [.19, .29]) and via negative affect (.03, 95% CI [.003, .06]). Thus, we found support for both hypotheses.

Finally, using the afore-mentioned bootstrapping approach we tested the contrast of the two mediators, positive affect and negative affect. The estimate was .212 ($SE = 0.030, p < 0.001$) which indicates that the indirect effect of events` appraisal on SWE via positive affect was significantly greater than the indirect effect via negative effect.

2.7. Discussion

According to AET, work events influence on affective experiences and these in turn influence on attitudes and organizational behaviors (Weiss & Cropanzano, 1996). Specifically, the theory states that the appraisal of work events happening to employees is an initiator of affective experiences. Hence, the theory is proposing a mediating role of affective experiences between work events` appraisal and certain attitudes and behaviors. Using AET framework, the present study extends current knowledge about antecedents of state work engagement in many ways.

First, results confirmed that affect is a mediator in the relationship between events` appraisal and state work engagement at the daily level. We found that positive affect and negative affect partially mediated the effect of work events` interpretation on SWE. Results support AET`s explanations of how affective reactions are influenced by work events` appraisal and how affect influences certain attitudes and behaviors in an immediate manner. This research presents a contribution to the study of how transient variables are related to SWE under AET framework. Moreover, we contribute providing

empirical evidence about the relations between work events` interpretation, affect and SWE. Specifically, we show that the way an employee evaluates an event might facilitate or impair feeling vigor, dedication and absorption at work at the daily level. Moreover, these appraisals elicit affect, which boost SWE when positive affect is felt and decrease it when negative affect is aroused.

Second, we related work events` appraisal to SWE finding a positive relationship between them at the daily level, meaning that work events` appraisal could be included in future models of variables explaining SWE. Investigating work events` appraisal enables us to explore a variable that is a result of the juxtaposition of characteristics of the work context and personal characteristics of workers (Lazarus, 1993); two dimensions that are influencing over the construction of SWE. Moreover, we contribute with evidence that support recent studies, which show that appraisal mechanisms can fluctuate within the same individuals (Nezlek et al., 2008).

Third, our results support other studies and models that explain state work engagement. For instance, the positive relationship found between positive affect and SWE empirically support Sonnentag and colleagues` proposal (2010), which state positive affect is a day-level proximal predictor of state work engagement.

Fourth, we examined the role of negative affect between work events` appraisal and state work engagement, expanding the scope of research because until now state work engagement had been related exclusively to positive affect because of the positive nature of the concept. We found that negative affect was influenced by work events` appraisal (successful interpretation) negatively and negative affect was negatively related to state work engagement, as was expected. Broaden-and-build theory posits that positive affect broadens the thought-action repertory and states that negative affect narrows it, thus

behavior is hindered (Fredrickson et al., 2003). This would be opposite to the concept of work engagement which may facilitate the approach behavior (Bledow et al., 2011). Our results concur with that reasoning about negative emotions.

Fifth, as far as we know this is the first study that proposes to understand SWE under the concepts of AET, taking into account events` appraisal and affect as antecedents. Ouweneel et al. (2012) already considered the AET approach to study the relations between positive emotions, hope and SWE in the daily level; but our study aimed to include more elements proposed by AET. We state this is important, despite AET`s model is a referent in the research of affect and behaviors at the work place, yet the entire causal chain has not been proved empirically. Also our proposal enables the integration of variables that were not initially considered in SWE studies as antecedents, such as work events` appraisal and negative affect. We consider that the integration of different approaches will help us to advance in the investigation of organizational psychology. Moreover, this is the first research that considers SWE as a state similar to the states that AET classifies as affective-driven behavior; e.g. transient effort, citizenship behavior, helping behavior. Such states have the characteristic to be influenced by the affective experiences produced by work events in an immediate manner. From this investigation, on an ongoing manner, SWE can be considered, in the future, as an affect driven state when studying it under AET`s approach.

2.7.1. Practical Implications

In regard to the practical implications of the study, we could recommend that interventions to promote SWE in organizations might be designed to impact at a daily basis, because we found empirical evidence that variables influencing SWE, as well as the concept, change from day-to-day. It is important to realize that interventions that take action on a daily basis could be fundamental to promote well-being and productivity

within the workforce. Moreover, there are certain periods when organizations specifically need to foster work engagement: for example when introducing new tasks or processes, situations characterized by high adversity, mergers and other situations where it is necessary that employees go beyond their average level of engagement. Thus, interventions could be designed as short or mid-term programs, which would be effective on those specific occasions.

Additionally, the study shows the relevance of work events` appraisal as antecedent of employees` work engagement. How employees interpret the events happening in the organization does matter, because such interpretations can enhance vigor, dedication and absorption at work. With this in mind, some variables that are proposed to contribute to the well-being in organizations gain significance; such as a clear requirement and outlook, which refer to knowing what is expected from the employees` performance regarding tasks and role demands, how the employee is doing and what is expected from him/her in the future (Warr & Clapperton, 2010). These work characteristics could help to enhance positive appraisals about what is happening in the organization.

If an organization would like to boost work engagement it would be advisable for it to increase the probabilities that events which are more likely to be appraised as a success occur at the workplace. According to AET, workplace characteristics are a key influence for event`s occurrence. Consequently, a job relatively enriched (task identity, skill variety, task significance) should provide more opportunities for events of this sort to occur.

Due to our finding that transitory moments of affective experiences are related to SWE, it would be worthwhile to implement systems that acknowledge progress at work

according to the pursued goal. Moreover, the information about progress is advisable to be given as often as possible, even if progress is small, because it can enhance positive affect and SWE.

2.7.2. Strengths and Limitations

In our opinion the main strengths of the study are the aspects that correspond to the design we used and the large sample size. Usually the diary studies comprise periods of five to seven days: data from ten days and from a great number of participants (117) are quite difficult to get; these characteristics help to make our study more reliable and make its validity stronger.

In addition, we have a rather heterogeneous sample, including workers from diverse areas and various organizations. Furthermore, the questionnaire could be accessed by Internet. This had the advantage of giving effortless accessibility to participants, which makes it possible to have high response rates like those we had.

Moreover, diary methodology was chosen because it considerably minimizes the recall bias compared to cross-sectional studies that request participants to report states regarding the last months or weeks. Finally, we point out that our study has ecological validity, because the data was collected in the real-work contexts of the workers.

Regarding limitations, this study has a limitation in the way that we measured affect related to a work event at the end of the day; the event could have taken place at any time during that day. Retrospection bias could be influencing our results, because other work events could have occurred before filling the questionnaire and influence the affect reported. Nevertheless, to decrease this possibility, we asked the participants to report the most relevant event occurred during their work day, so that the recall would be

salient. In future studies maybe experience sampling methodology could be used to measure the event just at the time it ends.

Another consideration would be that we did not have a normal distribution in affect scores. For future research it would be advisable to measure emotion's intensity, and not only absence and presence of discrete emotions. In order to control the non-normality we used Bayesian statistics.

Finally, the causality of the studied variables cannot be inferred in the study; that is why it is not firmly stated, given all the variables were assessed at the same point of the day, and to state causality variables, these measures should be assessed at different points in time as Sonnentag and colleagues (2010) recommend.

2.7.3. Future Research

We point out that in future research it would be advisable to broaden the study of work events' appraisal process in order to understand how appraisals are configured. For instance appraisals' dimensions (e.g. agency, mastery, goal achievement) could be included in the analysis in order to understand when they lead employees to feel positive affect and more vigor, dedication and absorption at work. This information could help to design interventions that would improve well-being among workers.

Moreover, we concur with Weiss and Beal (2005) that a comprehensive picture on work events is lacking. Further studies might examine what kind of events influence on employees' appraisals to be determined as success or failure; this could throw light on job design policies and job crafting recommendations.

Also, we recommend addressing in future research the relationships between variables of the full model that AET presents; beginning with events, then events'

appraisal, emotions and SWE. There are few studies that test AET`s model, integrating events, appraisal, emotion and a result of emotions.

Finally, another variables proposed in AET model could be included (e.g. personality traits, cognitive mechanisms) as moderators in the relationship between work events and affect. Considering these variables might help to obtain a broader picture of factors that contribute to create work contexts which foster both well-being and better performance at work.

2.8. Conclusions

The relations explored in this study provide new theoretical elements that may be added to previous models that had the purpose to explain the main variables related to state work engagement. Specifically, work events` appraisal and affect should be considered as variables related to state work engagement in future models. Moreover, the interplay found between work events` appraisal, affect (positive and negative) and state work engagement indicates that affect is a mediator between the other two variables applied here. Specifically, positive affect may enhance work engagement and negative affect may hinder it on the daily level.

CHAPTER 3. STUDY 2

ASYMMETRIC RELATIONSHIPS BETWEEN ATTRIBUTIONS AND AFFECT AT WORK

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Asymmetric Relationships between Attributions and Affect in the Workplace

Relaciones Asimétricas entre Atribuciones y Afecto en el Trabajo

Abstract

The present study focuses on the affect generated by cognitive appraisals of work events in the daily life of workers. In this relationship, two moderators have been tested, relevance of the event and explanatory style. Seventy-three workers answered an attributional style questionnaire once (between-level data) and also a daily questionnaire (within-level data) about work events and affect for ten days ($N = 730$ observations). Multilevel analysis results showed that the influence of moderators in the relationship of appraisal-affect is asymmetric for positive and negative affect. In the within-level there is a moderation of the importance attributed to the event for negative affect, but not for positive affect. In the same line, but in an inter-level relationship, the explanatory style has a moderator effect for negative affect when the event is appraised as important. Although, such influence is not found for positive affect. The study provides new elements for multilevel study of third variables in the daily dynamic of appraisal and affect.

Keywords: affective events theory; affect; appraisal; multilevel analysis; diary study.

Resumen

En la presente investigación se estudia el afecto generado por las valoraciones cognitivas de los trabajadores sobre los eventos laborales. En esta relación se evalúan dos moderadores, la importancia atribuida a los eventos y el estilo explicativo del trabajador. Setenta y tres trabajadores contestaron un cuestionario de estilos explicativos (nivel inter-sujeto) y un cuestionario diario durante 10 días (nivel intra-sujeto) sobre las valoraciones cognitivas de eventos y afecto asociado ($N = 730$). Los resultados del análisis multinivel indican que la influencia de los moderadores en la relación valoración cognitiva-afecto es asimétrica para el afecto positivo y negativo. A nivel intra-sujeto hay una moderación de la importancia atribuida a los sucesos laborales en el afecto negativo, pero no en el positivo. En la misma línea, pero con una influencia inter-nivel, el estilo explicativo tiene efecto moderador para el afecto negativo cuando la importancia atribuida al evento es alta; pero no así para el afecto positivo. Este estudio aporta elementos para el estudio multinivel de terceras variables en la dinámica diaria de las valoraciones cognitivas sobre eventos laborales y el afecto.

Palabras clave: teoría de los eventos afectivos; afecto; valoración cognitiva; análisis multinivel; estudio diario.

3.1 Introducción

El presente estudio busca profundizar en el proceso de generación de afecto que parte de la valoración cognitiva (*appraisal*) que suscita un evento en el trabajo (Lazarus, 1991; 1993). Se busca explorar el rol mediador de dos características individuales en la relación valoraciones cognitivas-afecto: la importancia dada al evento y el estilo explicativo de la persona. Un enfoque multinivel nos permite evaluar en dicha relación la influencia moderadora del estilo explicativo optimista, que es una variable relativamente estable en el tiempo, así como la influencia moderadora de la importancia atribuida a los eventos, que es una variable momentánea y fluctuante.

Siguiendo la recomendación de la teoría de los eventos afectivos (TEA; Weiss y Cropanzano, 1996) nos centramos en el afecto momentáneo, considerándolo un estado transitorio y de corta duración en el tiempo. Este tema es relevante dado que la mayoría de los estudios sobre características individuales y afecto pasan por alto las fluctuaciones del afecto (Weiss y Brief, 2001; Weiss y Kurek, 2003). A continuación, exponemos la relevancia de las variables estudiadas y las teorías centrales base de nuestro estudio.

3.2 Relevancia del Afecto en el Trabajo

El estudio de las emociones y el afecto en el ámbito organizacional tiene una larga historia (Weiss y Brief, 2001). En la misma tiene un lugar relevante la teoría de los eventos afectivos como modelo para entender los antecedentes y las consecuencias de las experiencias afectivas en el trabajo (Weiss y Cropanzano, 1996). Este modelo tiene los méritos de haberse planteado a partir de una revisión de las tendencias en la investigación del afecto en las últimas dos décadas y haber hecho una propuesta sobre las causas y consecuencias de los eventos afectivos en el trabajo (Brief y Weiss, 2002). Desde su aparición, el interés en esta teoría no ha disminuido, al contrario, continúa siendo un

modelo para entender cómo se generan el afecto y qué efectos tiene en las actitudes y comportamientos de las personas en contextos organizativos.

En nuestra opinión la importancia de la TEA radica en dos aspectos fundamentales para el estudio de afecto. Primero, conceptualiza los estados emocionales como el núcleo central del proceso de formación de actitudes y comportamientos organizacionales. Segundo, identifica claramente las características del ambiente y las diferencias individuales como dos aspectos clave que influyen en la vida afectiva de los trabajadores. Es particularmente importante la identificación de estos dos aspectos porque la tendencia que se daba en la investigación era centrarse exclusivamente en uno de ellos (Brief y Weiss, 2002). La teoría nos explica además que a partir de estas dos influencias (las características ambientales y las diferencias individuales) surgen en los trabajadores valoraciones o interpretaciones sobre los eventos, las que a su vez influyen en cómo se sienten y en cómo reaccionan (Weiss y Cropanzano, 1996). Consideramos, por tanto, que vale la pena considerar las valoraciones cognitivas diarias de los eventos como antecedentes fundamentales de las actitudes y comportamientos organizacionales.

Otro aspecto destacable es que la TEA apuesta de manera contundente por la naturaleza del afecto como estado. A pesar de ello la investigación posterior mayoritariamente no ha medido el afecto en el trabajo como estado inmediato; en su lugar, gran parte de los estudios que se han desarrollado basados en la TEA han utilizado diseños de investigación transversales que, por la consideración que hacen de la dimensión temporal, lógicamente no pueden captar el proceso del afecto. Por otro lado, también ha sido frecuente la generación de medidas afectivas agregadas en aplicaciones longitudinales (Weiss y Kurek, 2003) obviando con ello la información temporal que, de nuevo, es la que permite considerar el afecto como estado. También podemos ver que, frecuentemente, se ha considerado al afecto directamente como una variable rasgo, por

ejemplo, al hablar de la afectividad (Weiss y Brief, 2001). Por último, también han habido investigaciones que no han clarificado si el afecto estaba siendo considerado como estado o como rasgo (Brief y Weiss, 2002). Por todo lo anterior, y resumiendo, se hace necesario aplicaciones de la TEA que en coherencia con la misma consideren el afecto en su naturaleza de estado.

Ello no quiere decir que la TEA no considere aspectos más estables, como es el caso de algunas variables disposicionales. Al contrario, la TEA propone que las características individuales (e.g., personalidad) influyen en el afecto inmediato que, a su vez, influye en actitudes y comportamientos organizacionales. No obstante, son escasas las investigaciones que han aplicado la TEA considerando algunas de estas variables disposicionales (Brief y Weiss, 2002). Weiss y Kurek (2003) señalan entre otras barreras para este tipo de estudios el hecho de que se ha tomado el afecto como un rasgo y no como un estado transitorio y cambiante en la mayoría de las investigaciones, cuando la personalidad, por ejemplo, es una característica relativamente estable en una persona y el afecto, al contrario, es más bien fluctuante y de corta duración en el tiempo. En consecuencia, hacen falta investigaciones que estudien cómo se genera el afecto tomando en cuenta características individuales, en las que se diferencie claramente cuándo una variable se la considera estable y cuando se la considera transitoria. Por último, cabe destacar que un concepto mayormente incluido dentro de la etiqueta de “características individuales” son los rasgos de personalidad. No obstante, también podría incluirse bajo esta etiqueta otros elementos como los procesos cognitivos que preceden y originan el afecto (dimensiones valorativas, atribuciones, etc.).

Un motivo que puede haber contribuido a la escasez de investigación en este punto (influencias de las características individuales en el afecto) es el referido a la necesidad de considerar diseños multiniveles que sólo han comenzado a usarse ampliamente en la

investigación más reciente. Por ejemplo, el aspecto de que el afecto y la personalidad se sitúan en dos niveles distintos (estado y rasgo) tiene implicaciones en la recogida de datos y en los análisis en dónde se hace preciso el uso de diseños multinivel. A pesar de la clara diferencia conceptual entre rasgos de personalidad, que son más permanentes, y el afecto, que es fluctuante, a menudo no se ha tomado en cuenta esta diferencia en los análisis. Hoy en día se ha avanzado mucho con las metodologías de estudio de diario y el desarrollo de software que facilitan el análisis multinivel (Nezlek, Vansteelandt, Van Mechelen y Kuppens, 2008; Ohly, Sonnetag, Niessen y Zapf, 2010).

Los estados afectivos son elementos de interés para el comportamiento organizacional puesto que la investigación los ha relacionado con resultados organizacionales deseables en los entornos de trabajo. Por ejemplo, diferentes teorías proximales de la motivación, tales como la teoría de control de la acción (Kuhl, 1985) y la teoría de establecimiento de metas (Locke, 1960), señalan que las experiencias afectivas tienen una relación directa en el desempeño inmediato de un trabajador (e.g., Fisher y Nobel, 2000). Se han encontrado también evidencias de las influencias del afecto en el desempeño y otras conductas organizacionales. Por ejemplo, la investigación ha constatado que por un lado el afecto positivo favorece la creatividad, la apertura a repertorios de acción y al pensamiento nuevo, la iniciativa, la satisfacción de los clientes y el clima laboral (Fredrickson, 2001; Goetz, Frenzel, Stoeger, y Hall, 2010). Por otro lado, el afecto negativo favorece la agilidad de toma de decisiones y a hacer un análisis de alternativas más preciso (Fredrickson, 1998), así también el afecto negativo está asociado a conductas negativas, tales como agresión en el trabajo y rotación, entre otras (Staw y Barsade, 1993). Sin embargo, estos efectos son uniformes y dependen de una variedad de características personales y del contexto (Rafaeli, Semmer y Tschann, en prensa).

3.3. Enfoque Cognitivo del Afecto en el Trabajo

Un aspecto menos estudiado es el proceso de generación del afecto en el trabajo. Además de que su estado transitorio no facilita su medición, ha sido difícil de entender porque es producto de la compleja interacción entre la vida interna del sujeto y el ambiente. Tanto la TEA como la teoría de la valoración cognitiva de las emociones señalan que el proceso del afecto se inicia a partir de los eventos cotidianos, y que el factor que determina las reacciones afectivas son las valoraciones cognitivas que la persona hace sobre estos eventos (Lazarus, 1991; 1993; Weiss y Cropanzano, 1996). Este *appraisal* se considera como el constructo central de la comprensión cognitiva del afecto (Lazarus, 1991).

Según las teorías mencionadas la secuencia de generación del afecto se inicia al darse un suceso relevante para la persona. Luego se produce un *appraisal* del evento relevante que genera una respuesta afectiva, a su vez esta respuesta influirá en las conductas o actitudes de la persona. Adicionalmente autores clásicos de esta teoría plantean que la persona valora los sucesos y objetos estímulo genéricamente como positivos o negativos (Lazarus, 1993; Weiss y Cropanzano, 1996). De manera que, después de la valoración, viene la experiencia de agrado o desagrado. Por ejemplo, cuando un trabajador evalúe un suceso en el trabajo como un éxito el afecto que se generará en él será positivo y cuando lo evalúe como menos exitoso (fracaso) el trabajador experimentará afecto negativo.

La mayoría de los estudios organizacionales que abordan el proceso del *appraisal* y su influencia en el afecto aplican diseños transversales y usan viñetas predeterminadas para recabar las valoraciones cognitivas (Nezlek et al., 2008). A nuestro juicio este enfoque implica una limitación importante al no lograr captar el *appraisal* como un

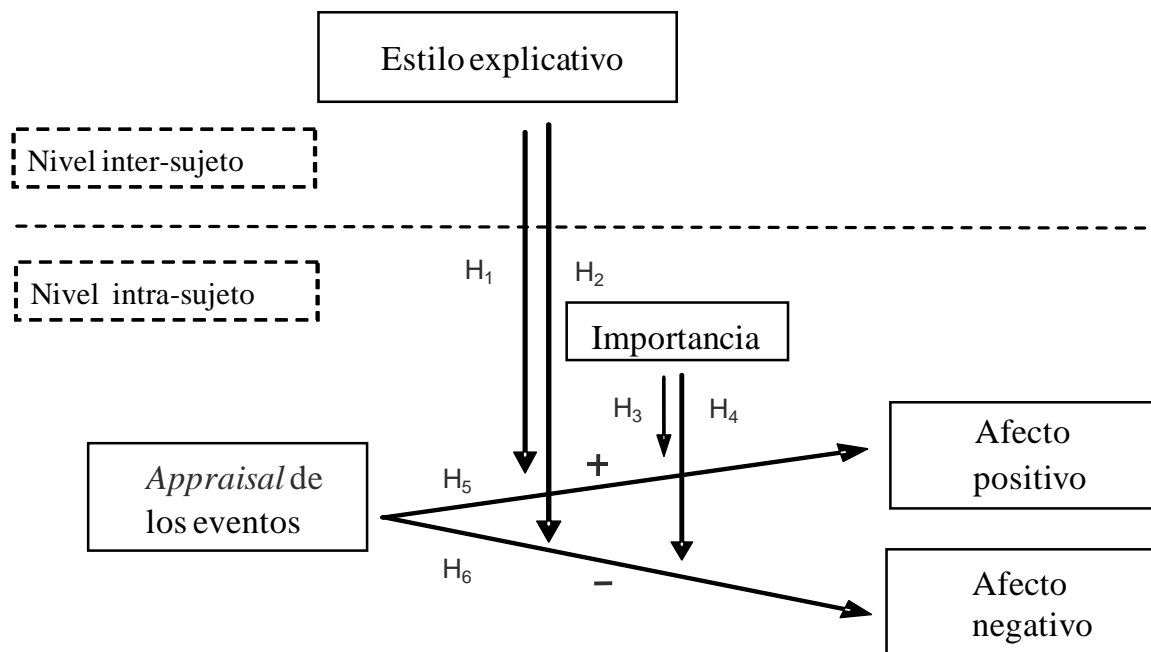
fenómeno transitorio e íntimamente ligado a los eventos diarios relevantes. Primero, porque la medición de las valoraciones cognitivas con viñetas predeterminadas carece de la inmediatez y relevancia de los eventos reales (Nezlek et al., 2008). Y segundo, porque en los estudios transversales es probable que el participante haya promediado su experiencia y sus registros se hayan visto influidos por algún recuerdo concreto (e.g., el más relevante, el último que ha sucedido). Por tanto, consideramos que estas no son buenas vías para representar lo que sucede con el trabajador en su relación cotidiana con el trabajo (Nezlek et al., 2008). Dada la naturaleza transitoria de ambas variables se hacen necesarios, pues, diseños longitudinales y la aplicación de técnicas como el muestreo de experiencias que capten datos en el lugar dónde se den los sucesos laborales.

Además de este cambio en el enfoque en la forma de considerar el *appraisal* y el afecto como fluctuantes y transitorios, consideramos que se hace necesario también identificar la influencia de posibles moderadores en la relación *appraisal*-afecto siguiendo la línea de Nezlek y colegas (2008), quien recientemente, a través de un estudio de muestreo por experiencias, presentan evidencia empírica acerca de la relación entre el *appraisal* momentáneo y ciertas emociones. Nezlek et al. comprueban que existen cambios en la intensidad de las relaciones entre *appraisal* y emociones en la misma persona, y sugieren que habría que explorar las características individuales que pueden influir en estas variaciones. Esta sugerencia coincide con uno de los postulados de la TEA que dice que las características individuales influyen en el afecto como moderadores en la relación entre el *appraisal* de los eventos laborales y el afecto. No obstante, escasos estudios han abordado este rol moderador de las características individuales (Weiss y Kurek, 2003). Mayormente, la investigación ha abordado el tema estudiando la relación directa de las características de personalidad en el afecto. Por ejemplo, se ha demostrado

que la extraversión y el neuroticismo están relacionadas con afecto positivo y afecto negativo respectivamente (Rusting y Larsen, 1997).

Harían falta estudios que analicen la relación de moderación de una variable disposicional (e.g., rasgos de personalidad, estilos cognitivos, etc.) en la relación *appraisal*-afecto, dónde se considere el afecto como estado transitorio en el tiempo, tal y como lo proponen Weiss y Cropanzano (1996). Por lo tanto, en este trabajo estudiaremos la posible influencia moderadora en la relación del *appraisal*-afecto de dos características individuales, una relativamente estable en la persona (estilo explicativo) y una característica momentánea como es la importancia atribuida a los eventos. Presentamos en la Figura 1 el modelo que guiará nuestro estudio. Justificamos a continuación la elección de las dos variables moderadoras elegidas: la importancia atribuida a los eventos y los estilos explicativos.

Figura 3.1. Modelo de investigación



3.4. La Importancia Atribuida a los Eventos como Moderador en la Relación *Appraisal-Afecto*

La teoría de la valoración cognitiva de las emociones (Lazarus, 1993; Weiss y Cropanzano, 1996) sostiene que en el mecanismo *appraisal*-afecto habrá algunas dimensiones valorativas que jugarán un papel importante en determinar el tipo de afecto que se genere en la persona. Uno de ellos es la relevancia o importancia atribuida a los eventos afectivos. La AET apunta que no todo lo que le sucede a un trabajador es un evento afectivo, éste debe ser un evento relevante para su bienestar y sus metas. Esta relevancia es lo primero que se evalúa en el proceso de *appraisal* de un evento y a partir de ahí se determina la valencia e intensidad del afecto. Esto podría indicar que la importancia que se le otorga al evento ejercería influencia en el tipo de afecto que la persona experimenta. Consideramos la importancia atribuida a un evento como una característica individual, como proceso cognitivo interno del individuo. Sería un concepto

intra-individual que cambia y fluctúa de acuerdo al contexto y la persona, de manera similar al *appraisal*.

Tanto la teoría del *appraisal* como la teoría de la atribución coinciden en señalar a la importancia del evento como una dimensión valorativa relevante para determinar la valencia del afecto. Esta apreciación coincide con la teoría de la atribución (Martinko, 1995; Wiener, 1985) que apunta específicamente a que los mecanismos cognitivos de búsqueda causal se activan sólo ante eventos importantes, inesperados y desagradables. Por tanto, consideramos que la importancia atribuida a los eventos forma parte de los elementos cognitivos que influyen en el afecto. En este sentido, creemos oportuno postular que la importancia atribuida a un evento puede ser un elemento moderador en la relación del *appraisal* y el afecto generado (positivo o negativo).

3.5. Estilos Explicativos como Moderador en la Relación *Appraisal*-Afecto

El concepto del estilo explicativo (EE), o estilo atribucional, es bastante conocido en la literatura psicosocial y se refiere a la tendencia específica a partir de la cual las personas atribuyen a causas específicas (e.g., internas o externas, estables o inestables) lo que les sucede en sus vidas. El concepto se enmarca en la teoría del optimismo aprendido desarrollado por Seligman (1990, 2002). Concretamente, el concepto nace con anterioridad en la teoría atribucional de la indefensión aprendida propuesta por Seligman y colegas (Abramson, Seligman, y Teasdale, 1978).

Seligman y colaboradores (Buchanan y Seligman, 1995; Seligman 1990) proponen que los estilos explicativos determinarán tanto las expectativas sobre los resultados futuros como los estados afectivos de las personas (e.g., Peterson, 1988). La teoría propone una distinción entre estilo atribucional positivo y negativo (Seligman, Abramson, Semmel y Von Baeyer, 1979). Quienes tienen un EE positivo tenderán a

atribuir eventos positivos a causas internas, estables y globales, mientras que ante eventos negativos realizarán atribuciones a causas externas, inestables y específicas. Por el contrario, quienes tienen un EE negativo muestran el patrón opuesto de atribuciones: ante eventos positivos las atribuciones se harán a causas externas, inestables y específicas y para eventos negativos las causas se considerarán internas, estables y globales.

En el estudio de los EE la investigación empírica ha sido asimétrica, existiendo más investigación sobre el estilo negativo que sobre el estilo positivo (Seligman et al., 1997). Específicamente en la investigación sobre la influencia de los EE en el afecto gran cantidad de estudios indican que la presencia de EE negativo facilita que se experimente afecto negativo (Sanjuán, Pérez, Rueda y Ruiz, 2008). Las relaciones más claras entre EE y afecto negativo se han evidenciado con el estilo explicativo pesimista, que surge cuando ante eventos negativos se atribuyen causas internas, estables y globales. Las personas con EE pesimista al encontrarse con obstáculos para su desempeño serán más propensas a tener déficits motivacionales, afecto negativo y sintomatología de depresión (Peterson, 1988).

En la última década, a causa de la influencia de la psicología positiva, se ha ampliado las investigaciones sobre las fortalezas psicológicas, como el optimismo y el bienestar subjetivos (Luthans, 2002; Seligman & Csikszentmihalyi, 2000). Así también, en el estudio del EE el foco de estudio ha pasado del estilo explicativo negativo, la indefensión, depresión y pesimismo hacia la relación entre el estilo explicativo positivo, la felicidad, bienestar y salud mental (Seligman, 2002). Los estudios sobre el EE positivo han sido menos frecuentes. Sin embargo, recientemente el EE optimista, que surge cuando ante eventos positivos se atribuyen causas internas, estables y globales, está siendo explorado en relación con el bienestar psicológico. Hay estudios que aportan indicios de que quienes tienen un EE optimista serán más persistentes (i.e., estarán más motivados),

resilientes y serán más propensos a experimentar afecto positivo (Cheng y Furnham, 2001; 2003; Gardner, Rozell, Walumbwa, 2004). Por ejemplo, Cheng y Furnham (2001) en su estudio analizan la influencia del EE optimista en la salud mental y la felicidad encontrando resultados en los que el EE optimista es un predictor de la felicidad. Estas relaciones, sin embargo, no son tan claras en otros estudios y habría que seguir ahondando en ellas (Sanjuán et al., 2008).

Hasta donde conocemos no existen estudios sobre los EE y el afecto con un enfoque multinivel, ni que hayan analizado la influencia de EE en el afecto diario, ya que en la mayor parte de los estudios se consideran ambos fenómenos como relativamente estables. Un ejemplo de la forma tradicional de analizar el tema es considerar tanto al EE como al afecto como características disposicionales de la persona, lo que implica que ambas son procesos relativamente estables en el tiempo. Por ejemplo, Gardner et al. (2004) estudiaron la relación entre disposición afectiva y estilos explicativos y comprobaron que existe una relación entre ellos. La disposición hacia el afecto positivo va a influir en que la persona presente un estilo explicativo optimista y la disposición hacia el afecto negativo predispondrá a un estilo explicativo menos optimista. Este enfoque influye en el momento de conceptualizar el análisis del problema, ya que considera que se trata de una dinámica de variables inter-sujeto.

Un enfoque multinivel nos permitiría hacer un análisis más refinado de la relación entre estas dos variables. En efecto, permitiría tratar el EE como disposición (que es la consideración mayoritaria que hay en la literatura) y los estados afectivos como experiencias en progreso, es decir, estados transitorios (en concordancia con los planteamientos teóricos como los de la TEA). Lo que implica que el EE es una variable que varía a nivel de la persona y el afecto es una variable que fluctúa a nivel intra-sujeto. Esta diferencia tiene también implicaciones teóricas. Por ejemplo, es distinto plantearse

que una persona con una tendencia de afecto positivo va a ser más optimista, como en el caso del estudio de Gardner et al. (2004), que plantearse que si la persona tiene un EE optimista tiene más posibilidades de experimentar (esa misma persona) estados de afecto positivo más frecuentemente que si tuviera un EE pesimista.

3.6. Hipótesis de Trabajo

Basándonos en la investigación previamente expuesta planteamos las siguientes hipótesis de trabajo:

El *appraisal* de los eventos se relacionará con el afecto. En concreto, el *appraisal* -en términos de éxito- se relacionará positivamente con el afecto positivo (H1) y se relacionará negativamente con el afecto negativo (H2).

El estilo explicativo va a moderar la relación entre el *appraisal* de los eventos y el afecto. En concreto, ante valores altos de estilo explicativo optimista la relación entre *appraisal* y afecto positivo será más fuerte (H3); y ante valores altos de estilo explicativo optimista la relación entre *appraisal* y afecto negativo será menos fuerte (H4).

La importancia va a moderar la relación entre el *appraisal* de los eventos y el afecto. En concreto, ante valores altos de importancia la relación entre *appraisal* y afecto positivo será más fuerte (H5); y ante valores altos de la importancia la relación entre *appraisal* y afecto negativo será más fuerte (H6).

3.7. Método

3.7.1. Participantes y Procedimiento

3.7.1.1. Participantes. Los participantes fueron 73 trabajadores pertenecientes a diferentes organizaciones. Dichos participantes contestaron diariamente un cuestionario

durante 10 días ($N = 730$ observaciones). El 59 % de la muestra fueron mujeres; la edad promedio de los participantes fue de 31 años ($SD = 8.44$). El 80% de ellos tenían un empleo a tiempo completo. El 21% de los participantes tenían una antigüedad en la empresa de más de 5 años, un 37% la tenía de 5 a 3 años y el 26% de 2 a 1 año. Respecto a la antigüedad de los participantes en su cargo el 10% llevaba más de 5 años en el puesto, el 55% llevaba de 1 a 5 años, el 25% menos de 1 año. La mayoría, un 78%, no tenía subordinados. Finalmente, las organizaciones involucradas en el estudio fueron un total de 66 del sector servicios.

3.7.1.2. Procedimiento. A través de un muestreo por conveniencia se contactaron trabajadores de organizaciones del sector terciario (sector servicios). Se eligió este sector porque en él, las capacidades psicológicas y cognitivas de los trabajadores se hacen especialmente importantes para su desempeño (Luthans, 2002). Como primer paso se enviaron invitaciones, a través de correo electrónico, a trabajadores de diferentes organizaciones para participar de un estudio sobre el bienestar laboral. En la invitación se explicaba en qué consistiría su participación, la duración del estudio y el procedimiento para contestar los cuestionarios. Se envió junto con la invitación un cuestionario en línea para recabar los datos demográficos de las personas que aceptaran participar. A través de un segundo correo electrónico se envió una explicación de los principales conceptos del cuestionario diario, instrucciones para acceder a él y explicaciones sobre qué es lo que se esperaba de su participación. Como segundo paso, se envió de manera diaria durante diez días un cuestionario en línea a un horario acordado con el participante, además se envió diariamente un recordatorio vía mensaje al teléfono móvil o al correo electrónico. Este cuestionario se completaba una vez al día al final de la jornada laboral; en él se evaluaba la valoración cognitiva (*appraisal*) de eventos laborales, la importancia atribuida al evento y el afecto generado. Este tipo de cuestionario diario presenta tres ventajas

principales: permite verificar que los participantes han respondido cada día en el horario indicado, permite disminuir sesgos de memoria (e.g., el recuerdo retrospectivo; Ohly et al., 2010) y los datos son captados en el mismo entorno de trabajo donde han sucedido los eventos, las cogniciones y afectos que se describen. Finalmente, después de los 10 días se envió el último cuestionario en línea para evaluar los estilos explicativos de los participantes. En él se les pidió que registraran las causas a las que atribuyeron eventos laborales positivos y negativos del pasado laboral reciente. Una vez los participantes completaron todos los cuestionarios se les envió un último correo electrónico de agradecimiento por su participación y se les ofreció darles una retroalimentación sobre los resultados del estudio.

3.7.2. Instrumentos

Se usó una serie de instrumentos para medir las variables incluidas en el modelo de investigación. La mayoría de estas medidas fueron tomadas de manera diaria (datos a nivel intra-sujeto) mientras que los estilos explicativos se tomaron una sola vez (datos a nivel inter-sujeto) siguiendo el nivel de análisis en el que se sitúa cada constructo según las definiciones previamente manejadas.

3.7.2.1. Medidas Intra-Sujeto

Appraisal de Eventos. Se pidió a los trabajadores que registraran un hecho o evento relevante que les hubiera ocurrido desde el comienzo de su día de trabajo, con una pregunta abierta (“Describa brevemente un hecho que ocurrió en el trabajo hoy día, durante su jornada de trabajo. Haga un comentario sobre lo que usted hizo y cuál fue el resultado”). Después de esto, se pedía a los participantes que calificaran el grado en el cual el evento resultaba ser un éxito o un fracaso, con una escala Likert de 7 puntos (rango 1 = “Fracaso” a 7 = “Éxito”).

Importancia Atribuida al Evento. Se solicitó a los participantes que los eventos registrados fueran sucesos relevantes para ellos. Con lo cual todos los eventos tendrían algún grado de relevancia. Luego, para medir el grado de importancia que se atribuía a cada evento, se solicitó a los sujetos que puntuaran la misma en una escala Likert (rango 1 = “Poco importante” a 7 = “Muy importante”).

Afecto. Utilizamos una escala de “sentimientos en el trabajo” (Warr y Clapperton, 2010) para medir el afecto positivo y el afecto negativo. La escala comprendía 12 ítems, seis para medir afecto positivo (p. ej. “excitado” y “relajado”) y otros seis para medir afecto negativo (p. ej. “tenso” y “ansioso”). Se pidió a los participantes que registraran los estados emocionales que habían sentido acerca del evento. La pregunta era: “¿Cómo se sintió con este evento?” y ellos podían escoger entre doce estados afectivos. Las calificaciones del afecto positivo (6 emociones) y el afecto negativo (6 emociones) fueron creadas sumando todas las emociones escogidas (rango de respuesta de 0 a 6). Los coeficientes de alfa de Cronbach fueron .69 para el afecto positivo y .73 para el afecto negativo.

3.7.2.2. Medida Inter-Sujeto

Estilo Explicativo. Aplicamos el ASQ (*Attributional Style Questionnaire*; Peterson, Semmel, von Baeyer, Abramson, Metalsky y Seligman, 1982; Sanjuán y Magallares, 2005) por ser el instrumento más ampliamente usado y validado en psicología organizacional. Se implementó una variante en la que los eventos se registraron a partir de preguntas abiertas. Se solicitó a los participantes que registraran los eventos más importantes sucedidos en el trabajo en los últimos meses. Debían registrar 4 eventos positivos y 4 negativos (“Describe brevemente un hecho positivo que te haya ocurrido en tu trabajo en los últimos meses”). Luego se pidió los sujetos que calificaran con una escala tipo Likert, rango de 7 puntos, el grado en que creía que la causa del evento era debido a

factores internos (1= “Completamente debido a otros/a las circunstancias” a 7 = “Completamente debido a mi”) y estables (1 = “Variable en el tiempo” a 7 = “Estable en el tiempo”). Con estos ítems se pueden obtener varias puntuaciones de interés: las dimensiones atribucionales de internabilidad y estabilidad, dos puntuaciones globales CoPos y CoNeg sumando las puntuaciones de las dimensiones atribucionales de los eventos positivos –CoPos- y las de los eventos negativos –CoNeg. Los índices de alfa de Cronbach de las puntuaciones globales CoPos y para CoNeg fueron .71 y .75 respectivamente. Finalmente, calculamos el estilo explicativo optimista –CPCN- a partir de la operación CoPos menos CoNeg, y que será la medida que utilizemos en este estudio. Puntajes altos en el CPCN indican un más alto estilo explicativo optimista.

3.7.3. Análisis

Debido a la estructura multinivel de nuestros datos utilizamos un enfoque de modelado lineal jerárquico (Bliese y Ployhart, 2002). Los datos a nivel intra-sujeto son: el *appraisal*, el afecto positivo, afecto negativo y la importancia atribuida al evento; el dato a nivel inter-sujeto es el estilo explicativo. Los datos del diario incluyen 10 medidas repetidas (N = 730 observaciones) anidadas en personas (N = 73 participantes). Estamos ante un modelo inter-nivel cuando se testea la relación de moderación del estilo explicativo y ante un modelo intra-nivel cuando se pone a prueba la relación de moderación de la importancia atribuida al evento. Para estudiar ambas moderaciones se pusieron a prueba varios modelos, incluyendo la posible moderación de las medidas CoPos y CoNeg, pero no se encontró un modelo que explique más varianza de la ya explicada con el uso de la medida de síntesis CPCN. Siguiendo las recomendaciones de Ohly et al. (2010) sobre los métodos de centrado de datos los datos a nivel intra-sujeto (*appraisal*, importancia atribuida, afecto) se centraron con el método *person-mean* (o

group-mean) y los datos a nivel inter-sujeto se centraron usando el método *grand-mean*. Se utilizó el software estadístico R para efectuar todos los análisis.

3.8. Resultados

Como primer paso se calculó el coeficiente de correlación intraclase (ICC por sus siglas en inglés) de las variables dependientes, el afecto positivo y afecto negativo ($ICC_{AP} = .215$ y $ICC_{AN} = .193$ respectivamente) para respaldar el uso del modelado multinivel. Ambos valores nos indican que hay porcentaje muy bajo de varianza explicada atribuible a los participantes; por tanto, es útil el uso de un modelo multinivel.

3.8.1. Estadísticos Descriptivos

En la Tabla 3.1 se reportan los valores de medias, desviaciones estándar y correlaciones entre las variables del estudio. En general, los patrones de correlaciones siguen la dirección esperada.

Tabla 3.1.

Valores mínimos, máximos, promedios, desviaciones estándar y correlaciones de las variables estudiadas

	N	M	SD	Min	Max	Evaluación de los eventos	Afecto positivo	Afecto negativo	Importancia	Estilo explicativo
Evaluación de los eventos	730	4.88	1.91	1	7		.50**	-.49**	.33**	--
Afecto positivo	730	1.33	1.18	0	6	.22*		-.51**	.23**	--
Afecto negativo	730	0.68	1.01	0	6	-.48**	.001 <i>ns</i>		.05 <i>ns</i>	--
Importancia	730	5.35	1.47	1	7	.30**	.16 <i>ns</i>	.28**		--
Estilo explicativo	73	1.54	1.47	-3.25	4.75	.16 <i>n</i>	.13 <i>ns</i>	.01 <i>ns</i>	.03 <i>ns</i>	

Nota. Las correlaciones en el nivel intra-sujeto están ubicadas en el lado superior derecho de la diagonal y las correlaciones en el nivel inter-sujeto están ubicadas en el lado inferior izquierdo.

* $p < .05$. ** $p < .01$.

3.8.2. Evaluación de las Hipótesis

Para poner a prueba las hipótesis de moderación seguimos la técnica conocida como *growth modeling* que consiste en una técnica estadística semi-paramétrica usada específicamente para analizar datos longitudinales (Muthèn y Curran, 1997). Esta técnica se usa cuando los datos siguen un patrón de cambio en el que difiere participante a participante, tanto la intensidad como la dirección de la relación entre la variable independiente y dependiente, como es nuestro caso. Específicamente, para realizar los análisis seguimos el enfoque de Bliese y Ployhart (2002).

A continuación abordamos las hipótesis H1 y H2 en las que se planteaba que el *appraisal* de los eventos estará relacionado positivamente con el afecto positivo y negativamente con el afecto negativo. En primer lugar se procedió al análisis respecto al afecto positivo como variable dependiente. En la Tabla 3.2, se comparan tres modelos anidados que pusimos a prueba. Estudiamos primero un modelo (modelo nulo) que no incluye ningún predictor y que servirá para la comparación posterior con otros modelos. En el modelo 1 incluimos, a nivel intra-sujeto, la variable registro (o tiempo) como variable control. En el modelo 2 añadimos el predictor *appraisal*, también a nivel intra-sujeto. Finalmente, en el modelo 3 añadimos los moderadores importancia atribuida al evento y estilo explicativo. Añadimos también en este último modelo la posibilidad de doble moderación recogida en la interacción *appraisal*-importancia-estilo explicativo.

En la Tabla 3.2 en el modelo 2 vemos que la relación positiva entre el *appraisal* y el afecto positivo es significativa. Confirmándose de esta manera la hipótesis 1 ($\beta = 0.3430; p < .001$). Seguimos con los resultados de las hipótesis H3 y H5 de moderación, que plantean que el EE optimista y la importancia tribuida a los eventos van a moderar la relación *appraisal*-afecto positivo. Para H3 sosteníamos que ante valores altos de EE

optimista la relación entre *appraisal*-afecto positivo sería más fuerte. Y para H5 que ante valores altos de importancia la relación *appraisal*-afecto positivo sería más fuerte. En la Tabla 3.2 apreciamos que el modelo 3, que incluye los moderadores, tiene un mejor ajuste que el modelo 2. No obstante los moderadores propuestos no muestran valores significativos (*appraisal* x importancia, $\beta = 0.0064$, *ns*; *appraisal* x estilo explicativo, $\beta = 0.0344$, *ns*; y *appraisal* x estilo explicativo x importancia atribuida, $\beta = 0.0053$, *ns*). Evidenciamos así que la H3 y H5 no se confirman.

Tabla 3.2.

Análisis multinivel de la moderación del estilo explicativo y de la importancia atribuida al evento en la relación entre appraisal de los eventos y afecto positivo.

Modelo	Intercepto	Beta	<i>p</i>	<i>p comparación entre modelos</i>
Modelo 0	Intercepto	1.3315	.001	
Modelo 1	Intercepto	1.3315	.04	
	Registro	0.0107	<i>ns</i>	.013
Modelo 2	Intercepto	1.3313	.001	
	Registro	0.0046	<i>ns</i>	
	<i>Appraisal</i>	0.3430	.001	.001
Modelo 3	Intercepto	1.3246	.001	
	Registro	0.0072	<i>ns</i>	
	<i>Appraisal</i>	0.3384	.001	
	<i>Appraisal</i> x importancia	0.0064	<i>ns</i>	
	<i>Appraisal</i> x EE	0.0344	<i>ns</i>	
	<i>Appraisal</i> x EE x importancia	0.0053	<i>ns</i>	.001

Los índices en “*p* comparación entre modelos” se refieren a la comparación de un modelo con el anterior.

Modelo 0 = modelo nulo, Modelo 1 = se introduce la variable tiempo, Modelo 2 = se introduce la variable independiente, Modelo 3 = se introducen las variables moderadoras.

Respecto al análisis de las influencias en el afecto negativo, primero planteamos la H2 en la que se plantea una relación entre el *appraisal* y el afecto negativo. Vemos en la Tabla 3.3, modelo 2 donde se introduce la variable independiente *appraisal*, que ésta hipótesis se confirma con una relación significativa entre las dos variables ($\beta = -0.2534$; $p < .001$). Continuamos con los resultados de las hipótesis H4 y H6 de moderación que plantean que el EE optimista y la importancia van a moderar la relación *appraisal*-afecto negativo. Para H4 sosteníamos que ante valores altos de EE optimista la relación entre *appraisal*-afecto negativo sería menos fuerte y, de la misma manera, para H6 ante valores

altos de importancia la relación *appraisal*-afecto negativo sería más fuerte. En la Tabla 3.3 se muestran los tres modelos anidados que se pusieron a prueba. Se siguió el mismo orden de introducción de variables que en el análisis anterior respecto al afecto positivo. Podemos apreciar que el modelo con mejores índices de ajuste es el modelo 3. En este modelo la interacción de *appraisal*-importancia atribuida es significativa ($\beta = -0.0366$; $p < .05$), cumpliéndose la H6. Lo mismo sucede para la triple interacción de *appraisal*-estilo explicativo-importancia atribuida ($\beta = 0.0247$; $p < .001$). Sin embargo vemos que la interacción de *appraisal*-estilo explicativo no es significativa ($\beta = -0.0129$; *ns*), por lo que no se confirma la H4. En resumen, a diferencia del análisis para el afecto positivo, en el análisis del afecto negativo, sí se encontraron relaciones significativas para las interacciones *appraisal* e importancia atribuida y *appraisal*, estilo explicativo e importancia atribuida.

Tabla 3.3.

Análisis multinivel de la moderación del estilo explicativo y la importancia atribuida al evento en la relación entre appraisal de los eventos y afecto negativo.

Modelo	Intercepto	Beta	<i>p</i>	<i>p comparación entre modelos</i>
Modelo 0	Intercepto	0.6794	.001	
Modelo 1	Intercepto	0.6794	.001	
	Registro	-0.0137	<i>ns</i>	.017
Modelo 2	Intercepto	0.6801	.001	
	Registro	-0.0093	<i>ns</i>	
	<i>Appraisal</i>	-0.2534	.001	.001
Modelo 3	Intercepto	0.6974	.001	
	Registro	-0.0060	<i>ns</i>	
	<i>Appraisal</i>	-0.2380	.001	
	<i>Appraisal</i> x importancia	-0.0366	.016	
	<i>Appraisal</i> x EE	-0.0129	<i>ns</i>	
	<i>Appraisal</i> x EE x importancia	0.0247	.001	.001

Los índices en “*p* comparación entre modelos” se refieren a la comparación de un modelo con el anterior.

Modelo 0 = modelo nulo, Modelo 1 = se introduce la variable tiempo, Modelo 2 = se introduce la variable independiente, Modelo 3 = se introducen las variables moderadoras.

3.9. Discusión

Los resultados del presente estudio muestran la existencia de una asimetría en la influencia de terceras variables entre el *appraisal* de los sucesos en el trabajo y el afecto de los trabajadores. Se ha encontrado que la importancia atribuida a un evento laboral tiene un efecto moderador entre el *appraisal* y el afecto negativo, pero tal efecto no aparece para el caso del afecto positivo. Así también, el estilo explicativo tiene un efecto de moderación en las relaciones propuestas sólo para el caso del afecto negativo y cuando

se produce una triple interacción con el *appraisal* y la importancia del evento. Por último, nuestros resultados también apuntan a que las valoraciones cognitivas están ligadas al tipo de afecto que sentirán los trabajadores. Comprobamos que, ante eventos laborales evaluados como exitosos el trabajador sentirá afecto positivo en su día a día, y ante eventos evaluados como fracaso el trabajador experimentará afecto negativo. A continuación discutimos los resultados, sus implicaciones teóricas y prácticas.

Primero, la evidencia empírica de nuestro estudio muestra que a nivel intra-sujeto existe una relación significativa entre valoraciones de los sucesos en el trabajo (en términos de éxito o de fracaso) y el afecto diario positivo y negativo. Ello supone una base para seguir explorando la dinámica transitoria de las interpretaciones de los sucesos del trabajo y el tipo de afecto que surgirá en la persona. Esta evidencia se hace especialmente relevante en el contexto actual. Vemos que los estudios que respaldan el marco teórico de la teoría de las valoraciones cognitivas de las emociones mayormente no se han enfocado en el afecto como estado transitorio e inmediato. En este sentido, existen pocos estudios intra-sujeto en contextos naturales (i.e., en el contexto laboral) que analicen las fluctuaciones de las valoraciones cognitivas y el afecto. Así, nuestros resultados concuerdan con los estudios previos de Goetz et al. (2010), Nezlek et al. (2008) y Miralles, Navarro y Unger (2015) que analizan las fluctuaciones intra-sujeto del *appraisal* y las emociones o afecto. Suponen también una base para seguir explorando la dinámica transitoria de la interpretación de los sucesos del trabajo y el tipo de afecto que surgirá en la persona. La evidencia aportada que respalda la relación positiva entre el *appraisal* de un suceso como exitoso y el afecto positivo resulta especialmente importante para el sector de empresas de servicio ya que se ha comprobado que, en este sector, la presencia del afecto positivo en los trabajadores puede tener un impacto positivo en resultados organizacionales deseables como la calidad del servicio y la fidelización del

cliente (Kiffin-Petersen, Murphy y Soutar, 2012). Por tanto, será deseable fomentar este tipo de estados afectivos en las organizaciones.

Por otro lado, hemos comprobado que cuando se evalúa un suceso en el trabajo como exitoso la persona experimenta menos afecto negativo. Ello nos lleva a reflexionar acerca de la importancia de conocer las configuraciones de las valoraciones cognitivas en el día a día. Dado que las valoraciones cognitivas generan un tipo de afecto u otro, el poder modificar las valoraciones de los trabajadores significaría poder modificar, por ejemplo, el clima laboral o la satisfacción de los clientes internos y externos.

Segundo, respecto a los moderadores explorados en la relación entre el *appraisal* y el afecto, según los resultados encontrados, la importancia que se atribuye a un evento influye en que la persona experimente un estado de afecto negativo pero no un estado de afecto positivo. Hay una asimetría, de interés, en este punto. Una posible explicación podríamos inferirla del postulado de Fernández-Dols y Carrera (2009) según la cual las emociones positivas son difíciles de explicar desde la teoría del *appraisal*. Argumentan que la función de las atribuciones se hace más clara en el escenario del funcionamiento de la emoción negativa, que se configura como un resultado de una evaluación del entorno que exige una acción inmediata. Esto implica que esta demanda genera una activación considerable cuyo funcionamiento podría ser más claro de apreciar que el mecanismo de las emociones positivas. Y efectivamente puede comprobarse que en la literatura que ha utilizado el concepto de *appraisal* éste se ha vinculado con mayor frecuencia a emociones negativas (el ejemplo paradigmático es el caso del estrés) que no positivas. En esta misma línea, la teoría de la atribución sostiene que el mecanismo de las atribuciones se pondrá en marcha cuando un evento es importante, inesperado y negativo (Weiner, 1985a). Con lo que podríamos respaldar que en la dinámica *appraisal*-afecto la importancia atribuida

al evento tendrá una influencia clara en el caso del afecto negativo, pero no para el afecto positivo.

En este tema, el aspecto de la intensidad de las emociones puede también jugar un papel relevante. Ante una situación negativa hay una activación para una acción inmediata, por tanto, la intensidad de las emociones negativas puede ser notable. Justamente en la investigación del afecto como estado transitorio se evidencia que hay diferencia de intensidad entre el afecto negativo y el afecto positivo. Recientes estudios indican que el afecto positivo en el día a día no es precisamente intenso sino más bien se caracteriza por tener valores medios de intensidad (e.g., Rafaeli et al., en prensa). Algunos estudios han comprobado precisamente que los beneficios del afecto positivo a largo plazo no se dan debido a la intensidad de este afecto, sino a la frecuencia con la que se lo experimenta (Lyubomirsky, King y Diener, 2005). El funcionamiento de las emociones positivas va dirigido a consecuencias a largo plazo, tales como conservación y obtención de recursos sociales, cognitivos y ampliación de posibilidades de pensamiento y acción (Fredrickson, 2001). Justamente por esta característica de intensidad moderada de las emociones positivas podría justificarse que la importancia atribuida al evento no sea una variable que influya en el proceso de influencia evaluado de *appraisal*-afecto positivo.

Lo que se ha evidenciado es que la importancia atribuida a un suceso laboral va a influir en que se genere con más facilidad un afecto negativo. Esta relación concuerda con una de las dimensiones atribucionales en la que coinciden varios autores de la teoría del *appraisal*: la dimensión de la congruencia con la meta o relevancia de la meta (e.g., Moors, Ellsworth, Scherer y Frijda, 2013). La lógica propuesta es similar a la encontrada en este estudio: si el suceso se evalúa como desfavorable para las metas o bienestar individual se va a generar afecto negativo. Relacionamos la importancia del evento con la congruencia de las metas ya que cuanto más conectado esté un evento a no conseguir

una metas del trabajador -o a perder algo deseado- mayor será la relevancia que éste le otorgue al evento. Por tanto, una explicación para que nuestros resultados muestren el rol moderador de la importancia en el caso del afecto negativo sería que si un evento representa la no consecución de una meta podría ser catalogado como relevante por la amenaza que representa de no conseguir la meta o bien la pérdida que representa. Relacionando esto con nuestros resultados entendemos que cuando un evento no exitoso se relaciona con el afecto negativo, la importancia del evento incrementa esta influencia dado la amenaza o pérdida que el evento puede implicar.

Tercero, la otra variable analizada como moderadora en la relación entre el *appraisal* y afecto fue el estilo explicativo. De manera similar a los resultados previos (importancia atribuida al evento como moderador) el estilo explicativo tiene un efecto de moderación sólo para el afecto negativo. Sin embargo, esta relación es menos clara, ya que sólo existe cuando hay una triple interacción entre *appraisal*, importancia del evento y estilo explicativo. El motivo de que la influencia se aprecie en el afecto negativo y no en el positivo puede deberse a que el estilo explicativo es un concepto desarrollado en el marco del estudio de la indefensión aprendida. La mayor parte de su estudio está basado en su influencia en emociones o conductas negativas, tales como estados depresivos o agresivos, comportamientos organizacionales contra-productivos, rotación, etc. Por tanto, sería un concepto más relacionado con el afecto negativo que con el afecto positivo.

Hemos constatado que cuando el trabajador evalúa un evento como fracaso se genera afecto negativo y si el evento es importante la anterior relación es aún más fuerte. El EE no influye ni en el afecto negativo, ni en el positivo si el evento no es calificado como relevante para la persona. Sin embargo, evidenciamos que la influencia de la importancia del evento en el afecto negativo es más clara. Podríamos inferir de esto que la característica individual evaluada (EE) no es tan influyente como otros elementos que

se ponen en juego en el momento de interpretar los sucesos laborales, tales como la importancia del evento. Si bien la TEA hace énfasis en que las características individuales son muy relevantes para determinar el afecto, nuestros resultados apuntan en que una de esas características como es el estilo atribucional no sería relevante de manera aislada. Este resultado coincide con el trabajo de Moors et al. (2013) que destacan la relevancia de entender las configuraciones momentáneas de atribuciones que construyen el *appraisal* para lograr captar el proceso que determina las emociones de las personas.

3.9.1. Fortalezas del Estudio

Creemos que como fortaleza de este estudio puede destacarse su naturaleza longitudinal que, de manera diaria, buscó captar la naturaleza transitoria y dependiente del contexto del *appraisal*. Recientes estudios han demostrado que los mecanismos de valoración cognitiva pueden fluctuar en el mismo sujeto, así como también entre sujetos (Goetz et al., 2010; Nezlek et al., 2008). Esto ha implicado abrir una brecha no cubierta de investigación para los estudios intra-sujeto que analizan las fluctuaciones de las evaluaciones de emociones en contextos laborales. Adicionalmente, a nuestro juicio, es meritorio de la presente investigación el hacer una aproximación al contexto real de los trabajadores para captar una parte de esta dinámica (aumentando con ello la validez ecológica) así como el diferenciar en el análisis las variables estables (estilo explicativo) de las variables transitorias (*appraisal*, afecto, importancia atribuida al evento). Las técnicas del análisis multinivel nos permite trabajar con esta diferenciación considerando a la vez influencias situacionales y disposicionales.

3.9.2. Limitaciones e Investigación Futura

A pesar de que este estudio hace una contribución para entender las relaciones asimétricas de terceras variables en la relación entre el *appraisal* y el afecto en las

organizaciones ello no significa que no esté exento de limitaciones. Primero, el tamaño total de la muestra ($N=730$) es adecuado para hacer los análisis estadísticos empleados, sin embargo, el número total de participantes ($n = 73$) no es elevado, lo que por otra parte es común en estudios con uso de diarios.

Segundo, el uso de técnicas de investigación cuantitativas quizás no ha alcanzado para captar la complejidad del proceso de influencia de terceras variables en la relación entre el *appraisal* y el afecto. Por un lado, el estudio de las influencias *appraisal*-afecto conlleva la dificultad de que existe una estrecha interrelación entre la cognición y la emoción (Izard, 2009); por otro lado, en el estudio de estilos explicativos, no es fácil para las personas identificar las razones (explicaciones causales) que los llevan a sentirse de cierta manera. Por lo tanto, en futuras investigaciones se podría usar metodologías cualitativas que ayuden a sobrellevar estas dificultades para identificar las experiencias intra-individuales.

Tercero, en este estudio no se hacen inferencias de causalidad entre las relaciones de las variables propuestas, debido a que entre afecto, atribuciones y valoraciones cognitivas pueden darse efectos de influencia recíprocos. En futuras investigación se podría emplear diseños experimentales que podrían captar la direccionalidad de la relaciones.

Cuarto, la forma de medición del afecto positivo y negativo podría constituir una limitación porque sólo medimos presencia o ausencia de la emoción y no intensidad. A pesar de que ésta es una forma común de medir el afecto en las organizaciones, recomendamos que en futuros estudio se tome en cuenta la medición de la intensidad de las emociones para dar cuenta de la activación que generan las evaluaciones cognitivas de los eventos laborales (Warr y Clapperton, 2010).

Por último, podría ser una limitación sólo haber considerado la dimensión de más o menos éxito en la medición de la variable de la evaluación cognitiva del evento. En futuras investigaciones se podría considerar también las metas de los trabajadores a la luz de las cuales están haciendo esa evaluación e incluso se podría considerar la jerarquía de esas metas para el trabajador. De esta manera se ampliaría la comprensión del significado de las evaluaciones cognitivas y la relevancia personal que le dan los trabajadores a los eventos.

En futuras investigación recomendaríamos incluir la posible influencia de las dimensiones (internabilidad, estabilidad, logro, etc.) que configuran las atribuciones causales. Especialmente hacen falta estudios longitudinales que tomen en cuenta la variabilidad intra-sujeto de los datos, ya que la mayor parte de la investigación que ha abordado las dimensiones atribucionales son transversales y toman en consideración la variabilidad de los datos a nivel inter-sujeto (Moors et al., 2013).

Invitaríamos también que se amplíen los estudios sobre los antecedentes del afecto positivo para compensar la asimetría que encontramos al compararlo con el estudio del afecto negativo (Luthans, 2002). Sería interesante, por ejemplo, explorar qué tipos de cogniciones son las que nos permiten sentir un afecto positivo ante eventos o cuáles son las que nos permiten pasar de un afecto negativo a uno positivo.

Finalmente, señalamos que el estudio de las fluctuaciones de la relación *appraisal*-afecto se hace especialmente relevante en ámbitos específicos en los que las relaciones inter-personales son claves para el desempeño (e.g., atención al cliente, relaciones jefe-empleados, cliente-trabajador). Recomendamos, por tanto, que futuras investigaciones sobre el afecto en estos ámbitos incluyan como variable de estudio las valoraciones

cognitivas como la importancia otorgada por el trabajador ya que son clave para entender las reacciones afectivas de los trabajadores (Kiffin-Petersen et al., 2012).

3.10. Extended Summary

The Affective Events Theory (AET; Weiss & Cropanzano, 1996) is a well-recognized theory to explain how the affective life of workers has a meaningful impact in organizations. This theory argues that affective states are central in the building process of attitudes and behaviors in organizations. Both Appraisal Theory (Lazarus, 1991: 1993) and AET consider cognitive appraisal as a key construct to understand the cognitive process of affect; workers' appraisals are expected to affect how workers feel and react to organizational events (Weiss y Cropanzano, 1996). There has been a limitation in traditional research on appraisal and affect: both constructs have been considered as relatively stable variables (Brief & Weiss, 2002). This is exactly the opposite of what AET states, AET authors emphasized that the transient nature of affect should be considered when measuring it (Weiss & Cropanzano, 1996). Recent studies have demonstrated that appraisals are also transient and fluctuant phenomena (Goetz, Frenzel, Stoeger, & Hall, 2010; Nezlek, Vansteelandt, Van Mechelen & Kuppens, 2008) and that appraisal is related to emotions at the workplace. Even though, more research to consolidate the relationships between transient appraisal and affect is needed. Therefore we state that,

Events *appraisal* of workers is going to be related to affect. Specifically, event appraisal – in terms of success - is going to be positively related to positive affect (H1) and negatively related to negative affect (H2).

Another important claim of AET is that individual characteristics (e.g. personality traits) have a moderator role between work events and immediate affect. Research about

personality and affect as an immediate state is scarce. Most research about personality and affect has overlooked the transient nature of affect, because most research studies aggregate affect measures, treat it as a trait variable, or do not clarify if it is addressed as a trait or state variable (Weiss & Kureck, 2003). Consequently, more research is needed to clarify the influence of individual characteristics on transient affect. As far as we know, there is no study which tests the moderator influence of a dispositional variable (e.g. personality trait, cognitive style) between event's appraisal and affect, with affect being considered as a transient variable. Then we propose our next hypotheses:

Explanatory style moderates the relationship between events appraisal and affect. Specifically, when optimistic explanatory style values are high, the relationship between appraisal and positive affect is going to be higher (H3); when optimistic explanatory style values are high the relationship between appraisal and negative affect is going to be lower (H4).

Although a well-known concept as personality traits are included as an "individual characteristic", elements of the cognitive process could be also included under this label. Appraisal Theory states that cognitive processes (e.g. attributional dimensions, attribution) are intra-individual elements that influence on events' appraisal and originate affect (Lazarus, 1991); therefore, attributional dimensions might be considered as individual characteristics.

The cognitive process of affect has been described by appraisal theorists as follows: first, a relevant event takes place in the work context and then the person appraises the event in terms of beneficial or adverse consequences for his or her well-being or goals. Then, these appraisals translate into positive or negative affect, and in turn this affect influences workers' attitudes and behavior (Lazarus, 1993; Weiss &

Cropanzano, 1996). Appraisal Theory states that the importance of the event is an appraisal dimension relevant to determine the affect's valence. This statement concurs with Attributional Theory (Martinko, 1995; Wiener, 1985) which states that the causal search mechanism is a cognitive process activated by important, unexpected and unpleasant events. Thus, we consider that the importance attributed to the events might be a momentary individual characteristic which might moderate the effect of event appraisal on affect. As a consequence, we propose our last hypotheses:

Importance attributed to events moderates the relationship between events appraisal and affect. Specifically, when importance values are high, the relationship between appraisal and positive affect is going to be higher (H5); when importance values are high the relationship between appraisal and negative affect is going to be higher (H6).

With this study we attempt to identify key factors in the process that generates immediate affect. This is to be achieved by testing two individual characteristics as mediators in the relationship between event appraisal and positive and negative affect. Specifically, we propose a multilevel approach, which considers a relatively stable individual characteristic, i.e. explanatory style, and a transient individual characteristic, i.e. the importance attributed to an event.

3.10.1. Method

3.10.1.1. *Participants.* The participants of the study were 73 workers of different organizations in the service sector. They answered a daily questionnaire during 10 days ($N = 730$ observations). 59 % were women, the average age was 31 years ($SD = 8.44$ years) and the 80% had a full-time job. The total number of organizations that participated in the study was 66 organizations from the service sector.

3.10.1.2. Measures and Procedure. The measurements we used for the intra-individual data were: appraisal of the events in terms of success-failure (one-single item), the importance attributed to the events (one-single item), and for positive and negative affect the 'Feelings at work scale' (Warr & Clapperton, 2010). Cronbach's alpha coefficients were .69 for the positive affect index and .73 for negative affect index. For the inter-individual data, explanatory style, we used an adaptation of the questionnaire of Attributional Style Questionnaire (ASQ; Peterson, Semmel, von Baeyer, Abramson, Metalsky y Seligman, 1982; Sanjuán y Magallares, 2005). Cronbach's alpha was .71 for the CoPos index and .75 for the CoNeg index.

We used a convenience sample of workers. Employees of different organizations were contacted by email and received an invitation to participate in an employee's well-being study. People who accepted received another email with explanations of the study and what was expected from them if they participated. Participants answered the daily questionnaire during ten days (intra-individual data) and another one-time questionnaire (inter-individual data). R statistical package was used for all the analyses. Intra-individual data was centered at the person-mean and the inter-individual data at the grand-mean, following the recommendation by Ohly et al. (2010). The Intra-class correlation coefficients of the dependent variables, positive and negative affect ($ICC_{AP} = .215$ y $ICC_{AN} = .193$), indicated data can be approached with a multilevel model.

3.10.2. Analysis and Results

Results of the hierarchical linear modeling (Bliese & Ployhart, 2002) showed that the influence of the tested moderators in the relationship of appraisal-affect is asymmetric for positive and negative affect. Results indicate that those daily appraisals are related to

workers' affective experience, as we proposed. In the following lines, we describe analyses, results, and also the effect of the proposed moderators is discussed.

Following the Growth Modeling Technique (Muthèn & Curran, 1997) we tested different nested models to test our hypotheses (Table 3.2 and Table 3.3). In the first model, no predictor is included (null model). In model 1, at an intra-individual level, we included the variable time as control variable. In model 2 we introduced the independent variable appraisal. And finally, in model 3, we added the mediators (importance and optimistic explanatory style). The same procedure was performed for both dependent variables, positive as well as for negative affect.

In hypotheses 1 and 2 we stated that events appraisal of workers is going to be related to affect, specifically positively related to positive affect (H1) and negatively related to negative affect (H2). Our results showed that the relationship between daily appraisal and affect is significant. Specifically, there is a positive relationship between event appraisal and positive affect (Table 3.2, model 2; $\beta = 0.3430$; $p < .001$) and a negative relationship between event appraisal and negative affect variables (Table 3.3, model 2; $\beta = -0.2534$; $p < .001$). Thus, hypotheses 1 and 2 were confirmed.

This finding concurs with other studies which analyzed fluctuations in appraisal and affect in organizations (Goetz et al., 2010; Nezlek et al., 2008; Miralles, Navarro & Unger, 2015) and indicate that daily appraisals are key elements that influence workers' state affect. When workers appraised events as successful, the positive affect would emerge; inversely, when they evaluated an event as less successful negative affect would emerge. These study results confirm that an employee's appraisal in daily life has an impact on their affective states.

About the moderation effect, we stated that explanatory style moderates the relationship between event appraisal and affect. Specifically, when optimistic explanatory style values are high, the relationship between appraisal and positive affect is going to be higher (H3); when optimistic explanatory style values are high, the relationship between appraisal and negative affect is going to be lower (H4). The results in our study do not show such a moderation effect of explanatory style neither in the relationship between appraisal-positive affect (Table 3.2, model 3; $\beta = 0.0344$; ns), nor in the relationship appraisal-negative affect (Table 3.3, model 3; $\beta = -0.0129$; ns). Thus hypotheses H3 and H4 were not confirmed. Although, we identify a moderator effect for explanatory style in the relationship appraisal-negative affect, when there is a triple interaction between appraised-importance, appraisal-explanatory style and appraisal-explanatory style-importance (Table 3.3, model 3; $\beta = 0.0247$; $p < .001$).

The fact that results do not indicate a moderation effect of optimistic explanatory style in the relationship between appraisal and affect, neither positive nor negative affect, seems to indicate that an individual characteristic such as explanatory style is not as influencing as other transient characteristics, such as cognitive characteristics (attributions like importance of the event). Maybe a potential difficulty to identify the mentioned influence lies on the trans-level character of the relationship we tested. Another potential obstacle to finding a relationship between the explanatory style and positive affect might be that the concept of explanatory style was developed in the framework of the Learned Helplessness Theory and it is thus not well-designed to be associated with positive affect.

Regarding the moderator effect of the importance of the event, we stated that importance attributed to events moderates the relationship between events appraisal and affect. Specifically, when importance values are high, the relationship between appraisal

and positive affect is going to be higher (H5); when importance values are high, the relationship between appraisal and negative affect is going to be higher (H6). Results showed that there is a significant relationship of the moderator effect in the relationship between appraisal and negative affect, but not for the relationship of appraisal and positive affect. In model 3 of Tables 3.3 and 3.2 we can evidence that for negative affect this model is significant ($\beta = -0.0366$; $p < .05$) but that is not the case for positive affect ($\beta = 0.0064$; *ns*). Thus H6 is confirmed but H5 is not confirmed.

Results indicate that importance of the event is a relevant attributional dimension which moderates the relationship between appraisal and negative affect. When importance of the event is high, the mentioned relationship is stronger. This finding concurs with a similar attributional dimension which Appraisal Theory identified as “congruence of the goal” or “relevance of the goal” (Moor, Ellsworth, Scherer & Frijda, 2013); theory states that if an event is appraised as hindering workers’ goals or their well-being, workers are going to experience negative affect. We consider importance attribute to an event and ‘congruence with goal’ similar because the more connected an event is with not reaching one’s goal or losing something valuable, the bigger is the importance attributed to the event. Therefore, this moderator effect could be interpreted like this: when an event is appraised as hindering desired goals, it might be considered important because of the threat that represents not reaching the goal or the loss of something valuable. Under the light of this finding we point out that it is relevant for organizations to identify the attributions of the events that workers experience in their work setting in terms of importance because they can influence organizational output such as affective climate.

Future research might address the study of daily fluctuation of appraisal and affect and identify which are the personal and contextual conditions that explain appraisals that

boost positive or negative affect in the workplace. Also it would be advisable to expand the research of the antecedents of positive affect in order to compensate for the asymmetry we found comparing it with negative affect.

CHAPTER 4. STUDY 3

THE AFFECTIVE MAP OF STATE WORK ENGAGEMENT: A DIARY APPROACH

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The Affective Map of State Work Engagement: A Diary Approach

El Mapa Afectivo del *State Work Engagement*: Una Aproximación Diaria

Abstract

The present study contributes to expand the knowledge about the transient experience of engaged workers and aims to explore the affective life of people and their levels of work engagement. A diary study was carried out to capture the relationship between affective states and work engagement of 117 workers in the services sector work (N=1170). Data were analyzed through artificial neural networks (ANN) and multiple correspondence analyses (MCA). It was found that pleasant emotions with high activation (e.g. enthusiastic) are related to state work engagement (SWE). But the same stands also for pleasant and low activation emotions (e.g. happy, pleased) and for unpleasant negative emotions of low activation (e.g. unhappy) with a negative relationship. Through MCA a new finding was made, people experiencing pleasant affect of low activation could experience high and medium levels of SWE. It means that when a person feels pleasant affect the activation to attain high or medium levels of SWE does not need to be necessarily high. The theoretical and practical implications of these findings are discussed in this paper.

Key words: affect; emotions in the work place; state work engagement; artificial neuronal networks; dairy study.

Resumen

El presente estudio contribuye a ampliar el conocimiento sobre la experiencia transitoria de las personas *engaged* y tiene como objetivo explorar la vida afectiva de los trabajadores y sus niveles de *work engagement*. Se llevó a cabo un estudio de diario para captar la relación entre los estados afectivos y el *work engagement* de 117 trabajadores del sector de servicios (N=1170). Los datos se analizaron a través de análisis de redes neuronales artificiales (RNA) y análisis de correspondencia múltiples (ACM). Se encontró que no sólo las emociones placenteras de alta activación (e.g. entusiasmado) se relacionan con el *state work engagement* (SWE), sino que también lo hace una emoción placentera y de baja activación (i.e. contento) y en su vertiente negativa las emociones displacenteras de baja activación (e.g. desgraciado). A través del ACM se demostró un hallazgo novedoso al comprobar que las personas que experimentaron afecto placentero de baja activación pudieron experimentar niveles altos y medios de SWE, demostrando que cuando se experimenta afecto placentero no se necesita que éste sea de una alta activación para que se den niveles altos o medios de SWE. Implicaciones teóricas y prácticas de estos hallazgos se discuten en el artículo.

Palabras clave: afecto; emociones laborales; *state work engagement*; redes neuronales artificiales; estudio de diario.

4.1 Introduction

Work engagement has been conceptualized as a fulfilling, work-related state characterized by vigor, dedication, and absorption (Schaufeli, Salanova, González-Romá, & Bakker, 2002). It has been addressed as both an enduring motivational state and a transient state of mind that varies across days (Bakker, 2014; Xanthopoulou & Bakker, 2013). Sonnentag (2003) demonstrated that engagement levels vary daily in response to specific situational and personal conditions. Accordingly, the concept of state work engagement (SWE) is defined as “*a temporary mental state that exists at a given moment and fluctuates in short periods of time in the same individual*” (Sonnentag, Dormann & Demerouti, 2010, p. 33). The concept is also defined as an affective-cognitive state, given different studies support the affective dimension of SWE as a fundamental element (Macey & Schneider, 2008). Several authors have related affect with work engagement (Miralles, Navarro & Unger, 2015; Sonnentag et al., 2010), however affect has been conceptualized in terms of valence and no other dimensions have been taken into consideration (e.g., activation). To our knowledge, no empirical studies related SWE with affective states considering pleasure and activation.

The study of SWE has expanded notably, specifically regarding its antecedents, what promotes or inhibits it, and its consequences (Xanthopoulou & Bakker, 2013). However, not much attention has been given to its phenomenological experience. A way to expand the understanding of the concept could be through the study of the affective experience that defines SWE.

The present study aims to explore which affective states (four quadrants of affect and related emotions) are related to SWE and its dimensions (i.e., vigor, dedication, absorption); and to different levels of SWE.

4.2 Affect and Emotions at Work

We adopted the multi-dimensional approach of affect, which has a long tradition in social and organizational psychology (e.g., Russell, 1980, 2003; Warr 1990, 2007). This model proposes that affective states emerge from two neuro-physiological systems: one related to the pleasure-displeasure continuum and the other to activation. Each emotion is seen as a combination of these dimensions with variable degrees of pleasure and activation. This allows organizing the dimensions in a vertical and a horizontal scheme distributed in a circular diagram known as circumplex model (e.g. Warr, Parker & Incenglou, 2014; see Figure 4.1).

The degree of activation may vary considerably while emotions are experienced, independently of their valence (Russell, 1980; Warr, 2007). Furthermore, as it can be seen in Figure 4.1, each quadrant gathers a group of emotions with similar characteristics: high activation and pleasant affect (HP quadrant) with emotions such as “enthusiastic”; low activation and pleasant affect (LP quadrant) with emotions such as “relaxed”; low activation and unpleasant affect (LU quadrant) with emotions such as “depressed”; and high activation and unpleasant affect (HU quadrant) with emotions such as “anxious”.

This model is useful to consider, at the same time, discrete emotions and two classic affective dimensions (i.e., pleasure and activation). Finally, the circumplex model has received much empirical support within work contexts (for a review see Warr et al., 2014).

4.3 Work Engagement and Affect

Theory about work engagement asserts that this state implies the experience of positive affect, such as enthusiasm and happiness (e.g., Bakker & Oerlemans, 2011; Sonnentag et al., 2010). Studies about the influence of positive affect on engagement have

notably increased (e.g. Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2012); demonstrating that it is an important proximal antecedent (e.g., Salanova, Llorens & Schaufeli, 2011). Theoretical approaches referring exclusively to SWE also addressed this relationship. For example, Sonnentag and colleagues (2010) shown that positive affect is a proximal antecedent of SWE along with other personal resources such as self-efficacy, self-esteem and optimism. The model posed by Sonnentag et al. (2010) considers that job resources (e.g., autonomy, team environment) impact on SWE through the aforementioned influence on personal resources. Other studies supported that positive affect facilitates state work engagement weekly or daily (Bledow, Schmitt, Frese & Kühnel, 2011; Miralles et al., 2015). For example, Bledow and colleagues (2011) showed that positive emotions play an important role to initiate goal-directed activities, which is a condition for engagement to be produced.

Most studies on affect resort to the Positive and Negative Affect Schedule (Watson et al., 1988), which includes exclusively emotions from the quadrants of high PA (e.g., excited) and high NA (e.g., anxious; Warr et al., 2014). Consequently, there is a gap regarding the study of low activation affect (see Salanova et al., 2011 for an exception).

Upon the basis of these arguments, our first research question will be: What emotions –considering the four quadrants – would predict SWE?

Likewise, we also aim to explore the relationships between emotions and SWE dimensions of vigor, dedication and absorption. Some authors (e.g., Sonnentag et al., 2010) have suggested that research should pay attention to different dimensions and not only to the general concept. Additionally, empirical studies have shown that the core of engagement is composed by the dimensions of vigor and dedication (Schaufeli & Bakker,

2004), absorption may be related to other psychological constructs such as flow (Taris, Schaufeli & Shimazu, 2010). We will analyze the three dimensions, to identify how they associate with the different emotions. Taking into account this, our second research question will be: What emotions predict the dimensions of vigor, dedication and absorption?

4.4 Broadening the Affect Range Related to SWE

Bakker and Oerlemans (2011) characterize work engagement as a state related to high activation pleasant emotions, and located engagement in the HP quadrant (high activation and pleasant affect) using the circumplex model. Within our knowledge, this is a theoretical proposal that has not been empirically tested; hence its validity remains to be explored.

In this model, Bakker and Oerlemans differentiate engagement from other concepts like happiness and satisfaction. They located SWE and happiness on the HP quadrant and differentiated them by stating that happiness would be associated with moderate activated emotions compared to those associated to engagement which would be of high activation. In the other hand, satisfaction is located on the LP quadrant because it is associated to low activation pleasant emotions (e.g., relaxed, comfortable).

We consider that low activation emotions (e.g., contented, satisfied) may be also related to SWE for different reasons. First, it is improbable that HP emotions occur constantly, given that daily events are common or expected and consequently do not trigger high activation emotions as more impacting events would do (e.g., Beal & Ghandour, 2011). Furthermore, two self-regulation mechanisms could influence in emotional intensity regulation: the functioning of pleasure (Carver, 2003) and the hedonic adaptation (Diener, Lucas & Scollon, 2006). The functioning of pleasure refers to a

decrease of effort until positive affect diminishes and returns to a neutral point or to the appearance of negative affect. The “hedonic treadmill” effect proposes that the impact of positive and negative emotions tends to dissipate with the passage of time. The hedonic adaptation is the continuous tendency of people to return to a level of relative happiness despite the occurrence of positive and negative events and changes that happen in life (Diener et al., 2006).

Taking into consideration that day-to-day emotions arise when relatively common or expected events occur and that workers operate influenced by the aforementioned self-regulation mechanisms, it is expectable that low activation positive emotions occur more frequently than high activation ones and that they are related to momentarily intra-individual states related to well-being (e.g., intrinsic motivation of the task, work engagement; Beal & Ghandour, 2011). Therefore, we aim to explore if lower activation positive emotions are also related to SWE.

Considering the foregoing thoughts we pose our last research question: Could other emotions, besides the high activation pleasant ones, be related to SWE?

4.5 Method

We conducted a diary study and applied two different techniques for data analysis: artificial neural networks (ANN) and multiple correspondence analyses (MCA).

4.5.1 Participants and Procedure

4.5.1.1 Participants. Participants were 117 workers (59% women, mean age = 33, SD = 8.59) from 89 different service sector organizations, who answered daily a questionnaire at least during 10 days, providing a total of 1170 observations. Average tenure in the organization was 4.3 years (SD = 1.2), with an average seniority in the

position of 1.8 years ($SD = 1.3$). Twenty-two percent of participants held executive positions.

4.5.1.2 Procedure. Electronic mails were sent inviting workers to participate in the study and 146 agreed to participate. At the same time, we asked these workers to extend the invitation to other workers, if they would fit two criteria: (1) work in the services field and (2) have access to Internet in their work position; therefore, we have a sampling by convenience. First, participants filled-in an on-line questionnaire with demographic and organizational related data. Then, the purpose of the study was explained as well as what was expected from their participation by means of on-line instructions. Participants answered a questionnaire once a day (at the end of the day) during a minimum of 10 working days. We obtained a final response rate of 80%. The on-line questionnaire provides the possibility to verify if participants have answered each day. As is well known, the diary methods allow capturing life as it occurs (Bolger, Davis & Rafaeli, 2003) reducing retrospective memories bias (Ohly et al., 2010).

4.5.2 Instruments

The daily questionnaire contained questions to evaluate twelve emotions generated from an important event happening during the day and the state work engagement experienced at the end of that day.

4.5.2.1 Emotions. We used Warr and Clapperton's scale of feelings at work to measure the day-to-day emotions and the four quadrants of affect (Warr & Clapperton, 2010). The scale comprises twelve items including three emotions per quadrant. The high HP quadrant (see Figure 4.1) contains emotions such as "excited" and "enthusiastic"; the LP one contains emotions such as "comfortable" and "relaxed"; HU quadrant contains emotions such as "tense" and "anxious" and the LU quadrant contains emotions such as "miserable" and "gloomy". Participants were asked to record the emotional states caused

by the most important event occurring that day. They could select one or more emotions. To calculate the score of the quadrants we took the three emotions of each quadrant and added them together (range from 0 to 3). Warr et al. (2014) have shown through factorial analyses that the instrument can measure both the twelve emotions as well as the four quadrants of affect. Kuder-Richardson's 20 index of reliability was used for the scoring of quadrants; the reliability indexes are: .71 for HP, .69 for LP, .76 for LU and .73 for HU.

4.5.2.2 State Work Engagement. SWE was evaluated with six items of the *Utrecht Work Engagement Scale* (UWES; Schaufeli, Salanova, González-Romà & Bakker, 2002; Seppälä & Schaufeli, 2009). The scale includes two items that measure vigor (e.g., "I feel strong and vigorous about my work"), two items that measure dedication (e.g., "My work inspires me") and two items that measure absorption (e.g., "I get carried away when I'm working"). Responses ranged from 1 ("A little") to 7 ("A lot").

4.6 Analysis

In order to answer the first two research questions (What emotions predict SWE? and What emotions predict the dimensions of vigor, dedication and absorption?) we used artificial neural networks (ANN), a methodology that has several advantages over more classic methods based in the general linear model. For our purposes, the use of ANN allows us to:

- 1) Handle longitudinal data because, after some trials, ANN learns how to associate specific patterns to each participant (Janssen et al., 2008).
- 2) Work with highly correlated variables, such as emotions, not being influence by the effect of multicollinearity among variables.

- 3) Emotions can be a cause, but also a consequence of the outcomes in study, and this reciprocity is best modeled with nonlinear methods because they are sensitive to interactive relations.

To approach the third research question (Could other emotions, besides the activated pleasant ones, be related to SWE?) we performed multiple correspondences analyses (Greenacree, 1994; Greenacree & Blasius, 1994). We aim to examine the co-occurrence of different levels of SWE, discrete emotions and four types of affect. For this purpose we calculated and classified the SWE variable in 5 levels (creating the levels of: very high, high, medium, low and very low) following the 20 percentile values proposing by Schaufeli and Bakker (2003). First, we analyzed the co-occurrences of the four quadrants of the circumplex model (HP, LP, HU, LU) with the SWE levels; after that we studied the co-occurrences of the twelve emotions with the same levels of SWE; finally, we analyzed the co-occurrence of the four aforementioned quadrant with the dimensions of vigor, dedication and absorption.

4.7 Results

4.7.1 Descriptives Results

Table 4.1 reports means, standard deviations and correlations values among the studied variables.

Table 4.1.

Minimum, maximum and average values, standard deviation and correlation of studied variables

	N	M	SD	Min	Max	HP	LP	LU	HU	Pleasure	Acti- vation	SWE	Vi- gour	Dedi- cation	Absor- ption
HP	1170	1.79	0.81	0	3		.18**	-.17**	-.17**	.75**	.63**	.16**	.15**	.15**	.13**
LP	1170	1.93	0.85	0	3	.18**		-.28**	-.53**	.78**	-.27**	.02**	.00	.04	.01
LU	1170	1.57	0.45	0	3	-.17**	-.28**		.24**	-.29**	.05	.00	.00	-.03	.03
HU	1170	1.78	0.82	0	3	-.17**	-.53**	.24**		-.47**	.64**	.05	.06*	.01	.08**
Pleasure	1170	7.43	1.28	6	12	.75**	.78**	-.29**	-.47**		.21**	.12**	.10**	.12**	.09**
Activation	1170	7.13	1.04	6	12	.63**	-.27**	.05	.64**	.21**		.16**	.16**	.12**	.16**
<i>State Work Engagement</i>	1170	4.12	0.91	1	7	.16**	.02	.00	.05	.12**	.16**		.91**	.92**	.89**
Vigor	1170	4.34	0.89	1	7	.15**	.00	.00	.06*	.10**	.16**	.91**		.78**	.72**
Dedication	1170	4.18	1.08	1	7	.15**	.04	-.03	.01	.12**	.12**	.92**	.78**		.71**
Absorption	1170	3.87	0.97	1	7	.13**	.01	.03	.08**	.09**	.16**	.89**	.72**	.71**	

Nota. HP = High activation pleasant affect, LP = Low activation pleasant affect, LU = Low activation unpleasant affect, HU = High activation unpleasant affect, SWE = *State work engagement*

* $p < .05$. ** $p < .01$.

4.7.2 Artificial Neural Networks (ANNs)

We trained four Multilayer Perceptron ANNs in PASW Statistics version 18. The first ANN modeled the relation between emotions and SWE. The second, the third and the fourth modeled the relation between emotions-vigor, emotions-absorption, and emotions-dedication, respectively. This type of ANN works with a back-propagation algorithm and is one of the most widely used types of ANN, because a) it is able to model complex functions efficiently, b) it is flexible in adjusting the weights to external changes, and c) it has strong capabilities to identify important inputs and to disregard irrelevant ones. The variables were re-scaled using the standardized method to improve the training of the ANNs. We used batch training as it is more appropriate for small to medium data sets and reduces the total error. In order to track the errors and prevent over-training, we divided the sample in two: 70% was allocated for training and 30% was assigned for testing (e.g., Karanika-Murray & Cox, 2010). We started by computing different fit measures (error statistics) to ascertain the quality of each ANN: the mean absolute percentage error (MAPE), which indicates the goodness-of-fit in predictions based on the difference between the observed and predicted values (e.g., Makridakis, Wheelwright, & Hyndman, 1998); the mean bias error (MBE), which indicates the level of overestimation in the predictions; and the root mean square error (RMSE), a measure that specifies the variation of the forecasted and observed values and offers detail on the short-term performance of the model. Furthermore, we calculated the R^2 values and the cross-validity coefficients (CVR), i.e., the correlation between the predicted and the observed values.

As it can be seen in Table 4.2, all ANNs presented very satisfactory results in all fit measures.

Table 4.2.

Adjustment indexes

	MAPE	MBE	RMSE	CVR	R ²
Emotions - SWE	0.112	0.040	1.055	0.799**	0.64
Emotions - vigor	0.166	0.143	1.076	0.795**	0.63
Emotions - dedication	0.097	0.005	1.059	0.803**	0.64
Emotions - absorption	0.081	0.197	1.080	0.801**	0.64

To ascertain the contribution of each emotion to each outcome, we carried out sensitivity analysis to infer the relative importance (RI) of each input vale (an effect size metric that allows determining how strong is the contribution of each predictor when controlling for all others). A RI > .10 indicates that the variable is a considerably strong predictor, whereas a RI between .05 and .10 indicates that it is a less, but still important, predictor. Table 4.3 presents the RI of each emotion, for each model.

The most important predictors (RI > .10) of SWE were: enthusiastic, contented, miserable, gloomy, and depressed. Predictors of medium importance (RI > .05) of SWE were interested and excited (see Figure 4.1).

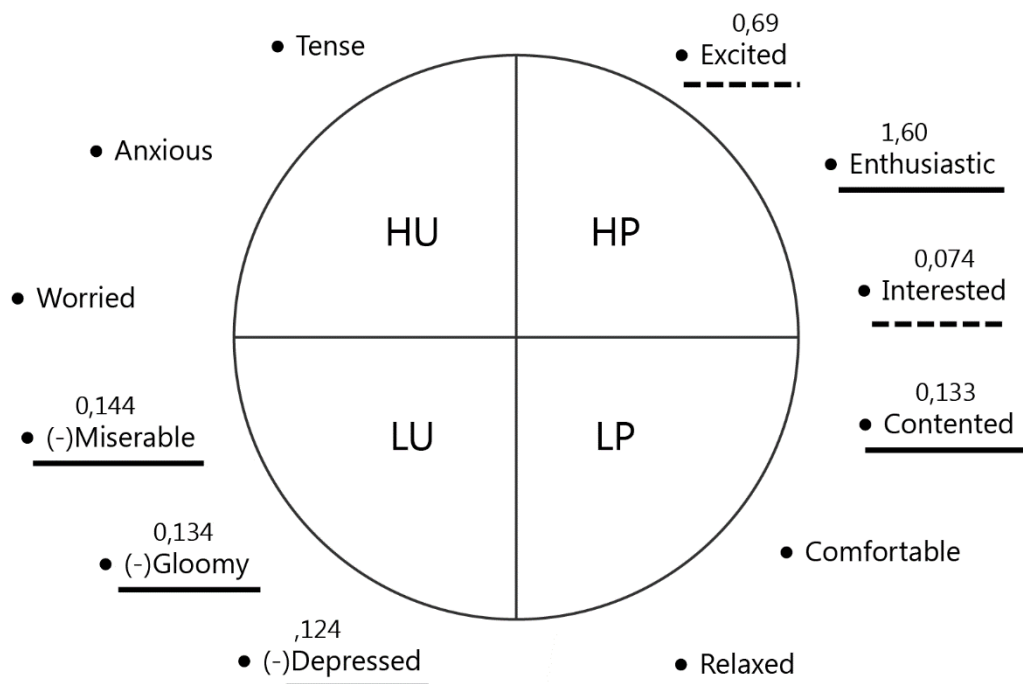


Figure 4.1. Location of the four types of affect in the circumplex affect model. Abbreviations mean: HP = high activation pleasant affect, LP = low activation pleasant affect, LU = low activation unpleasant affect and HU = high activation unpleasant affect. Adapted from Warr, Bindl, Parker & Inceoglu (2014). The numbers correspond to the RI of predictor variables for the emotions' RNA model and SWE. Emotions that have a high RI value are underlined with a continuous line; those of medium importance are underlined with dotted lines.

The emotions that predicted vigor with the highest importance index were: enthusiastic, contented, gloomy and miserable; the ones with medium importance index were: excited, interested. The emotions that more strongly contributed to the dedication dimension were enthusiastic, interested, contented and gloomy; with medium importance excited and comfortable. The ones that most robustly contributed to absorption were: enthusiastic and contented; and with medium importance: excited, interested and comfortable.

Table 4.3.

RI of predictor variables for each RNA model

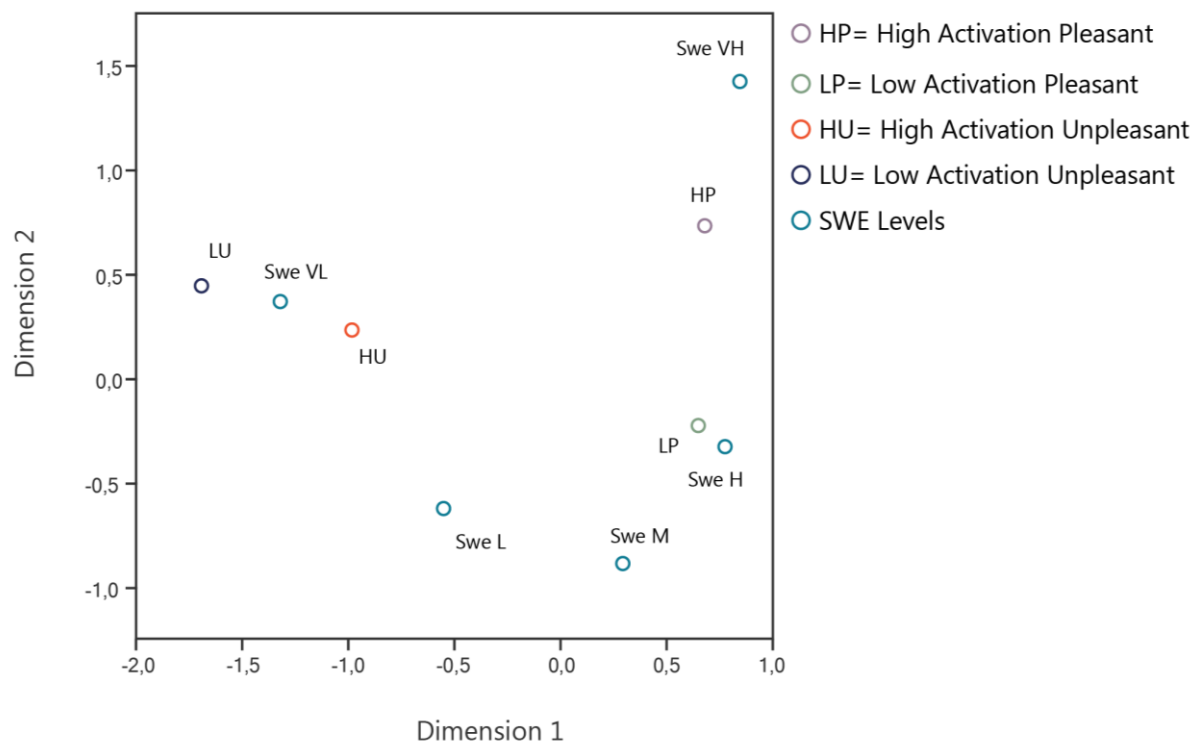
	Emotions- SWE	Emociones - vigor	Emotions – dedication	Emotions - absorption
Excited	0.069 ²	0.078 ²	0.084 ²	0.080 ²
Enthusiastic	0.160¹	0.171¹	0.227¹	0.196¹
Interested	0.074 ²	0.078 ²	0.100¹	0.081 ²
Contented	0.133¹	0.123¹	0.163¹	0.162¹
Comfortable	0.042	0.046	0.066 ²	0.087 ²
Relaxed	0.014	0.037	0.017	0.034
Miserable	0.144¹	0.103¹	0.048	0.030
Gloomy	0.134¹	0.129¹	0.124¹	0.089 ²
Depressed	0.124¹	0.090 ²	0.042	0.053
Tense	0.030	0.031	0.043	0.052
Anxious	0.027	0.039	0.021	0.037
Worried	0.049	0.074 ²	0.064 ²	0.098

Note. The highly important RI scores are indicated with ¹ and those of medium importance are indicated with ²

4.7.3 Multiple Correspondence Analyses

The results of the MCA of the circumplex model's quadrants and the SWE levels resulted in two dimensions that explained 74.4% of the variance of data (associated inertia of 0.515 and 0.238 for dimension 1 and dimension 2 respectively). The eigenvalue of dimension 1 was 2.577 and that of dimension 2 was 1.192. Therefore, results suggest that the data is organized in two dimensions (see Figure 4.2). Dimension 1 seems to represent pleasure-displeasure. On the right side it group the pleasant emotions quadrants of high and the low activation (HP and LP quadrants), while the left side brings together the unpleasant emotions quadrants, both for high and low activation (LP and HU quadrants).

Additionally, the values that differentiate the dimension to a higher degree are those of HP quadrant (high activation-pleasant) and LU (low activation-unpleasant). The extreme quadrants of dimension 2 show coherence between activation and pleasure. HP and LU are located in the top portion, while HP and LU are located in the lower portion. Regarding the levels of SWE we may observe that the very high, high and medium levels are located in the right side of the graph, in coincidence with the pleasant emotions quadrants HP and LP. Hence, the low and very low levels are related to the unpleasant emotions quadrants HU and LU. Notwithstanding, there is a very clear differentiation between the very high, high and medium levels. The very high level is related to the HP quadrant (high activation pleasant emotions) and the high and medium levels are related to LP quadrant (low activation pleasant emotions). Very low SWE level is related with both unpleasant emotions quadrants, both with HU as well as LP. Finally we observe that the low SWE level is related with the unpleasant quadrants, however not as clearly with the very low SWE level.



Dimension 1 horizontal = Pleasure

Dimension 2 vertical = HP-LU to HU-LP

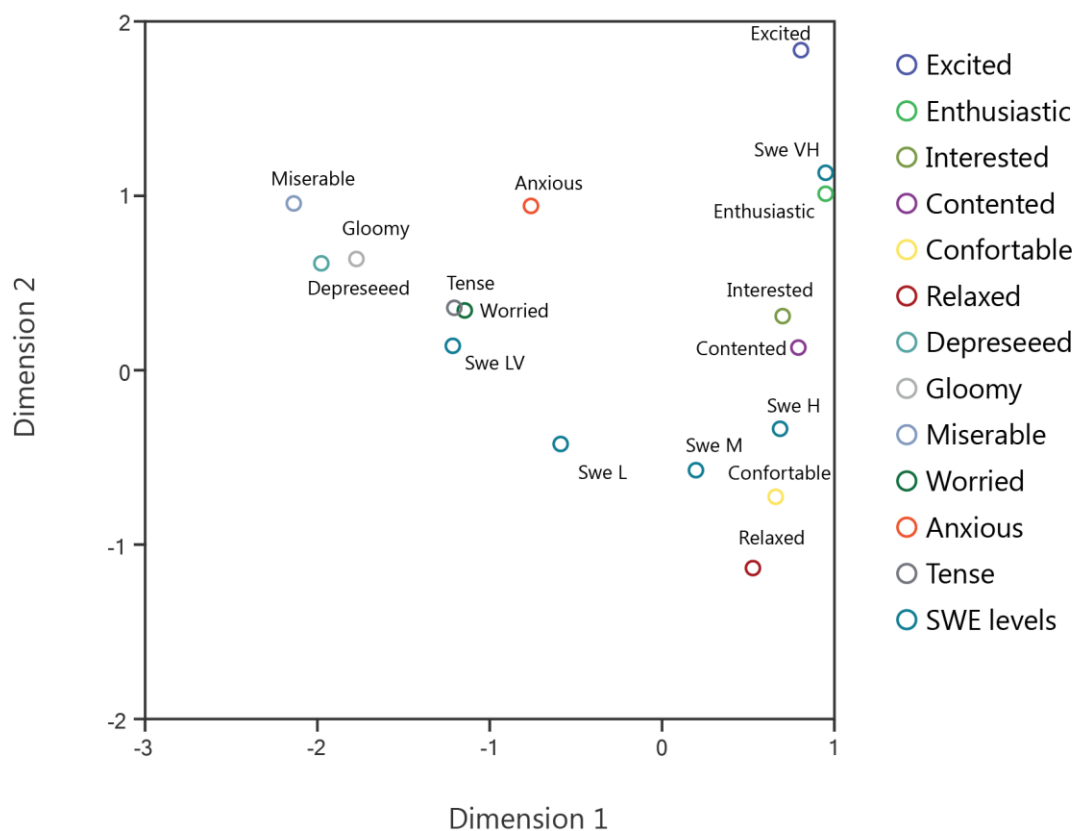
SWE Levels = SWE VH = Very High, SWE H = High, SWE M = Medium,

SWE L = Low, SWE VL = Very Low

Figure 4.2. MCA quadrants and levels of SWE

In order to deepen the analysis, another MCA was made with the 12 discrete emotions and SWE's levels. The results confirmed the existence of two different dimensions which organize data. They explained 38% of the variance (associated inertia is 3.212 and for dimension 2 was 1.8924 respectively). Figure 4.3 shows that dimensions 1 and 2 are in coincidence with the aforementioned analysis. Results agreed with previous analysis, very high SWE level is related with the emotions of enthusiastic, excited and interested, whereas the high and medium SWE levels were associated with the emotions of contented, comfortable and relaxed. Moreover, the very low SWE level was related

with low activation unpleasant emotions, although in a lesser measure with low activation unpleasant emotions. Finally, we see that very low SWE level was related to activated unpleasant emotions. The low activation unpleasant emotions such as gloomy and depressed seemed not to be related with low level of SWE, they were closer to the very low SWE level, even though the very low level of SWE is more related with high activation unpleasant emotions.



Dimension 1 horizontal = Pleasure

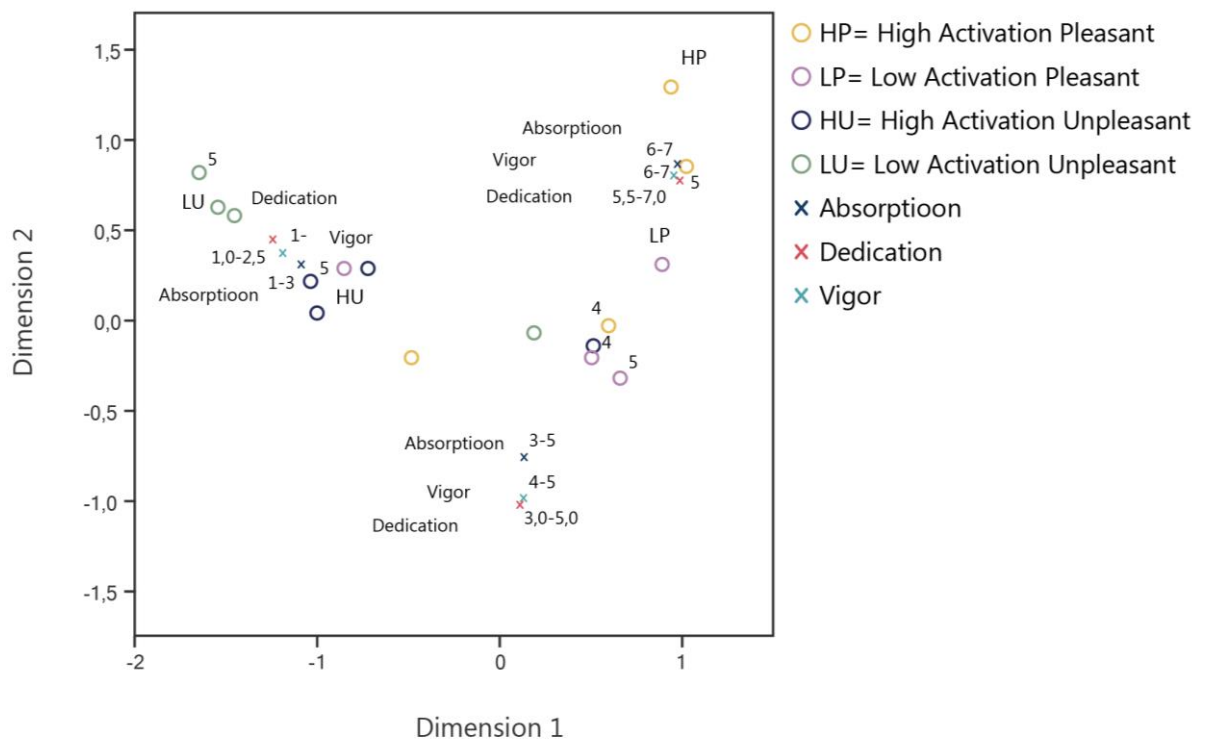
Dimension 2 vertical = HP-LU to HU-LP

SWE Levels = SWE VH = Very High, SWE H = High, SWE M = Medium,

SWE L = Low, SWE VL = Very Low

Figure 4.3. MCA emotions and levels

Figure 4.4 presents MCA of the quadrants of the emotions and SWE's dimensions of dedication, vigor and absorption. First, we calculate a scoring of each dimension according to three levels high (5.5 to 7) medium (5.4 to 3.1) and low (3 to 1). Results confirm the existence of two different dimensions that explain 82% of the variance (the associated inertia was .531 and .294 respectively). The dimensions seem to be the same as those of previous analyses. Dimensions that have a high scoring (5.5 to 7) were related to the positive emotions quadrants, both HP and LP. When the score of the dimensions was low (1 to 3) they were related with the unpleasant emotions, both HU as well as LU. Dimensions with a medium score, (5.4 to 3.1) did not show a clear association as that of the other two cases.



Dimension 1 horizontal = Pleasure

Dimension 2 vertical = HP-LU to HU-LP

Figure 4.4. MCA quadrants and levels of dimensions of dedication, vigor and absorption

4.8 Discussion

Reviewed theories have proposed that positive affect is an antecedent of SWE (Bakker & Oerlemans, 2011; Sonnentag et al., 2010). Its study has specially referred to positive affect, however we believe that the affective life of workers is sufficiently complex to allow the broadening of the approach and specify the type of affect -in terms of activation and pleasure- that is associated with SWE. To attain a deeper comprehension of the SWE concept and affective life of workers we explored how emotions were related to SWE and if other positive emotions such as the low activation pleasant ones may also be related to SWE.

ANN results indicate that not only pleasant and activated emotions predict SWE and its dimensions of vigor, dedication and absorption, but also low activation pleasant ones do it as well. Moreover, results showed that it is important that should be no low activation unpleasant emotions in order to experience SWE or its dimensions.

ANN results concur in part with previous theory. On one hand, the results showing that high activation pleasant emotions are important to explain SWE, are consistent with the proposal that Bakker and Oerlemans (2011) posed for engagement. It is also consistent with Warr and colleagues' study (2014), which demonstrated that high activation positive affect is related to positive organizational behaviours. On the other hand, results contradict theory stating the affect related to SWE has to have a high activation. We found that contentment -a low activation pleasant emotion- is fundamental to explain SWE. No previous theoretical proposal had established the relationship between SWE and low activation pleasant emotions. In agreement with our argument, transitory engagement is related to pleasant emotions –mainly with the activated ones- but also with low activation

emotions. Using this finding, Bakker y Oerlemans (2011) proposal could be extended including relation of engagement with low activation pleasant affect.

Regarding the quadrants, we conclude that not only the emotions of the HP quadrant and one of the LP are important to predict SWE, but also those of HU (in a negative way). This result is consistent with Warr's approach, who named the HP and LU as enthusiasm and depression, respectively. It is also consistent with the proposal of Bakker and Oerlemans (2011) who posed that these spaces correspond to the psychological states of work engagement and burnout. Given that engagement has been conceptualized as the opposite of burnout (Schaufeli et al., 2002), it makes sense to assert that low activation unpleasant emotions do not have to be present to be able to experience SWE.

In regard to the relationships between emotions and SWE's dimensions, we found similar dynamics to those of emotions and SWE. Not only high activation pleasant emotions are important to explain the dimensions of dedication, vigor and absorption, but also those of other quadrants (i.e. low activation pleasant emotions) and the absence of low activation unpleasant emotions. It is quite clear that pleasant emotions of enthusiastic and contented –one of high and the other of low activation- are very important to explain both SWE and its three dimensions. A peculiar difference exists in the relationships of emotions and dimensions of dedication and absorption. The emotions that explain these two dimensions cover a broader range of positive emotions because they include two low activation pleasant emotions (comfortable and contented) among the aforementioned. It may be expected that the dimensions of dedication and absorption would be related to low activation pleasant emotions, because in order to concentrate on one task and find a sense to the effort required by it, it is necessary to feel comfortable and contented as

means of a sign of contextual factors such as psychological safety, degree of certainty and no need to make big efforts.

It has been stated that the dimensions that constitute the core of SWE are vigor and dedication; we found that vigor is the dimension that functions more similarly to SWE regarding its relationship with emotions. This could be the case because vigor is a component of the approached-oriented behavior facilitation system, similar to engagement. This system directs organism to situations that potentially may yield pleasure, reward and facilitation of resources essential for well-being (Shirom, 2003). Regarding the relationship between levels of dimensions and quadrants, it seems that the co-occurrence of high levels of SWE dimensions and pleasant affect is possible, independently of the activation of affect.

Examining the relationship of emotions with different levels of SWE, we got results that provide new findings. The experience of workers feeling high and medium levels of SWE is related to low activation pleasant emotions. Meaning that at any time pleasant emotions are felt, it is not necessary that these have a high level of activation to get high or medium levels of SWE in the day-to-day work activities. Low activation pleasant emotions are related to SWE (high and medium levels) probably due to the different self-regulation mechanisms of affect, and because affect is caused by common events of the day-to-day activities at work. On the other hand, the low and very low levels of SWE were related to unpleasant emotions and LU and HU quadrants. Moreover, it seems that unpleasant and unactivated emotions refer to the characterization of a phenomenon different to SWE; maybe this emotional space corresponds to burnout, given it is conceptualized as the opposite of work engagement. The vertical dimension that explains the relationship between emotions and levels of SWE corresponds to the intensity of activation and pleasure (Warr's enthusiasm-depression axis). That is to say

that HP and LU quadrants are the ones that help to better discriminate the influence of affect on SWE, in this case the high and low levels of SWE. This evaluation agrees with the Warr et al., (2014) study supporting that the HP-LU axes are intimately associated with behaviors at work (e.g. the affect of LU quadrant predicted undesirable behaviors in the organization: social shyness, decrease of effort, minor stealing). This is an indication that affect in HP and LU quadrants may have a relevant role as antecedents of behaviors and attitudes at work.

4.8.1 Limitations and Future Research

Our study presents some limitations that should be acknowledged. First, the sampling method does not allow inferring about patterns of relationship between emotions and SWE in specific work contexts. Also, the dichotomous coding of emotions did not allow us to explore in greater depth the intensity of the affective experience, being the arousal interpreted by its natural and epistemological connection to the concepts. Future studies could replicate this research in specific work contexts and using Likert scales to assess emotional experience. Furthermore, we allowed participants to report a single event per day, which may have outshined the occurrence and influence of other events on the variables in study. Also, recalling events and associated emotions after their occurrence can be subjected to memory biases. Future studies could instruct participants to report the events and related emotions right after their occurrence. Also, the use of the experience sample method could allow exploring reciprocal relationships between engagement and affect. In this study, the directionality of relationships is not guaranteed. It is most probable that it may occur between our study variables with an effect of ascending spirals and reciprocal interaction between affect and SWE (Salanova et al., 2011).

Based on our results, we also suggest that future studies should consider the four quadrants of affect when conceptualizing it, in order to include also low activation affect. Moreover, to include individual traits that continually affect attitudes and psychological states as control variables could yield interesting results. An important limitation was the fact that, in Spanish language, “contented” in some cases may also refer to happiness, having a more activated nuance. In order to clarify this point, we reviewed the events that aroused “contentment” and -as appraisal theory of emotions states- it occurred in known contexts, evaluated as safe, with a high degree of certainty and where there is no need to make big efforts (Ellsworth & Smith, 1988). Based on this evidence we believe that in the present study contentment was interpreted as a low activated pleasant emotion. An interesting avenue for research would be identifying the Spanish labels for emotions that emerge from the two neuro-physiological sub-systems of activation and pleasure. To do it, a multi-dimensional escalation technique could be used, similar to that applied by Russell (1980).

4.8.2 Practical Implications

Managers should be aware of the benefits of identifying the predominant daily affective states among employees, given they have repercussions on the desirable psychological states, i.e. SWE and overall organizational behavior (Warr et al., 2014). In the light of our findings, managers should try to favor organizational contexts that facilitate the emergence of high activation pleasant affect. In such contexts workers are allowed to display and use their abilities, tasks represent challenges, workers have the autonomy to decide certain aspects of work and receive performance feedback (Xanthopoulou & Bakker, 2013). Notwithstanding, it is not necessary for the worker to continuously experience high activation affect to achieve SWE; in fact, low activation pleasant affect is also desirable. This occurs within contexts that are evaluated as safe,

with levels of high certainty and where it is not necessary to make great effort. Daily emotions such as contented and comfortable allow for the assimilation of achievements and previous efforts, permitting high and medium SWE to occur. On the other hand, it is very important for managers to identify if affects of the LU quadrant are being experienced frequently by workers, given emotions in this quadrant have a negative relationship with SWE. In such cases interventions should be made to address the causes of such affect and remedy the situation. Moreover, action should be taken to elicit emotions of other quadrants of affect. Identifying the predominance of this affect at an early time may prevent undesirable organizational consequences (e.g. absenteeism, depression and burnout). Within the same line of action, training about coping strategies and emotional regulation could be implemented, because they have been proven to be effective to increase positive affect (Salanova & Schaufeli, 2009).

4.8.3 Conclusions

In order for workers to experience SWE, it is important that they feel enthusiastic and contented about their work. It is also essential that they do not experience emotions such as feeling miserable, gloomy or depressed, because these are incompatible with SWE. We highlight that activation is not essential to experience high or medium levels of SWE. If workers experience pleasant emotions, they will be engaged in day-to-day work activities. If managers want to promote SWE among their workers, they should generate organizational contexts with characteristics and resources that promote the type of affect that is related to SWE.

CHAPTER 5. DISCUSSION

5. Discussion

This final chapter provides an overview of the three empirical studies and their contributions (Table 5.1.) and discusses the theoretical implications of these studies and some recommendations for managers. Finally, the chapter concludes with the principal limitations of this dissertation and makes a plea for further investigations of state work engagement and its antecedents in order to build a broader framework to understand and foster transient concepts related to well-being in organizations.

The present work focused on understanding the elicitation process of diary work engagement. Why in some days the same person reacts in a determined way and on another day in front of the same event he or she reacts differently? Which are the intra-individual characteristics that influence workers to appraise events in a way that they feel energized, committed and concentrated on their work? What was happening in the intra-individual world before workers felt engaged at work?

This dissertation addressed the study of the inner-life of workers with the aim of disentangling the intra-person characteristics which facilitate SWE. I intended to clarify under which intra-personal circumstances workers feel SWE and how is the process of SWE elicitation. The main research question was: “How affective and cognitive intra-individual mechanisms are related to SWE in a process examined from a daily approach?”. The focus was on cognitive intra-personal variables, specifically on work event appraisal, attributions, and explanatory style, and on affective intra-personal variables (e.g., positive and negative affect and discrete emotions).

The main findings of the presented studies lead us to the answer that SWE is influenced by characteristics of the work context (e.g. work events) and is determined by the juxtaposition of that external influence and the intra-individual characteristics of

workers. SWE is a state resulting from workers internal cognitive mechanisms such as appraisal, attributions about work events and affect or emotions aroused by cognitive mechanisms. In this sense, AET provides a useful framework to understand SWE as an output from transient cognitive and affective reactions of workers, similar to the concept of affective-driven behavior as an output of transient affect. Just like affective-driven behavior, SWE is influenced by affect elicited by work events and those work events are evaluated in a way or another by the appraisals workers do. We demonstrated that this mechanism is plausible by means of our three empirical studies conducted with a diary approach. Let us recall that two of them are focused on state work engagement (Studies 1 and 3) and one on transient affect as dependent variable (Study 2). The three studies allow us to propose a model that explains antecedents of transient affect and state work engagement in the daily life of workers. Moreover, they allow us to explain in a model the daily interplay of all the studied variables.

5.1 Main Research Findings

The central findings of the empirical studies we want to highlight are six: 1) SWE is influenced by appraisal of the events of workers and by the elicited day-to-day affect; 2) affect is a mediator between work events appraisal and SWE; 3) the dynamic of some antecedents of SWE such as appraisal and affect could be understood under AET framework; 4) attributions are moderators that will influence in an asymmetrical way on positive and negative affect elicited by appraisal of work events; 5) momentary emotions can enhance well-being states such as SWE; 6) highly activated pleasant affect predicts SWE and so does some low activated pleasant affect as well (e.g. contented).

In study 1, our aim was to provide a framework to understand SWE under AET; results indeed seem to indicate that employees' appraisal of successful daily events

influence SWE through a mediation effect of positive affect. Results showed that event appraisal and affect can act as antecedents of SWE with a similar dynamic as the one explained by AET for affect outcomes (e.g. affect-driven behavior).

This study addresses the dynamics between two daily antecedents of SWE: event's appraisal and affect (positive and negative). With a within-person perspective and under AET framework, the study aim is to test some proposed relationships that explain the dynamics between the mentioned variables; we proposed that positive and negative affect are mediators in the relationship between events appraisal and SWE. In order to accomplish this, first we explore if the way employees evaluate an event –the appraisal of a work event as successful- might facilitate or impair experiencing SWE at the daily level. Secondly, we evaluate if these appraisals elicit affect, if positive affect boots SWE and if negative affect impairs SWE.

Results showed that work event appraisal influence positively on SWE. When workers interpreted events as favorable to their goals and well-being, their positive affect is increased, and that helps worker to feel more vigorous, compromised and absorbed in their work. Our results showed that negative affect act inversely; when event appraisal was not favorable, negative affect arouse and it avoid workers to feel engagement.

The mentioned findings enable us to deepen on the influence of other cognitive mechanisms –attributions- as moderator in the relationship between events' appraisal and transient affect.

Therefore, in Study 2 we studied the moderator effect of cognitive attributions in the relationship between appraisal and positive and negative affect. Given attributional theory states that attributional mechanisms influence the way people evaluate work events and consequently how they react to them (Martinko, 1995), we analyzed the importance

attributed to an event and attributional style as possible moderator in the mentioned relationship. Our results indicated that importance attributed to an event and attributional style had an asymmetrical influence on workers' affect. Multilevel analysis results showed that -at within-person level- the importance of the event was a moderator between events appraisal and negative affect, but not with positive affect. In a similar way, but with cross-level influence, the moderator effect of attributional style was tested in the relationship between events appraisal and negative and positive affect. Although we could not find evidence of the effect for either positive or negative affect, results showed that such effect exists just on negative affect when there is a triple interaction effect between the studied variables. Summarizing, our findings seem to support the cognitive appraisal theory (Lazarus, 1991, 1993) and partially attributional theory (Martinko, 1995; Weiner, 1985a), because results in the within person level indicate that importance attributed to an event has an influence on daily negative affect. The fact that this moderation was not found with positive affect and that an asymmetry exists on the study of antecedents and consequences of negative affect compared with positive affect, showed us that there is a need to broaden the study of cognitive antecedents of positive affect.

Finally, Study 3 contributes to broaden the knowledge of the type of affect which is related to SWE in the daily level, and explore if momentary affect could lead to SWE. The relationships of discrete emotions and SWE were studied. We used the circumplex model of affect (Russell, 1980; Warr, 1990) to differentiate activation and valence of discrete emotions. Results of our analysis point out that not only pleasant emotions with high activation are related to SWE; also pleasant low activated emotion (e.g. content) and (with negative relationship) low activation unpleasant emotions are related to SWE. This means that an experience of pleasant emotions of high activation or contentment (of low activation) facilitates work engagement; and inversely experiencing unpleasant emotions

of low activation hinders the emergence of work engagement. Moreover, a novel finding of ours showed that in order to experience SWE, the pleasant affect associated to it is not exclusive with high activation, but it could be also pleasant affect with low activation. The findings indicate that it is possible that momentary affect fosters state work engagement. Please find in Table 5.1 a synopsis of the studies and results.

5.2 Theoretical Implications

From a theoretical standpoint, we broadened the study of the within-person antecedents of SWE. We identified the dynamics of events' appraisal, affect as precursors of SWE, and showed the mediating role of affect. This knowledge can enrich models aimed to explain SWE as a transient state of employee well-being under the AET framework.

Another contribution is showing that events' appraisal act as an antecedent of SWE. Previous models that explain work engagement (Bakker & Demerouti, 2007; Sonnentag et al., 2010) have included self-evaluations (i.e. self-efficacy, self-esteem) as personal antecedent of WENG, but none of them proposed cognitive mechanisms such as appraisal as we do. We consider appraisal of work events is a variable that is a result of the juxtaposition of characteristics of the work context (e.g., work events) and personal characteristics of workers (e.g. attributional style). Given that, events' appraisal comprises both aspects, it could be a key variable to include in future models of SWE. Moreover, also our findings support recent research that has shown that appraisal mechanisms can fluctuate within the same individuals, as well as between individuals (Goetz et al., 2010; Nezlek et al., 2008).

We also contribute with empirical evidence of the relationship between positive and negative affect and SWE. The positive relationship between positive affect and SWE

support models that postulate positive affect is a construct that enhances SWE, such as Sonnentag and colleagues' (2011) model. In the same direction, results support models that sustain that negative affect impairs SWE. These findings are especially relevant for the service sector environments –significant component of employment in most western economies (Jorgenson & Timmer, 2011) – because employee's positive emotions might have positive impact in service quality and customers' willingness to repurchase from the same organization.

We presented evidence of the influence of positive emotions and specific discrete emotions at work on SWE with a diary approach. In this way, results support reasoning that argues that momentary positive emotions can foster momentary state related to well-being in organizations. In the B&B theory, Fredrickson (1998; 2001) argue that positive emotions would lead to resources that enhance well-being in the long term. Other authors have stated that this process could also happen in the daily life (Ouweneel et al., 2012). Our findings will concur with Ouweneel's proposition: momentary affect is also constructive to enhance states related to well-being.

Our work contributes to better understand the concept of SWE, by exploring the type of affect (considering valence and activation) to which it is related in the daily life. By using the circumplex model of affect (Russell, 1980, 2003; Warr, 1990), we broaden the scope that is usually used to study affect and considered the four-quadrant model, and we found out that SWE was related not only to pleasant affect with high activation, but also with the low activation one. This fact shows interesting implications for managers.

We believe, we enriched the affective events theory by providing evidence of the effect of intra-personal elements -events appraisal and affect- that influence on the psychological state of employees e.g. state work engagement. Results also add to the AET

theory, by exploring moderators, e.g. attributional mechanisms and an attributional style –at the within and at the between level- that influence in the affective responses of employees.

We also consider that our work presents a way to analyze the effect of transient cognitive and affective antecedents of SWE. Research about SWE can depart from AET framework to integrate more elements from the context (job characteristics such as workload, time pressure, supervisor support) and from the internal life of workers (hope, resiliency, optimism) to clarify in which situations workers feel more or less engaged.

Finally, through our work it becomes evident that multilevel analysis allows to study the effect of trait variables and transient variables on fluctuant phenomena, differentiating the influence of each antecedent. This approach enables to clarify the influence of the changing work context, affect and cognition, against more stable job characteristics and personality traits. The implications of applying one or another approach is going to determine how research designs are developed and how organizational interventions and job redesigns initiatives are going to be implemented.

5.3 Managerial Implications

Some recommendations for managers of organizations can be drawn from our findings and experience, studying the inner-life of workers in the service-sector organizations.

Interventions to foster SWE in organizations could be designed as short-term programs, given SWE and its intra-individual antecedents fluctuate in the daily life of workers. These interventions could be effective on specific occasions where the need exist for employees to go beyond their average level of work engagement (e.g. high season, high adversity).

Daily aspects of work life matter – e.g. events happening at work, employees' interpretations of such events, affect that employees experience - because they can foster or impair desirable states e.g. SWE. These aspects should be taken into account by managers in order to include them in the agenda of team's development, because it is proven that positive affect impacts on productivity and client satisfaction.

It is advisable to focus the attention of managers on workers' appraisals and affective life, which could lead to improvement on employee's well-being. Given cognitive and affective mechanisms are determinant to predict behavior and attitudes of workers, manager are recommended to establish mechanisms which allow expressing and acknowledging which are the appraisals made of work events and how their teams are feeling about them in order to adapt managerial style or procedures to positively impact on such specific affective climate.

Moreover, managers are encouraged to measure affective life and SWE among workers. These measurements can supply a diagnosis that may help to define some adjustments in work conditions or policies that are not enhancing a desirable state. In recent years, organizations have begun to manifest interest on emotions at the workplace as means to enhance productivity and well-being by requesting the service of assessment of emotions (e.g. providers of this service: Wont team, Sunion consultancy).

Given event appraisal of positive events fosters SWE, it might be advisable to increase possibilities to positive events to happen by enriching job positions (for instance, by enhancing task identity, skill variety, task significance).

Given pleasant affect with high and low activation is needed in order to experiment SWE, it would be advisable to design work contexts that fosters this kind of affects. For instance, to foster pleasant affect with high activation (e.g. enthusiastic, interested), it

might be advisable to help employees to experience control over their tasks giving them autonomy and sense of achievement; also perceiving their tasks as challenge might contribute to this kind of feelings. To foster pleasant affect with low activation (e.g. content, comfortable) it is advisable to provide context that fosters security and clarity of what is expected; feedback of supervisors and social support might also contribute to this kind of feelings.

In addition, our results also would indicate that organizations might focus more on job redesign toward work engagement than on selection of employees with specific personality traits. Our results showed that attributions caused by the appraisal of events, have an influence in negative affect --and more if they were considered important by workers-- therefore, the aspects of redesigning the job position would go in the direction of working along the expectation of workers; such results may be achieved for example improving communication with and among workers, providing feedback about performance, make clear what is expected from the workers role, among other initiatives.

Finally, the recommendation is given organizational efforts be aimed to empower workers, by giving them more autonomy and create opportunities for them to be challenged by their work tasks. Similar actions could be implemented redesigning job features that enhance positive emotions both activated and not activated, such as defining attainable work goals, defining manageable work demands, and eliminating work hindrances perceived by workers.

5.4 Limitations and Future Research

Although this dissertation builds upon rigorous and valid research, it has several limitations. In this section, I focus on limitations common to two or all studies and also make recommendations for future research.

First, we limited our study to event appraisal of workers, attributions and affect as proximal antecedents of SWE. Notwithstanding, AET proposes that work events should be a source of the work context that will be determinant to the affect that workers are going to feel and to subsequent attitudes and behavior. That is why we recommend future research broadening the causal chain explored in this work by analyzing which work events and appraisals produce certain affect, which in turn influence on SWE. Some studies have already categorized events and explain which lead to positive and negative emotions and subsequent behavior at work (Ohly & Schmitt, 2013). These categories could be used to explore the chain between event, appraisal, attribution, affect and SWE.

Second, AET states that affect causes subsequent affective-driven behavior and attitudes. We limited ourselves to study SWE as an effect of affect, but other outputs similar to affective-driven behavior could be explored such as pro-social behavior, participation, transient effort, etc. Future studies can start from this integrative approach we are proposing to include more variables either antecedents or outputs of transient affect and SWE to have a broader model to understand when SWE is raised.

Third, the multilevel approach allows us to analyze the effect of transient variables and trait variables, we include in our analysis just the explanatory style as a trait variable, but other trait characteristics could be also included in order to see if some personal trait (e.g. optimism, extraversion) can influence on how appraisals are made and if they influence affective reactions and levels of SWE.

Fourth, we did not control in our analysis the effect of some variables that could be influencing on our results, for instance patterns of variability of affect during the week. In future research, equations could be used to calculate affect trajectories, like the affect spin (an individual measure of variability in the affect circumplex). We suggest that

considering these as precursors of important outcomes at work could yield important and interesting results (Beal & Ghandour, 2010).

Therefore, in two of our studies, we used multilevel analysis for two levels, with person variability which is the day-to-day variability of states, and between person variability, which is the variability of our data between workers. So, we limited ourselves to consider the changes in the same person and between people. Future research can include other levels of analysis like teams or organizational construct; for instance to study how the fluctuation of appraisal, affect and SWE influence in work team cohesion, team commitment, or team productivity.

Sixth, we propose a model to explain the dynamics among our studied variables as antecedents of SWE, but causality of the studied variables cannot be inferred, because we collect the data daily, at the same point of time. Notwithstanding we focus on variables that were occurring in two different moments of the day, they were reported at the end of the day. Future studies could benefit from experience sampling methodology in order to collect the report of transient states more closer to the occurrence of the phenomenon.

Finally, in study 3 we studied the emotions that predict a work-related state such as SWE. Nevertheless, it would be interesting to address in future studies other work-related psychological states like the ones that Bakker and Oerlemans (2011) propose that result from different discrete emotions (satisfaction, burn-out, workaholism). Using these concepts, exploration could be carried out to find out if other affective states from the different quadrants of the circumplex model are related with the proposed organizational constructs related to employee well-being.

Table 5.1.

Synopsis of the empirical studies and results

Study	Main research question	Main theoretical and empirical contributions	Main practical contributions
Study 1. Daily work events and SWE: the mediating role of affect	Can event's appraisal and affect be considered antecedents of SWE? Which is the dynamic among event's appraisal, affect and SWE? Are positive and negative affect mediators in the relationship between appraisal and SWE?	<p>Cognitive transient appraisal about events and affect are antecedents of SWE.</p> <p>Transient appraisals of work events influence on SWE. Affect is a mediator in the relationship between events' appraisal and SWE, results show that positive and negative affect have mediator effect (partial) in the mentioned relationship.</p> <p>The way employees evaluate an event might facilitate or impair experiencing SWE at the daily level. The appraisals elicit affect, which boost SWE when positive affect is felt and decrease it when negative affect is aroused.</p> <p>Our study enables the integration of work events' appraisal among antecedents of SWE, given no other model proposes it as a variable that influences SWE.</p> <p>This research is a contribution to the study of how transient intra-individual variables influence SWE under the AET model.</p> <p>The positive relationship found between positive affect and SWE empirically support the proposal made by Sonnentag et al. (2010), which states that positive affect is a day-level proximal predictor of SWE.</p>	<p>Interventions to enhance SWE could be designed as short-term programs, which could be effective on specific occasions when it is needed for employees to go beyond their average level of work engagement (e.g. high season, high adversity).</p> <p>Given there is a strong association between work events' appraisal and SWE, we recommend managers to pay attention to elements that help workers to contextualize correctly the relevance of their work. For instance, letting workers know what is expected from their performance regarding tasks and role demands, and how they are doing and what is expected from them in the future.</p> <p>Increase the probabilities that events which are more likely to be appraised as a success occur at the work place. This could happen by redesigning the workplace characteristics (e.g. job enrichment, task identity, increase skill variety, increase task significance).</p> <p>Acknowledge progress in short-periods (e.g. weekly, bimonthly).</p>

<p>Study 2. Asymmetric relationships between attributions and affect at work</p>	<p>Is events appraisal related to positive and negative affect? Are attributional mechanisms (attributional styles/importance of the event) moderators in the relationship between events appraisal and affect?</p>	<p>Moderation of attributional mechanisms in the relationship between appraisal and affect, is asymmetrical. Multilevel analysis points out that - at within-person level –importance of the event has a moderator role between appraisal and negative affect, but not with positive affect. In a similar way, no evidence was found of moderation of attributional style in the relationship between events appraisal and positive affect; however in the case of negative affect there is evidence of the cross-level influence of attributional style as moderator, but not as clear as in the case of the transient moderator (importance of the event).</p>	<p>The appraisal that workers carry out about daily work events influences on their affect. The negative affect that workers feel, is influenced by the importance attributed to the event. Therefore, it is essential to assess the appraisal that workers state about work events and their importance, because organizations upon the basis of this information could implement interventions among workers to prevent negative emotions and promote positive ones. Job redesign toward work engagement is more important than the selection of employees with specific personality traits.</p>
<p>Study 3. The affective map of SWE: A Diary approach.</p>	<p>Which emotions – considering their valence and activation – predict SWE? Which emotions – considering their valence and activation – predict the dimensions of vigor, dedications and absorption? Could other emotions- beside the ones high in pleasure and activation – be related to SWE?</p>	<p>Pleasant and high activated emotions (e.g. enthusiastic, excited, and interested) are related to SWE and also does a pleasant and low activated emotions (e.g. content). Thus, the emotions that might enable SWE to arise are mainly pleasant-high activated ones; however contented (pleasant-low activated) could also be. Unpleasant emotions with low activation are negatively related to SWE, meaning that SWE can not emerge if unpleasant-low activation emotions are felt. In the daily level, medium and high levels of SWE are not exclusively related to pleasant affect with high activation, but they are also related to pleasant affect with low activation. Results support the affective events theory which expresses that affective states that emerge from work events influence on certain states of employees similar to affective-driven behavior, more specifically on SWE.</p>	<p>Transient affect influence and contributes to determine the worker’s momentary state work engagement. Momentary emotions enhance or impair states of vigor, dedications and absorption at work. Specifically, transient pleasant affect of high and low activation has the potential to enhance positive states such as SWE in the daily life of organizations. Managers are encouraged to: 1) recognize and allow emotions to be expressed at the workplace, this way emotions can be managed in a positive way; 2) be aware of the influence of emotions on desirable work attitudes. Emotions should not be relegated in organizations, because they lead workers to feel energetic, dedicated and concentrated – a desirable state at work. The Artificial Neural Networks approach is an adequate methodology of data analysis that allows an adequate analysis of emotions predicting SWE.</p>

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