Much of the prior research on regulatory focus and performance has been conducted in the lab. However, when we want to apply the current knowledge to enhance performance of people in actual work contexts, we should take into account that these organizational environments are far more complex than the standard experimental setting. The current dissertation adds to the knowledge on regulatory focus and performance in such organizational environments. Not only by investigating people's individual regulatory preferences, but also by taking the regulatory characteristics of their tasks into account, as well as the regulatory focus of their leaders.

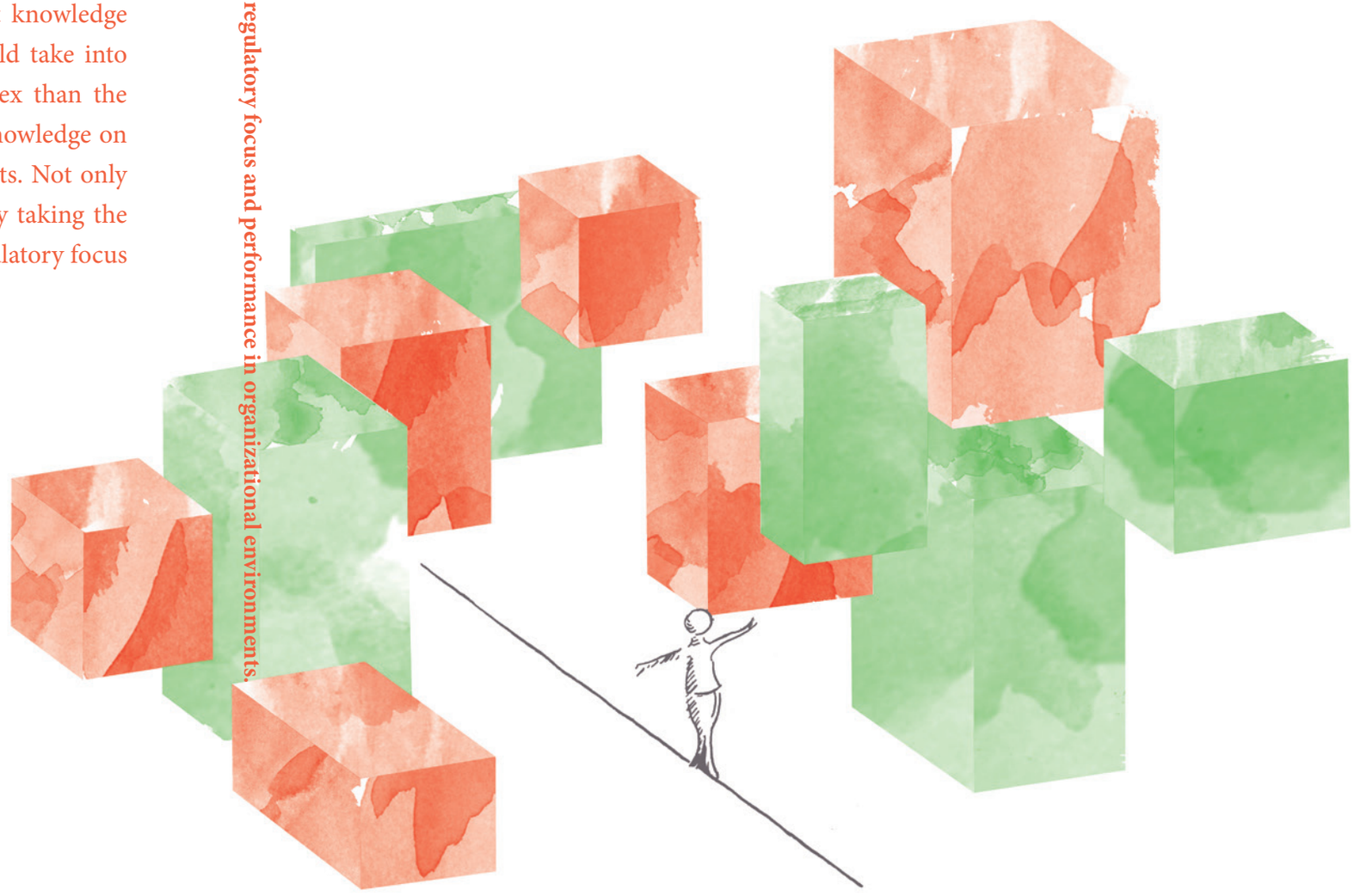
kurtle winins tituut

Dissertatiereeks

Kurt Lewin Instituut

2015-3

On regulatory focus and performance in organizational environments.



Dagmar Beudeker

On regulatory focus and performance in organizational environments

Dagmar Beudeker

On regulatory focus and performance in organizational environments

Dagmar Annemarijn Beudeker

Het onderzoek, samengebracht in dit proefschrift, is tot stand gekomen na een inhoudelijke en financiële samenwerking tussen Universiteit Leiden, TNO en Rijksuniversiteit Groningen.

ISBN:

Cover: Remco Wetzels
Layout: Nikki Vermeulen, Ridderprint BV, the Netherlands
Printing: Ridderprint BV, the Netherlands

On regulatory focus and performance in organizational environments

PROEFSCHRIFT

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van de Rector Magnificus prof. mr. C.J.J.M. Stolker,
volgens het besluit van het College voor Promoties
te verdedigen op donderdag 15 januari 2015
klokke 16.15 uur

door

Dagmar Annemarijn Beudeker
geboren op 9 december 1981
te Groningen, Nederland

Promotiecommissie:

Promotores:	Prof. Dr. N. Ellemers	
	Prof. Dr. R. Blonk	TNO, Universiteit Utrecht
Co-promotor:	Dr. F. Rink	Rijksuniversiteit Groningen
Overige leden:	Prof. Dr. K. Sassenberg	Universität Tübingen
	Prof. Dr. E. van Dijk	
	Dr. D. Scheepers	

Voor Manne

'Ik wil', dat zinnetje is machtig.
Sta daar maar eens bij stil.
Je kunt er bergen mee verzetten.
Met die kleine zin 'ik wil'.
(Opa Frans, 1991)

Contents

1

General Introduction

A shortened version of this chapter will be published in 'De Psycholoog' under the title 'Zelfregulatie orientaties en Werkprestaties'. Authors of this publication are Beudeker, D.A., Ellemers, N., Rink, F.A. & Blonk, R.W.B.

What motivates people, and when do they perform optimally at work? These two questions are at the core of the work of organizational psychologists. Regulatory Focus Theory (RFT), developed by Higgins (1997) offers a theoretical framework that provides answers to these important questions. The theory maintains that people's motivation and purposive goal directed behavior follow from two distinct regulatory orientations: a promotion orientation and a prevention orientation. When people adopt a promotion orientation, they are motivated to satisfy nurturance and achievement needs. When the prevention orientation is adopted however, people are motivated to fulfill safety and security needs (Higgins, 1997). Regulatory orientations are particularly important in the performance domain because they influence the strategies that people use to attain their goals and perform well (Crowe & Higgins, 1997; Friedman & Förster, 2001; Forster, Higgins & Taylor Bianco, 2003; Seibt & Förster, 2004).

Nearly all research on regulatory orientations and performance related aspects has been conducted in laboratory settings, as this enables unambiguous assessment of the influence of each regulatory orientation on task performance. However, when we want to apply the current knowledge to enhance performance of people in actual work contexts, we should take into account that these organizational environments are far more complex than the standard experimental setting. Not only do people have *individual* regulatory preferences, but they work on *tasks* that have regulatory characteristics (i.e. promotion and prevention tasks, Van Dijk & Kluger, 2011) and they are being managed by *leaders* who have their own regulatory orientations. Little is known about how all these different aspects interact to influence performance in organizations.

A central goal of this dissertation is to investigate how regulatory orientations relate to the performance of people in complex organizational environments. I aim to draw attention to the tendency in many organizational settings to accentuate and reward behaviors relating to the promotion orientation. Even though the use of the promotion orientation has been shown to give rise to valuable work behaviors such as being innovative (Friedman & Förster, 2001; Neubert, Kacmar, Carlson, Chonko & Roberts, 2008; Lanaj, Chang & Johnson, 2012), I argue that a good performance of individuals as well as organizations requires more than just innovative work behavior. A large part of the work in many organizations constitutes 'doing the due diligence' (i.e. meeting preset targets, following agreed upon procedures and working without making disrupting mistakes). Performance on these kind of tasks could benefit from using a prevention orientation. Taking the tasks that people need to perform as a starting point, I aim to investigate whether the use of the prevention orientation can be of added value for individual and organizational performance.

This first chapter provides an overview of the entire dissertation. It comprises the 'introduction' to the studies in the dissertation as well as a 'discussion' of the findings and

practical implications. First I provide an overview of the current research on regulatory focus in relation to performance (largely based on experimental research). I will address the seemingly unbalanced recognition of different regulatory orientations in organizations. Subsequently, in Study 1(reported in Chapter 2) I investigate how employees perceive their tasks in terms of regulatory characteristics. I discuss how the knowledge on regulatory orientations and regulatory task characteristics offers insight in the various aspects of the leader's behavior associated with individual- (Study 2, reported in Chapter 3) and organizational (Study 3, reported in Chapter 4) performance. Finally, I will present results of a series of experimental studies (Studies 4.1, 4.2, 4.3 and 4.4, reported in Chapter 5) on interventions that can be used to optimize performance on regulatory oriented tasks depending on their fit with people's individual regulatory orientation.

Self-regulation and performance

An individual's self-regulation orientation at work can be defined as the set of behaviors that is generally used to regulate goal-directed activities over time and across changing circumstances (Karoly, 1993). A highly influential theory on self-regulation is Regulatory Focus Theory (RFT) introduced by Higgins (1997). This theory proposes that people's self-regulation towards goal attainment (at work and in general) is guided by two regulatory orientations: a promotion orientation and a prevention orientation.

When people self-regulate by using a promotion orientation they are motivated by nurturance and achievement needs. They formulate their goals in terms of ideals or gains that they hope to attain. In working towards those goals they apply an eager, risk seeking work strategy (Crowe & Higgins, 1997), resulting in a good performance on tasks that call for creativity (Friedman & Förster, 2001) or ambitious production targets (Wallace & Chen, 2006; Wallace, Johnson & Frazier, 2009). Due to this risk prone demeanor, the use of the promotion orientation is also associated with lessened accuracy (Forster, Higgins & Taylor Bianco, 2003) and diminished safety performance (Wallace & Chen, 2006; Wallace et al., 2009). In comparison, when people self-regulate by using a prevention orientation, they are primarily motivated by safety and security needs. Goals are formulated as obligations or necessities and attained by applying a thorough, risk averse work strategy aimed at preventing errors (Crowe & Higgins, 1997; Förster et al., 2003). The use of the prevention orientation results in a good performance on tasks that call for analytical reasoning (Seibt & Förster, 2004), rigorous reviewing or checking (Beudeker, Ellemers, Rink & Blonk, 2014) or adherence to (safety) rules (Wallace & Chen, 2006; Wallace et al., 2009).

People have a preferred regulatory orientation that is moderately stable across work situations (Brockner & Higgins, 1997) and has been shown to predict behavior in organizations above already established personality measures (Lanaj, Chang & Johnson,

2012). Yet, research is accumulating showing that people can easily be persuaded to use either orientation, depending on situational circumstances. Across the board, people's regulatory orientations have been shown to be influenced by their leaders (Neubert, Carlson, Kacmar, Chonko & Roberts, 2008; Wu, McMullen, Neubert & Yi, 2008), their tasks (Van Dijk & Kluger, 2011), team goals (Faddegon, Scheepers & Ellemers, 2008) and collective reward structures (Faddegon, Ellemers & Scheepers, 2009).

A large amount of research on regulatory orientations and performance has been dedicated to "regulatory fit". In most prior research "fit" is described as a situation in which the individual's regulatory orientation and the optimal ways to work towards a goal coincide (Higgins, 2000). When people experience regulatory fit, goal attainment makes them more happy (Freitas & Higgins, 2000; Freitas & Higgins, 2002), their motivation thrives (Shah, Higgins & Friedman, 1998) and task performance improves (Friedman & Förster, 2001; Seibt & Förster, 2004). In addition to the natural occurrence of regulatory fit, fit can also be consciously created. Performance incentives can be used to present a task in such a way, that it becomes more appealing to people with a certain regulatory orientation. People with a preference for the promotion orientation are told for instance what *can be gained* by a good performance. In contrast, people with a preference for the prevention orientation are told what *can be avoided* by performing well. Such performance incentives to induce specific choices or preferences have been demonstrated to impact on health-related behaviors, such as people's fruit and vegetable intake (Spiegel, Grant-Pillow & Higgins, 2004), dental flossing (Mann, Sherman & Updegraff, 2004) and physical activity (Latimer et al., 2008).

It is important to note that these effects of enhanced fit were demonstrated on undifferentiated tasks where an optimal task performance could be framed in terms of either promotion or prevention goals. A different situation arises when a *task* clearly calls for a promotion or a prevention orientation. Recent research suggests that tasks can contain regulatory requirements in and of themselves (Van Dijk & Kluger, 2011), that determine the best way to work on such a task. Hence, in view of our aim to investigate the role of self-regulation orientations for performance of individuals in organizations, task characteristics are an important starting point.

Regulatory oriented tasks

Recent research suggests that tasks can contain regulatory requirements in and of themselves. *Promotion tasks* are defined as tasks that can advance the organization when performed well (yet a poor performance often stays unnoticed; Van Dijk & Kluger, 2011; Beudeker et al., 2014; see also the distinction between "star" and "guardian" jobs, Jacobs, 1981). Examples are developing innovative products or promotional campaigns. When performing a promotion task, an employee's goal is to find what is right and what could be

gained. In order to perform well on such a task using a promotion oriented work strategy (characterized by eagerness and risk taking) has been shown to be the best approach (Friedman & Förster, 2001). Yet in *prevention tasks* - defined as tasks that negatively affect the organization when performed poorly (but a good performance on this type of tasks often stays unnoticed), employees are focused on finding what is wrong and what should be avoided. Examples are tasks such as detecting errors in company reports, or identifying suspicious objects on a radar screen. This type of task is best approached with the vigilant, analytical work strategy that follows from the prevention orientation (Seibt & Förster, 2004). To date, little is known about the existence of regulatory oriented tasks in organizational settings. Yet prior research suggests that both types of tasks will be present within many people's jobs. The entrepreneurial process for instance, requires generating new and exciting ideas that distinguish the company from the competition (i.e. a promotion task), but also necessitates screening initial ideas for reasons not to go forward with them (i.e. a prevention task; Brockner, Higgins & Low, 2004). Research on safety performance also suggests that employees may have to deal with different regulatory task goals within the same job. On the one hand they often feel the pressure to work quickly and proactively (i.e. using a promotion task goal) to make production deadlines within their job, on the other hand they need to follow rules and work accurately (i.e. have a prevention task goal) to avoid mistakes and safety hazards (Wallace & Chen, 2006). In the current dissertation I aim to further investigate the simultaneous perceived presence of both regulatory oriented tasks in people's jobs.

In conclusion: from the relevant empirical literature on self-regulation and performance it can be inferred that there is no single preferable regulatory orientation when it comes to performance enhancement. Both orientations add to individual and organizational performance, depending on the requirements of the tasks that are being performed. When a task requires vigilance, error prevention or adherence to rules, it will be best to make use of the prevention orientation. When a task calls for creativity, eagerness and speedy decision making, using the promotion orientation will benefit performance most. Prior research suggests that both types of tasks are present within many jobs. From this it can be inferred that both self-regulation orientations and subsequent behaviors are needed for employees to perform well in complex organizational environments; as such they should be stimulated and rewarded accordingly.

Interestingly however, this knowledge does not seem to have transferred to organizations, as there appears to be a tendency to primarily accentuate and reward behaviors stemming from the promotion orientation.

Organizational environments: a preference for the promotion orientation

Throughout the course of preparing this dissertation, I have visited quite a few organizations where I have explained the Regulatory Focus Theory. During these talks I often witnessed the same reactions: the audience would nod in agreement (indicating that they recognized the promotion orientation and the prevention orientation in themselves or their colleagues) and then they would ask me "how do we fix the prevention oriented"?

Behaviors following from the promotion orientation such as being innovative are highly sought after in today's organizational environments (Anderson, De Dreu & Nijstad, 2004). Data from 259 million LinkedIn profiles worldwide shows that professionals used "creative" (in 2011 and in 2012) most often to describe their qualities in the workplace.

The opposite appears to be true for behaviors associated with a prevention orientation. Due to their vigilant manner and inclination to maintain the status quo (Liberman, Idson, Camacho & Higgins, 1999), employees who make use of the prevention orientation are easily labelled as "difficult" or "pessimistic". To substantiate this dynamic; in the Netherlands there is even a popular workshop designed to eradicate people's tendency to object against proposed changes in organizations (www.ja-maar.nl). Such open disregard for the use of the prevention orientation might result in employees adopting the promotion orientation more often just to fit in -even when this is not the regulatory orientation that they naturally prefer or the best fit to the task at hand.

A lack of appreciation for prevention tasks could also come about because a good performance on this type of task tends to remain unnoticed while a bad performance is all the more visible. As such, it's much harder for employees who perform many prevention tasks to show their good work and be valued for their contributions. Since many organizations use individual performance targets that have to be met in order to maintain the job or get promoted, it is important that the employee's contributions to the organization are clearly visible and can be recognized. This could lead to a situation where employees start to favor promotion tasks over prevention tasks, if only to get the appreciation they deserve.

The question remains whether this dynamic of glorifying the promotion orientation and disregarding the prevention orientation, serves overall performance in organizations.

I argue that this is certainly not the case. The use of the promotion orientation has been shown to enhance (individual) performance, but merely on promotion tasks (Friedman & Förster, 2001). At the same time, many of the tasks in organizational environments have a prevention goal, and in some organizations prevention tasks may be of primary importance (e.g. police, security agencies). Performance on such tasks will benefit from using a prevention orientation. In addition, prior research has shown that people who make use of the promotion orientation tend to overestimate their control over the situation (Langens, 2007), suggesting that they are prone to making irresponsible decisions. Furthermore, prior

research on innovative work behavior has shown that 'being innovative' is no synonym for 'performing well' on the job. People who are able to think of new, creative ideas often have trouble subsequently selecting and implementing the most feasible option (Herman & Reiter-Palmon, 2011). Alternatively, colleagues might oppose new ideas; out of fear of the unknown, because they benefit from maintaining the status quo or due to valid concerns (Janssen, 2003). In all cases, the innovative ideas will not reach their full potential or even get to contribute to individual or organizational performance (Janssen, 2003).

To sum up, empirical research has shown that both regulatory orientations and subsequent behaviors contribute to individual and organizational performance, yet in organizational settings people tend to overestimate the value of the promotion orientation and subsequent innovative work behavior. The question remains whether this is justified. I argue that using the prevention orientation in addition to the promotion orientation, might help to restore or preserve a much needed balance in today's organizations and could therefore be beneficial to overall performance. At present however, a tendency to overestimate the promotion orientation can be observed also in leaders in organizational environments. I will elaborate on this in the next section of this introduction chapter.

Leaders' regulatory orientations and performance

The self-regulation orientation that a leader uses in dealings with employees, has been found to be an important predictor of the performance of employees (Neubert, Kacmar, Carlson, Chonko & Roberts, 2008; Wallace, Little & Hill, 2010). This is why the regulatory orientations of leaders have been given prominent attention in the current dissertation.
Leaders are being confronted with both prevention tasks (e.g. "checking on employees' progress" or "making sure preset targets are being met") as well as promotion tasks (e.g. "developing a strategic plan for the organization, department or team" or "talent development of employees") within their job. Also, leaders are responsible for employees who perform both types of tasks. Hence, in line with the empirical evidence on regulatory orientations and performance, this implies that leaders would have to make use of both orientations to perform well (using each regulatory orientation depending on the nature of the task at hand) and to motivate and guide their subordinates. However, this ideal scenario does not necessarily play out in real life. There is ample evidence showing that the use of the promotion orientation in leaders is more likely to be facilitated by organizational dynamics, whereas the use of the prevention orientation is less noticed or valued.

The behaviors that people generally associate with leaders, (i.e. speaking up, taking the initiative, proposing new ideas and expressing confidence) are more in line with the use of the promotion orientation than the prevention orientation (Galinksy & Kilduff, 2013). This could create an expectation for this kind of leadership behavior in followers. In turn,

leaders might feel expected to use the promotion orientation. Additionally, prior research has shown that people who tend to prefer a promotion orientation in accomplishing their goals, are generally also more attracted to occupying a leadership position (Sassenberg, Scheepers & Ellemers, 2012), making the use of the promotion orientation for leaders even more likely.

Prior research also suggests that the hierarchical position that leaders hold within organizations can induce a promotion orientation (Keltner, Gruenfeld & Anderson, 2003). Leaders often possess a great deal of autonomy and they account for their actions only on a generic level (although this can vary depending on their exact power position within the organization). Simultaneously, leaders operate in a reward-rich environment where they have access to financial- and social rewards (i.e., in terms of praise and flattery; Keltner et al. 2003) for their contributions. Research demonstrates that having autonomy and the opportunity to receive rewards generally makes people more approach oriented (Fiske, 1993).

Furthermore, a leadership position requires the ability to process a great deal of information on employee and organizational level activities in a short window of time (Fiske, 1993). This global, explorative and visionary work approach fostered by leadership positions matches the work strategy that follows from the use of a promotion orientation (Förster & Dannenberg, 2010). Finally, leaders tend to be rewarded according to performance systems and will therefore feel the need to make their achievements visible. This might cause them to be especially keen on taking on promotion tasks and giving the prevention tasks less attention.

By discussing the organizational dynamics that facilitate the use of the promotion orientation in leaders, I do not mean to question or diminish the value of this orientation. On the contrary. Prior research demonstrates that leaders who use a promotion orientation in guiding their employees, stimulate their creativity and innovative work behavior (Wu, McMullen, Neubert & Yi, 2008). Such behaviors are known to be valuable contributors to the survival of organizations (Amabile, 1988; Ancona & Caldwell, 1987; Kanter, 1988; Mumford, 2000; West, 2002; Woodman, Sawyer, & Griffin, 1993). However, I argue that the tasks that a leader generally has to perform are much broader than merely stimulating innovative work behavior. Indeed, the core business of many organizations is not being creative. It can even be argued that the majority of the tasks in organizations (especially in public sector organizations) need to be done without making mistakes, within a set timeframe and in which a good performance is hardly visible (a.k.a. prevention tasks). Performance in this type of job or organization could be well served by a leader who uses a prevention orientation. I therefore examine the possibility that when leaders manage to mobilize the use of the prevention orientation in themselves, this will positively be related

to performance in the organization. In this dissertation, an important aim is to investigate the role of the prevention orientation adopted by leaders in further detail. I propose to advance current insights on leaders' regulatory orientations and performance by examining two types of performance indicators: 'hard' objective performance outcomes and 'softer' measures related to innovative behavior and organizational climate.

As a final goal of this dissertation, I aim to bring the topics of leadership behavior and task characteristics together. People have their individual regulatory preferences for goal attainment, yet at work they are likely to be confronted with tasks that are not fully in line with their personal preferences; a situation known as non-fit. In the next section of this chapter I will further elaborate on non-fit in organizational settings. In such cases, guidance by leaders (or fellow employees) might be useful to avoid performance loss.

Regulatory non-fit

We know from prior research that the 'regulatory fit' between people and their tasks is an important prerequisite for performance (Higgins, 2000). In this sense, characteristics of regulatory oriented tasks are normative for the regulatory orientation and subsequent work strategies that are needed to perform well on such a task. As already mentioned, on tasks that require creative reasoning, a good performance is most likely when the eager, risk taking, global processing style that follows from a promotion orientation is being used (Crowe & Higgins, 1997; Friedman & Förster, 2001; Forster, Higgins, & Taylor Bianco, 2003). Likewise, analytical reasoning tasks are best conducted by using the structured, risk averse work strategy that follows from the prevention orientation (Crowe & Higgins, 1997; Seibt & Förster, 2004).

Interestingly, given the probability that most jobs in today's organization will consist of both promotion ánd prevention tasks, and that people are generally known to have *one* regulatory preference in their work, it can be expected that mismatches will occur at least from time to time between individual workers and their tasks. According to the literature on regulatory fit, this might be detrimental for individual and organizational performance. Hence, in the final empirical chapter (Chapter 5) of the current dissertation I will examine two possible interventions that can be applied by leaders as well as fellow employees to enhance regulatory fit on tasks that have clear regulatory characteristics. This initial examination of possible interventions will be conducted in a series of experiments in the controlled environment of the lab.

The current dissertation

In the following two sections of this introduction chapter, I will describe the findings obtained in the course of this dissertation and discuss how these results contribute to the current state of knowledge on self-regulation in organizational environments. In Chapter 2 (Study 1) perceived regulatory task characteristics are investigated and related to important work related aspects. In Chapters 3 and 4 the regulatory orientations of leaders and how they relate to individual performance measures (Study 2) and organizational outcomes (Study 3) are examined. Finally, in Chapter 5 (Study 4.1 through 4.4) two interventions aimed at enhancing performance on non-fit tasks are tested and discussed.

In this introduction chapter I aim to explain the overall line of reasoning by connecting the different studies that were carried out. Chapters 2 through 5 of the dissertation however, were written as stand-alone papers eligible for publication. As a result, some of the language used to explain specific study variables differs from the language used in this introduction. Also, as a reader you may notice inevitable duplications in the explanations about the Regulatory Focus Theory when reading the chapters consecutively.

Regulatory Task Heterogeneity

Even though prior research has suggested that most jobs contain both promotion tasks *and* prevention tasks (Brockner, Higgins & Low, 2004; Wallace & Chen, 2006), there is as yet no empirical evidence for this notion. Hence, our first objective was to gain better understanding of regulatory oriented tasks within jobs. Indeed our claim that both regulatory orientations need to be represented in managers and employees relies on the assumption that jobs contain both types of regulatory oriented tasks.

Chapter 2 (Study 1) reports results obtained among 109 Civil servants within a finance, tax and IT department of a large Dutch governmental institution (about 1500 employees in total) who participated in the study. The main aim of this study was to investigate whether workers perceive their tasks to vary in terms of regulatory task characteristics. Drawing a parallel to previous task variety research, such variety was related to focal work behaviors and outcomes. The research participants were requested to list all specific tasks that they work on within their job on separate post-its, and collated these post-its on a large sheet of paper in front of them (for a similar approach, see Berg, Dutton & Wrzesniewski, 2013). Next, participants were asked to characterize each of the tasks they had identified as a "prevention task", a "promotion task", "a combination task", or an "undifferentiated task". The definitions that the employees received to explain different regulatory task characteristics were modelled after earlier research (Van Dijk & Kluger, 2011; Jacobs, 1981), and were illustrated with an example from a soccer context. Prevention tasks were compared to the

tasks of a defense player in a soccer team, who is often scrutinized for a mistake that leads to a goal of the opponent, but is hardly ever praised for providing a solid defense. A promotion task was illustrated with the role of a striker in a soccer team, who is the center of attention and reward when he/she scores the winning goal, but is far less likely to be blamed for being passed by a member of the opposing team or for failing to score a goal.

When analyzing the data from this study, all tasks were assigned weights, so that not only the *number* of different prevention versus promotion tasks employees performed within their job was taken into account, but also the *time spent* on these different tasks. The regulatory characteristics of the tasks within each job were processed into a mathematical formula which calculates the overall distribution of promotion vs. prevention tasks, corrected for the number of undifferentiated tasks in each job. As such, a Regulatory Task Heterogeneity Index ranging from 0 (no heterogeneity) to 1 (maximum heterogeneity) was constructed.

Of the research participants 81% indicated that their job was indeed regulatory heterogeneous, confirming the existence of RTH in most jobs in the sample organization. The results also revealed that employees characterized the majority of their tasks as prevention tasks (53% of the total number of tasks) rather than promotion tasks (25% of the total number of tasks). It seems likely that a similar ratio (a majority of prevention tasks and a minority of promotion tasks) can be observed in many organizations, since it seems virtually impossible to run an organization without 'doing the due diligence'.

The added value of introducing RTH as an alternate form of task and skill variety is illustrated by the further findings of our study. RTH indeed was found to relate to a number of focal work behaviors and outcomes, in ways that parallel previous findings in the literature on task variety. On the one hand, employees performing in jobs that contain variety stemming from regulatory diverse tasks, indicate that they work more innovatively. As such, our research extends prior findings on job design and work environment characteristics, as it establishes RTH as a relevant job characteristic that facilitates innovative work behavior. On the other hand, our results show that increased levels of RTH are associated with lack of task clarity and increased fatigue. This notion adds to existing knowledge on possible downsides of *too much* task and skill variety, an aspect that is often overlooked in current work propagating task enrichment (for exceptions see Chung-Yan, 2010, Xie & Johns, 1995; Zaniboni, Truxillo & Fraccaroli, 2013).

The research reported in Chapter 2 confirms that most jobs within our sample organization contain both promotion and prevention tasks. The jobs that were investigated, displayed a broad range of job content and job complexity; ranging from it-specialists, to people working in administration. The results of Study 1 should therefore generalize to other organizations, and regulatory task heterogeneity will be present in many jobs. As a

consequence, it can be argued that people need to make use of both regulatory orientations (depending on the task at hand) to perform optimally in their job. Since prior research shows that organizational dynamics tend to facilitate the use of the promotion orientation, especially in leaders, I argue that leaders who make use of the *prevention orientation* will be of added value for individual and organizational performance. This hypothesis was investigated in two subsequent studies.

The use of the prevention orientation in leaders

Despite the fact that a prevention orientation and subsequent behaviors are not often associated with leaders or particularly valued in today's organizational environments, there is growing (circumstantial) evidence that the display of these behaviors by leaders might constitute an important contribution to both employee- and organizational performance. Leaders who use a prevention orientation set out concrete task objectives and aim to minimize task failure (Förster, Higgins & Bianco, 2003; Förster & Higgins, 2005). Because of this meticulous way of working, it has been argued that leaders who adopt a prevention orientation should have detailed knowledge of the characteristics of the employees working for them and of the tasks employees need to perform. This allows them to foresee whether corrective action is needed during the execution of a task. Leaders who use a prevention orientation will not take unnecessary risks (Crowe & Higgins, 1997), or upset the status quo (Liberman, Idson, Camacho & Higgins, 1999). Yet they will apply an analytical approach to the work (Seibt & Förster, 2004). These qualities are of vital importance in many businesses for instance to keep the budgets in order and deliver agreed upon objectives within set time frames.

Research by Neubert, Kacmar, Carlson, Chonko en Roberts (2008) provides preliminary evidence in support of our line of reasoning. They found that the presence of managers who aimed at "initiating structure" was positively related to the in-role performance of employees in organizations. This leadership style shares important features with a prevention orientation, as it is characterized by the definition of rules and the creation of clear performance expectations (Fleishman, 1973).

I tested the relationship between leaders' regulatory orientation and performance in two studies, reported in Chapter 3 (Study 2) and Chapter 4 (Study 3) of this dissertation. In both studies I've opted to distinguish between two types of performance indicators: achievement of 'hard' objective performance targets and 'softer' measures related to self-perceived innovative behavior and organizational climate. The reasons for making this choice are that 1) no studies on regulatory focus and leadership to date have included objective performance targets as well as subjective indicators of performance, and 2) (self-reported) innovation related measures are often seen as a key indicator for organizational

functioning . Yet, I argue that although these innovative behaviors are important for many organizations, they cannot be seen as a proxy for overall organizational performance.

Chapter 3 reports Study 2 which was conducted among employees working as job coaches at four different reemployment services in the Netherlands. These reemployment services are responsible for implementing the provisions of the Dutch social security legislation and for providing a range of services aimed at helping unemployed and disabled people to re-enter the work process. In this study, the leaders' use of the two self-regulation orientations was determined by asking the employees which orientation they predominantly observed in their leader when directing their activities at work. We related these observed regulatory orientations of the leaders to our two performance indicators. In Study 2 the objective performance target was derived from each employee's annual client target over 2010. The annual client target represents a certain number of clients that employees have to place in a new job each year. The performance measure we used was the extent to which employees collectively were able to meet this target (in % of the total target). The 'soft' performance indicator that we used was employees' self-reported initiative taking at work.

The results of Study 2 reveal that leaders' use of a promotion orientation, as perceived by employees, was positively related to the extent to which employees report to undertake new initiatives at work. Leaders' perceived use of a promotion orientation was not significantly related to objective employee performance. Interestingly, leaders' perceived use of the prevention orientation *was* positively related to the objective performance of the employees. Hence, Study 2 offers a first confirmation of my prediction that the use of a promotion orientation in leaders contributes to employee performance, yet it only relates to *a specific aspect* of their functioning. The use of the prevention orientation in leaders on the other hand, seems to be more broadly relevant as it positively relates to a key indicator of employee functioning, namely the likelihood that they meet their agreed upon performance targets.

Chapter 4 complements these findings. It reports Study 3 in which the relationship between leaders' regulatory orientations and performance on the organizational level was investigated. This study was conducted amongst 50 leaders in 34 Dutch social service organizations. These leaders rated the extent to which they tended to use a promotion or prevention orientation in order to achieve their management goals. To objectively assess organizational performance we obtained quantitative data revealing the achievement of the primary goal of each social service organization: reintegrating unemployed people. By means of 'soft' performance indicators, leaders were asked to rate the innovative climate within their organization, and they rated how well they thought their organization was performing, as a subjective estimate of organizational performance.

The results of Study 3 reveal that, in line with Study 2, the leaders' use of the prevention orientation was positively related to the objective performance of the organization. The

leaders' use of the promotion orientation was not related to the objective performance measure. Interestingly, despite the significant relationship between the leaders' use of the prevention orientation and objective performance of the organization, no significant relationship between the use of the prevention orientation and the *subjective* performance indicator was found. Hence, leaders appeared to be unaware of the beneficial aspects of them managing with a prevention orientation. In fact, leaders believed that an innovative organizational climate was positively related to the performance of their organization (represented by the self-reported organizational performance). However, this relationship did not emerge when relating the innovative climate to the objective performance indicator.

One key implication suggested by the studies reported in Chapter 3 and 4 is that performance benefits can be gained when leaders are able to use a prevention orientation, as this helps them fulfill a broader range of goals associated with their complex task. The results of Study 2 and Study 3 also allow me to conclude that there is little added value in the *individual's* inclination to adopt a promotion orientation when *organizational dynamics* already activate promotion goals. In addition, the results reveal an interesting contrast between what *actually* works, and what leaders *think* that works. Whilst the use of the prevention orientation is positively related to individual performance (Study 2) and organizational performance (Study 3), leaders themselves appear to be unaware of the added value of the prevention orientation. That is, we do not obtain a significant relation between leaders' prevention orientation and their self-perceived organizational performance in Study 3. On the contrary, our data demonstrate that leaders associate organizational success mainly with an innovative organizational climate, despite us finding no objective evidence for this belief.

Based on the current findings, I conclude that organizations, leaders and employees could benefit when the use of the prevention orientation is given more attention in work contexts. Leaders could make an important contribution here, by guiding employees' behavior on the regulatory diverse tasks that they are performing. In Chapter 5 I conducted a series of experiments to examine how this might be achieved.

Enhancing performance on regulatory non-fit tasks

The study reported in Chapter 2 (Study 1) illustrates that the broader job assignments that characterize contemporary work settings, typically contain tasks that differ in their regulatory characteristics. In this context, any person with a preference for the use of the promotion orientation will at some point have to achieve task goals that are inherently prevention oriented. Likewise, individuals with a preference for the prevention orientation will inevitably be confronted with tasks that are characterized by a promotion goal at some point in their work. Because non-fit between people and their tasks seems to be ubiquitous in

organizational settings, this might pose problems for people's motivation and performance (Shah, Higgins & Friedman, 1998; Friedman & Förster, 2001; Seibt & Förster, 2004). In the final empirical chapter of the current dissertation I therefore investigated possible interventions that can be used by leaders and employees, to counter the detrimental effects of non-fit between people and their tasks.

When considering prior research on regulatory fit from the perspective of the current research question, two important features stand out: 1) nearly all prior research has taken the *individual* as a reference point and has *adjusted the task* accordingly to create a sense of fit and 2) there is very little research on regulatory fit in which tasks have clear *regulatory task goals*. Starting with the second feature, prior research suggests that when tasks *do* have inherent regulatory characteristics, these become normative for the way in which such a task needs to be conducted to perform well (Friedman & Förster, 2001; Seibt & Förster, 2004; Van Dijk & Kluger, 2011). For example, the task of screening a company report for errors (a prevention task), is best approached by a vigilant and analytical way of working (a prevention work strategy). Eagerness and risk taking will not add anything to the performance on this task (in fact, such a strategy might even work counterproductively). Taking this into account, I suggest that in order to create fit with tasks that have regulatory characteristics, *the task* needs to be taken as *a reference point*. This is an important difference compared to the research on regulatory fit so far, in which fit was created by adjusting the task to *the individual* (see point 1). In four studies (Studies 4.1, 4.2, 4.3 and 4.4) reported in Chapter 5, I have tested whether performance on non-fit regulatory tasks can be enhanced when people are instructed to do what the task requires. These studies were conducted in the lab. This was a deliberate choice, given that this was a first attempt to investigate this mechanism, before applying it in work situations.

We started this line of research reported in Chapter 5 by developing a prevention task and a promotion task. In the prevention task that was created participants had to imagine that they were owners of a biological fast-food restaurant. As the owners, they needed to select overdue provisions from their restaurant's freezer from a list of 132 products. This task can be considered a prevention task because it requires vigilance, accuracy and adherence to rules to detect outdated products (Van Dijk & Kluger, 2011, see also Tanner & Swets, 1954). Furthermore, a good performance on this task does not really stand out, whilst a performance failure (missing a product that is outdated) could potentially have far-reaching negative consequences for the restaurant and its clients (Jacobs, 1981). The objective performance measures that I used for this task, were the number of products that participants correctly indicated to be outdated and the number of products that they indicated to be outdated but were still fresh (a.k.a. false alarms).

In the promotion task that was created, participants again had to imagine that they were the owners of a biological fast-food restaurant. This time however, they had to come up with as many ways as possible to make their restaurant known to the public. This task represents a variation on the established "brick" creativity task (Guilford, 1950), which other researchers have also used to examine performance on promotion-type tasks (e.g. Friedman & Förster, 2001). The task requires eagerness, creativity and open mindedness (Van Dijk & Kluger, 2011). Making a mistake on this task does not have immediate consequences for the restaurant, whilst a good performance (developing an outstandingly engaging promotional campaign) could potentially enhance publicity and revenues (Jacobs, 1981). The objective performance measures that were used for this task were the number of generated ideas for the promotional campaign, as well as the rated quality of those ideas (i.e. the originality and the feasibility of the ideas).

In the subsequent experiments, two different interventions were tested for effectiveness; the provision of performance incentives and work strategies. Both interventions have been derived from prior research on regulatory fit (Latimer et al. 2008; Updegraff, Sherman, Luyster and Mann, 2007; Sassenberg, Jonas, Shah & Brazy, 2007). The performance incentives stress *what needs to be avoided* (in the case of a prevention task) or *what can be gained* (in the case of a promotion task). The work strategies provide guidance on how work on the task can be carried out. E.g. "try out different things " and "aim for your ideals" when working on a promotion task, or "minimize the risk of failure" and "think thoroughly" when working on a prevention task.

In all studies, the same sequence of events was followed. First, the participant's individual regulatory orientation was measured, then participants received the experimental work instruction (the performance incentive in Study 4.1 and 4.2 and the work strategy in Study 4.3 and 4.4), and next we observed their performance while working on the regulatory task (the prevention task in Study 4.1 and 4.3 and the promotion task in Study 4.2 and 4.4). During this task, their objective performance was assessed, after the task we assessed their subjective impression of how they did and their motivation to perform well on the task.

Across these studies, significant performance effects of both interventions were found, but on the prevention task only. The results show that participants select more outdated products correctly when they received a performance incentive emphasizing what should be avoided or when they followed a prevention oriented work strategy. With the help of these interventions, promotion oriented people were able to perform well at the non-fit prevention task. In addition, the interventions also turned out to be of added value for prevention oriented participants. These findings offer a first step in understanding that "fit" between people and their tasks can also be established by taking the task requirements as a reference point. The promotion oriented participants in our studies seemed very well able

to adjust their task strategy, provided that they received task appropriate instructions to do this. As a result, they performed well on a non-fit task.

Interestingly, even though participants showed improved objective performance in the intervention conditions, they did not indicate enhanced motivation in these conditions. Prior research on regulatory fit has often assumed that performance is enhanced when fit is established because people are more motivated by a task that fits their regulatory orientation. In my studies performance enhancement and motivation were not connected. Motivation was relatively high throughout the studies, but was not increased in the conditions where the participants obtain the highest performance results. This suggests that the interventions stressing task requirements may be effective even when they do not appeal to people's personal regulatory needs. As such, the classic 'regulatory fit mechanism' (i.e., where the experience of fit causes people to assign a greater value to the task, which motivates them to perform well on the task; Shah, Higgins & Friedman, 1998; Spiegel, Grant-Pillow & Higgins, 2004; Mann, Sherman & Updegraff, 2004; Latimer et al., 2008) does not seem to operate here. Instead, I suggest that the interventions I introduced work because they provide people with a concrete guideline on how to attend to the task, even when they would not spontaneously see this as an appropriate task strategy. As such, the interventions I developed can improve performance independently of people's motivation. Furthermore, participants seem to be unaware of their improved performance on the prevention task in the intervention-conditions, as they do not report higher self-reported performance. This finding parallels our findings in Study 3, where leaders seemed to be unaware of the beneficial qualities of the prevention orientation for organizational performance. It is in line with our general notion that the value of the prevention orientation appears to be undervalued in today's organizational settings, and perhaps even in society at large. It can be argued that in order to determine the value of the prevention orientation and ditto tasks for organizations, we cannot rely on self-report measures alone, but we should also obtain objective performance indicators.

General Discussion

What motivates people and how do people and organizations perform best? In the current dissertation a regulatory focus perspective was taken to investigate these questions. In organizations the use of the promotion orientation is often favored over the use of the prevention orientation. Employees who show behaviors following from the promotion orientation (e.g. being innovative) are considered to add a lot of value in today's organizational environments (Anderson, De Dreu & Nijstad, 2004), whilst employees who make use of the prevention orientation are easily labelled as "difficult" or "pessimistic" due to their vigilant manner and inclination to maintain the status quo (Liberman, Idson,

Camacho & Higgins, 1999). For leaders the tendency to favor of the promotion orientation over the prevention orientation is even stronger. Organizational factors such as employee's expectations of leadership behavior (Galinksy & Kilduff, 2013) and leaders' high power position facilitate the use of the promotion orientation (Fiske, 1993).

Despite the fact that the use of the promotion orientation has been shown to give rise to valuable work behaviors such as creativity and being innovative (Friedman & Förster, 2001; Neubert, Carlson, Kacmar, Chonko & Roberts, 2008), I argue that sustaining a good performance of individuals as well as organizations requires more than being innovative. Over time, for individuals and organizations to perform well it is necessary that workers do perform 'the due diligence' (i.e. working without making disrupting mistakes, meeting preset targets and following agreed upon procedures). This implies that organizations could benefit from employees and leaders who use a prevention orientation.

To substantiate my argument, I've conducted a program of research reported in this dissertation. First, I've chosen to examine the regulatory characteristics of the tasks that people perform as a starting point to determine what individuals and organizations need to perform well. It was confirmed in Study 1that a broad sample of people with different jobs perceive the tasks within their job as both prevention and promotion oriented. As a second step, given that these regulatory task characteristics largely determine the best way to work on such a task, I argue that leaders must use both regulatory orientations to connect to the work and stimulate performance of their employees and the organization. The results of Study 2 show that both orientations in leaders are indeed important, but that they relate to different aspects of the work of employees. When employees perceive their leaders to use a promotion orientation, this is related to more new initiatives taken in employees. Yet when leaders are perceived to use a prevention orientation, this relates to a higher objective work performance in employees. In Study 3 we extend these findings to an organizational level of analysis. Again, it was found that leaders' prevention orientation was related to objective organizational performance. On an organizational level, leaders' use of the promotion orientation did not add to objective performance. In the last line of research, different interventions were tested that can be used (for instance by leaders) to optimize individual performance on tasks that do not fit people's regulatory orientations. With the help of performance incentives and work strategy guidelines, promotion oriented people were able to perform well at the non-fit prevention task. In addition, the interventions turned out to have added value for prevention oriented participants as well. These findings constitute a first step in understanding that "fit" between people and their tasks can also be established by taking the task requirements as a reference point and helping individuals to adjust to them. The promotion oriented participants in our studies seemed very well able to adjust their general needs and preferred way of working, provided that they received the right instructions to do this.

Theoretical implications of the research

The studies reported in this dissertation advance the current research on regulatory focus and performance in several important ways.

Firstly, by establishing the concept of regulatory task heterogeneity (or RTH) and examining how it relates to important performance related aspects, we advance the research in both the domains of regulatory task characteristics and task variety. Whereas prior research has observed the effects of regulatory task characteristics on one-dimensional tasks in highly controlled environments (Van Dijk & Kluger, 2011), I am the first to show that many people in organizational settings work on both types of tasks within their job. Moreover, this research revealed that RTH positively relates to the display of innovative work behavior of employees. A negative relation was found between RTH and task clarity, and the relationship between RTH and need for recovery turned out to be curvilinear (a homogeneous job as well as a very heterogeneous job are both related to higher need for recovery in employees). In addition, the knowledge on RTH also advances the current research on job design, and more specifically task variety. In most prior research the type of 'variety' in tasks is not defined. A varied job simply means 'a job with many different tasks'. My research advances current insights by defining an important way in which tasks can be different (i.e. promotion or prevention oriented) and shows that this variety in the work actually relates to several work related aspects, which cannot be explained by the number of different tasks per se (see Study 1, results).

Furthermore, an innovative method, not previously used in regulatory focus research, was applied in Study 1 to gain insight into the regulatory characteristics of people's jobs (for a similar approach, see Berg, Dutton & Wrzesniewski, 2013). This procedure – asking people to use post-its to indicate different aspects of their task – provides a feasible way for workers to characterize the nature of their job and tasks within it, and can be used in future research for organizational diagnoses.

Second, the research on the regulatory orientations of leaders (Study 2 and Study 3 reported in Chapter 3 and Chapter 4) contributes to current knowledge on leadership regulatory focus and work performance. I investigated the relationship between leaders' regulatory orientations and performance in organizations, whereas most of the research on the relationship between regulatory orientations and performance has been conducted on isolated tasks in the lab. Furthermore, in Study 2 and Study 3 I've distinguished between 'hard' (objective) and 'soft' (self-reported) performance measures. Objective performance measures from individuals and organizations have very rarely been included in research on leaders' regulatory orientations and performance. By doing so I was able show that there appears to be an important difference in what people think that benefits performance, and what actually works. In Study 3 the results showed a positive relation between the use of the

prevention orientation in leaders and objective performance of the organization, yet such a relationship was not found between the leaders' use of the prevention orientation and their perception of how well the organization was performing. In Study 4.1 and in Study 4.3, participants in the intervention conditions performed better on the prevention task. Yet again, their increased performance was not reflected in their self-reported performance score. The results of these studies reveal that in research on regulatory orientations and performance -both in organizational settings and in the lab- self-reports should not be used as a proxy for actual performance differences. When it is performance that you want to evaluate, you should measure objective performance, despite all the difficulties that come with obtaining such measures (see limitations section).

Finally, in Study 4.1 and 4.3 I introduced a new notion of regulatory fit. Regulatory fit is usually defined as a fit between people's individual regulatory orientations and the means to attain a task goal. In all prior research such fit is either noted when it occurs spontaneously or consciously created by adjusting the tasks to individual preferences. In studies 4.1 and 4.3 I advance regulatory fit research by showing that people can also adjust *themselves* to the task requirements by working according to a provided work strategy to establish fit. By doing so, their performance on the non-fit task was enhanced. These findings broaden the current notion of how regulatory fit can be established, and open the doors to new performance enhancing interventions. The results also advance research in the regulatory focus domain in which regulatory orientations are (rather implicitly) induced (Friedman & Förster, 2001; Faddegon, Scheepers & Ellemers, 2008; Faddegon, Ellemers & Scheepers, 2009). By making the task requirements explicit, the interventions become usable in organizational settings. For instance, providing instructions on how to go about a task fits very naturally into a leader's behavioral pattern.

Limitations of the research

Despite the theoretical contributions of the studies in this dissertation, there are inevitable limitations to my work. There are several constraints that apply to the interpretation of my results and I will address those here. Specific constraints of each study are discussed in greater detail in the chapters.

The field studies Study 1, Study 2 and Study 3, reported in Chapter 2, 3 and 4, are cross-sectional data-sets with correlational designs, so caution should be taken to interpret the causal direction of the observed effects. Even though I recognize that longitudinal designs might have been preferable to investigate our hypotheses, there are several reasons why I feel confident to interpret the results as I did. Firstly, our results in the studies on leaders (Study 2 and Study 3) are in line with the scarce prior research on leaders' regulatory focus and performance, which *has used* a longitudinal design (Neubert, Carlson, Kacmar, Chonko

& Roberts, 2008). Neubert et al. (2008) show that leaders who make use of the prevention orientation inspire followers to use this orientation in their work, which in turn benefits followers' performance. Secondly, the most important finding in the studies on leadership (the relationship between leaders' prevention orientation and objective performance) is found in both Study 2 as Study 3. Obtaining this relationship across different samples, measures and organizational contexts speaks in favor of the robustness of this (never before established) relationship, even if its causality is unclear.

Study 1 was a first attempt to capture the concept of regulatory task heterogeneity. I've made a conscious choice to first explore the concept in a cross sectional design. Confidence to interpret the results in the direction that I do comes from meta analytic research (Hammond, Neff, Farr, Schwall & Zhao, 2011) that shows that the relationship between task variety and innovative work behavior is robust and is almost always interpreted in the direction that I also propose. In addition, the research is cross-sectional but not mono method. The task characteristics were examined using the 'post-it method', whilst the work characteristics were obtained with a survey. As such, the research goes beyond simply investigating answering tendencies in participants. Future research can focus on further developing the RTH concept and investigating it's long term effects as well as establishing causal relations with work related aspects.

Furthermore, in Study 1, the IV and DV are from the same source, which entails a possibility that common rater effects might have inflated the observed correlations (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). However, I do not consider this to be likely, because of the way that the task data were obtained. The survey data were obtained several days prior to the task data. This is a method recommended to counter common rater effects (Podsakoff et al., 2003). In addition, due to the post-it method, in which research participants are requested to list all tasks within their job on separate post-its before labelling them with regulatory characteristics, participants are challenged to objectively look at all the tasks that their job comprises, instead of going with a general first impression. By using this innovative method to collect data, I am confident to have countered common rater effects.

For the studies in this dissertation, I made the choice to include objective performance measures from real organizations. The reasons for this being that in practice, this is *the* variable that every organization is interested in, and including objective performance measures (both on the individual- and on the organizational level) in regulatory focus research has seldom been done before. Unfortunately, this has been a big obstacle in obtaining large(r) samples sizes in Study 2 and Study 3. The desired performance information often had to be extracted from several information systems within the organizations. For this I depended on the time and willingness to help from available experts within the organizations. Also,

there were many different ways in which the organizations recorded their performance data. Often, it turned out that after several contact moments, important performance indicators did not meet the requirements to include them in the study. I am aware of the instability of the relations in studies with small samples in combination with a substantial number of predictor variables, and, ideally, my sample sizes would have been a lot larger. Nonetheless, I made a deliberate choice to stick to the use of the objective performance measures, at the expense of the number of observations because I considered this theoretical advancement to be important. This is also why I persisted in using this method in Study 2 as well as Study 3, so at least I could examine the robustness of the observed relations across different types of samples, measures and organizations.

In Studies 1, 2 and 3 I have made use of the General Regulatory Focus Measure (GRFM), developed by Lockwood, Jordan and Kunda (2002) to measure employees' regulatory orientations. The choice of the GRFM is not without controversy, as Summerville & Roese (2008) suggested that it 'functions like a measure of approach and avoidance' (the Behavioral Inhibition Scale / Behavioral Activation Scale by Carver & White, 1994). I have employed the GRFM nonetheless because 1) it has good face validity, with items that are clearly linked to the definitions of the prevention and promotion orientation, 2) it has good psychometric properties with demonstrated reliability and validity and 3) it is the most used measure of dispositional regulatory focus in research to date (30 studies have made use of the GRFM, compared to 15 studies that made use of the RFQ; Gorman et.al., 2012).

Future directions

The research reported in the current dissertation advances the existing insights on regulatory orientations and performance, but it also uncovers new questions that can be addressed in future research.

An important implication of my work is that people profit from using both regulatory orientations to perform well in complex organizational environments. Yet, in origin, the regulatory focus theory refers to the fact that regulatory orientations develop throughout childhood and can be considered rather stable traits (Higgins, 1997). I argue however, that people's regulatory orientations and subsequent behaviors also show 'state like' characteristics. My own research shows that people can switch to behavior associated with the non-preferred regulatory orientation, at least temporarily, to work on a task that benefits from this approach. This is most clearly shown in Studies 4.1 and 4.3, where promotion oriented people adopt a prevention oriented work strategy to work on a prevention task. The malleability of the regulatory orientations themselves has so far been shown in a number of experimental studies in which regulatory orientations are temporarily induced by different kinds of manipulations (Friedman & Förster, 2001; Freitas & Higgins, 2003).

Likewise, prior studies have shown that leaders, tasks or team norms can temporarily evoke a regulatory orientation that is different from people's 'dominant' regulatory orientation (Faddegon, Scheepers & Ellemers, 2008; Faddegon, Ellemers & Scheepers, 2009; Neubert, Carlson, Kacmar, Chonko & Roberts, 2008; Wu, McMullen, Neubert & Yi, 2008; Van Dijk & Kluger, 2011). Since the research in the current dissertation shows that making use of both orientations in complex organizational environments could benefit performance, future research could further investigate peoples capability to switch between the regulatory orientations. There is a lot yet unknown about switching between the regulatory orientations: virtually no studies have included longer periods in which people have to make use of a regulatory orientation that is not 'their own'. In addition, there is almost no research on the consequences of switching regulatory orientations. In Study 1 I show that having a job with a lot of variety between promotion and prevention tasks is related to higher fatigue. Yet, in this study it is not fully clear how often people actually switch their regulatory orientations. Hence, future research can further look into the pros and cons of people switching between both regulatory orientations at work.

Another important question that remains for future research, is how prevention oriented leadership is perceived by employees. In my research, I've established positive relationships between such leadership and performance indicators. However, to further determine the value of prevention oriented leadership, it is important to investigate how employees feel when this type of leadership is applied. The emphasis that prevention oriented leaders place on preventing mistakes could possibly result in a rather controlling manner, limiting employees' autonomy and/or creativity. These work aspects have been negatively associated with work satisfaction (Spector, 1986). On the other hand, prior research on a leadership style characterized by 'initiating structure', which shows important similarities to prevention oriented leadership, suggests that no negative consequences of such a style for employee satisfaction are to be expected (Judge, Piccolo & Ilies, 2004). Leaders who initiate structure define and organize their role and the roles of followers, are oriented toward goal attainment, and establish well-defined patterns and channels of communication (Fleishman, 1973). Meta analytic research on leaders who display such a style shows moderately sized positive relations with employees' motivation and satisfaction (Judge et al., 2004). This suggests that this type of leadership style will probably not enlarge employees' satisfaction and motivation, but will also not diminish them. Given the different findings in prior research, additional research is needed to further investigate the consequences of prevention oriented leadership for employee wellbeing and motivation. This is an important next step in the research on this topic. When the prevention oriented leadership style enhances performance, but demotivates employees, there is a high probability that the positive performance effects as observed in my research will not be sustainable.

Practical Implications

The results of the research program reported in this dissertation have already been put to practice in organizations. The identification of promotion and prevention tasks within a job by employees, provides the foundation for a training that I've developed together with colleagues at TNO (a large applied research organization in the Netherlands and co-founder of this PhD project). The training is named: 'innovative when possible, responsible when needed'. The goal of the training matches the main conclusions of my research. It provides a quick scan of employees' jobs, uncovering the tasks that are suitable for proactive, bottom up innovation on the job (i.e. promotion tasks) and the tasks that need a more conservative and risk averse approach (i.e. prevention tasks). Instead of seeking innovation across the board, I argue that it might be preferred to especially encourage employees to display innovative behavior when working on promotion tasks. By tailoring innovation attempts to those tasks that are best suited for such efforts, possible downsides of innovative work behavior, such as irresponsible risk taking, can be averted. With this it is not said that innovation in work processes on prevention tasks is not possible. Yet, when employees work on prevention tasks, pioneering on their own could have unwanted consequences. I suggest that a more structural, or perhaps a more top down approach is needed to innovate work processes on prevention tasks.

I consider it to be important for HR practitioners and managers to take notice of regulatory task heterogeneity in their employees' jobs. My research reveals two possible problems that employees can run into at work and that HR practitioners and managers could help resolve. Firstly, there are people (probably in every organization) that work on prevention tasks alone (e.g. security officers or people involved in administrative work). Given that a good performance on a prevention task is not very visible, but a bad performance is (Van Dijk & Kluger, 2011; Jacobs, 1981), these employees can have a hard time differentiating themselves and showing what they are contributing in their job. Based on the results in this dissertation I encourage HR and management to pay extra attention to this type of work and revalue this work in organizations, since it constitutes a large part of organizational functioning. Maybe the performance indicators for this type of work need to be reevaluated. Another possibility is to make it explicit when crises have been averted, and praise the employees involved publicly. Secondly, I urge HR practitioners and managers to be aware of the fact that jobs can become too complex. The results in Study 1 clearly show this pitfall: a moderate amount of heterogeneity between promotion and prevention oriented tasks gives employees energy, but when RTH becomes too much, need for recovery quickly becomes higher (see Figure 1 in Chapter 2). It can be difficult for employees to sense whether their jobs become too complex. Many (mainly highly educated) employees work in organizational environments with ample opportunity to stack different projects

and roles. In addition, proactive behavior and employability is often highly encouraged by managers aiming to develop their employees. I certainly do not oppose these tendencies, yet the results of Study 1 draw attention to the fact that also positive aspects such as task variety have boundary conditions –too much of a good thing becomes a negative.

Managers should take notice that their job facilitates promotion oriented behavior, and that the prevention orientation is easily forgotten and undervalued. Based on the results in this dissertation, I advise managers to try to use the prevention orientation very consciously. A way to do this might be to temporarily induce a prevention orientation in oneself, when tasks need this approach, or when contemplating a big decision. Prior research shows that a prevention orientation can temporarily be induced by taking a moment to write about a situation in life where you needed to fulfill an obligation (e.g. as used by Freitas & Higgins, 2002).

Finally, task performance on prevention tasks can be enhanced by two concrete interventions that can be applied in organizations. First, fellow employees or managers can provide task information stating *what can be avoided* by performing well on the task. Second, prevention oriented work instructions (see Appendix C, Chapter 5) can be provided to remind people *how* they should go about the prevention task. The results of this study show that these interventions might be especially beneficial to enhance the performance of promotion oriented people, who are at a disadvantage for a good performance on a prevention task. Moreover, given that promotion oriented people appeared to be unaware of their enhanced performance on the prevention task, it is important that management provides regular feedback on their objective task outcomes. This will prevent them from avoiding or rejecting non-fit tasks.

Conclusion

The goal of this dissertation has been to investigate how regulatory orientations relate to the performance of people in complex organizational environments. Many organizational settings tend to accentuate and reward behaviors relating to the promotion orientation. Even though the use of the promotion orientation has been shown to give rise to valuable work behaviors such as being innovative , a large part of the work in many organizations also constitutes 'doing the due diligence' (i.e. meeting preset targets, following agreed upon procedures and working without making disrupting mistakes). I proposed that performance on these kind of tasks could benefit from using a prevention orientation. In several studies, I have investigated whether the use of the prevention orientation can be of added value for individual and organizational performance.

The results reported in Chapter 1 show that there is indeed a high probability that jobs are regulatory heterogeneous (i.e. contain both prevention and promotion oriented tasks). In line with this finding, the results reported in Chapter 3 and 4 reveal that performance benefits can be gained when leaders are able to use a prevention orientation. Arguably, the use of the promotion orientation in leaders is already facilitated by organizational dynamics. As such, there is little added value in the individual's inclination to adopt this orientation. The prevention orientation on the other hand, helps leaders fulfill a broader range of goals associated with their complex task. In the final chapter (Chapter 5) of the current dissertation I tested two interventions that can be used (by leaders or fellow employees) to optimize individual performance on tasks that do not fit people's regulatory preferences. With the help of performance incentives and work strategy guidelines, promotion oriented people were able to perform well at a non-fit prevention task. In addition, the interventions turned out to have added value for prevention oriented participants.

The program of research that was conducted and reported in this dissertation contributes to the theory on regulatory focus and performance and has practical relevance for organizations. The work provides new insights into what motivates people, and how people perform optimally at work.

References

Anderson, N., De Dreu, C.K.W. & Nijstad, B.A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. Journal of Organizational Behavior, 25, 147-173.

Berg, J.M., Dutton, J.E. & Wrzesniewski, A. (2013). Job crafting and meaningful work. In B. J.Dik, Z.S. Byrne & M.F. Steger (Eds.), Purpose and meaning in the workplace (81-104). Washington, DC: American Psychological Association.

Beudeker, D.A., Ellemers, N., Rink, F.A. & Blonk, R.W.B. (2014). Testing the effectiveness of interventions to enhance performance on regulatory oriented tasks. (Doctoral Dissertation).

Carver, C.S. & White, T.L. (1994). Behavioral inhibition, behavioral activation and affective responses to impending reward and punishment: The BIS/BAS Scales. *Journal of Personality and Social Psychology, 67,* 319-333.

Chung-Yan, G.A. (2010). The non-linear effects of job complexity and autonomy on job satisfaction, turnover and psychological well-being. *Journal of Occupational Health Psychology, 15,* 237-251.

Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes, 69,* 117–132.

Desombre, T., Kelliher, C., MacFarlane, F. & Ozbilgin, M. (2006). Re-organizing work roles in health care: Evidence from the implementation of functional flexibility. *British Journal of Management, 17,* 139-151.

Dorenbosch, L., Van Engen, M. & Verhagen, M. (2005). On-the-job innovation: the impact of job design and human resource management through production ownership. Creativity and Innovation Management, 14, 129-141.

Ellemers, N. & De Gilder, D. (2012). Je werkt anders dan je denkt. Business Contact.

Faddegon, K., Scheepers, D & Ellemers, N. (2008). 'If we have the will, there will be a way: regulatory focus as group identity'. *European Journal of Social Psychology, 38,* 880-895.

Faddegon, K., Ellemers, N. & Scheepers, D. (2009). Eager to be the Best, or Vigilant Not to Be the Worst: The Emergence of Regulatory Focus in Disjunctive and Conjunctive Group Tasks. *Group Processes and Intergroup Relations, 12,* 653-671.

Fiske, S.T. (1993). Controlling other people: the impact of power on stereotyping. American Psychologist, 48 (6), 621-628.

Förster, J., Higgins, E.T. & Bianco A.T. (2003). Speed/accuracy decisions in task performance: Built in trade-off or separate strategic concerns. Organizational Behavior and Human Decision Processes, 90, 148–164.

Förster J. & Dannenberg, L. (2010). GLOMO-sys: A systems account of global versus local processing. *Psychological Inquiry, 21,* 175-197.

Freitas, A. L. & Higgins, E. T. (2002). Enjoying goal-directed action: The role of regulatory fit. *Psychological Science, 13,* 1-6.

Friedman, R. S. & Förster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality & Social Psychology, 81,* 1001–1013.

Galinksy, A.D. & Kilduff, G.J. (2013). Be seen as a leader. *Harvard Business Review, 91,* 127-130.

Gorman, C.A., Meriac, J.P., Overstreet, B.L., Apodaca, S., McIntyre, A.L., Park, P., & Godbey, J.N. (2012). A meta-analysis of the regulatory focus nomological network: work-related antecedents and consequences. *Journal of Vocational Behavior, 80,* 160-172.

Hammond, M.M., Neff, N.L., Farr, J.L., Schwall, A.R. & Zhao, X. (2011). Predictors of individual-level innovation at work: A meta-analysis. *Psychology of Aesthetics, Creativity and the Arts, 5,* 90-105.

Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist, 52,* 1280-1300.

Higgins, E. T., Shah, J. Y. & Friedman, R. (1998). Emotional responses to goal attainment: Strength of regulatory focus as moderator. *Journal of Personality and Social Psychology, 72,* 515–525.

Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist, 55,* 1217-1230.

Jacobs, D. (1981). Toward a theory of mobility and behavior in organizations: An inquiry into the consequences of some relationships between individual performance and organizational success. *The American Journal of Sociology, 87,* 684-707.

Karoly, P. (1993). Mechanisms of self-regulation: a systems view. *Annual Review of Psychology, 44,* 52-23.

Keltner, D., Gruenfeld, D. H. & Anderson, C. (2003). Power, approach and inhibition. *Psychological Review, 110,* 265-284.

Latimer, A. E., Rivers, S. E., Rench, T. A., Katulak, N. A, Hicks, A., Hodorowski, J. K., et al. (2008). A field experiment testing the utility of regulatory fit messages for promoting physical activity. *Journal of Experimental Social Psychology, 44,* 826-832.

Lepak, D. P. & Schnell, S. A. (2002). Examing the human resource architecture: The relationship among human capital, employment, and human resource configurations. *Journal of Management, 28,* 517-543.

Liberman, N., Idson, L. C., Camacho, C. J. & Higgins, E. T. (1999). Promotion and prevention choices between stability and change. *Journal of Personality & Social Psychology, 77*, 1135-1145.

Neubert, M.J., Carlson, D.S., Kacmar, M.K., Chonko, L.B. & Roberts, J.A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology, 93,* 1220-1233.

Sassenberg, K., Jonas, K.J., Shah, J.Y. & Brazy, P.C. (2007). Why some groups just feel better: the regulatory fit of group power. *Journal of Personality and Social Psychology, 92,* 249-267.

Sassenberg, K., Scheepers, D. & Ellemers, N. (2012). 'The attraction of social power: The influence of construing power as opportunity versus responsibility'. *Journal of Experimental Social Psychology, 48* (2), 550-555.

Seibt, B. & Förster, J. (2004). Stereotype threat and performance: How self-stereotypes influence processing by inducing regulatory foci. *Journal of Personality and Social Psychology, 87,* 38–56.

Shalley, C.E., Gilson, L.L. & Blum, T.C. (2000). Matching creativity requirements and the work environment: effects on satisfaction and intentions to leave. *Academy of Management Journal, 43*, 215-223.

Summerville, A., & Roese, N.J. (2008). Self-report measures of individual differences in regulatory focus: A cautionary note. *Journal of Research in Personality, 42,* 247-254.

Updegraff, J. A., Sherman, D. K., Luyster, F. S. & Mann, T. L. (2007). The effects of message quality and congruency on perceptions of tailored health communications. *Journal of Experimental Social Psychology, 43,* 249-257.

Van Dijk, D. & Kluger, A. N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organizational Behavior, 32,* 1084-1105.

Wallace, J. C. & Chen, G. (2006). A multilevel integration of personality, climate, self-regulation, and performance. *Personnel Psychology, 59*, 529–557.

Wallace, J.C., Johnson, P.D. & Frazier, M.L. (2009). An examination of the factorial, construct, and predictive validity and utility of the Regulatory Focus at Work Scale. *Journal of Organizational Behavior, 30,* 805-831.

Wu, C., McMullen, J., Neubert, M. & Yi, X. (2008). The influence of leader regulatory focus on employee creativity. *Journal of Business Venturing, 23,* 587-602.

Xie, J. L., & Johns, G. (1995). Job scope and stress: Can job scope be too high? *Academy of Management Journal, 38,* 1288–1309.

2 |

Perceptions of Regulatory Task Heterogeneity and their relationship with employees' self-reported innovative work behavior, task clarity and need for recovery

This chapter is based on: Beudeker, D.A., Ellemers, N., Rink, F.A., Dorenbosch, L., de Rooij, M., & Blonk, R.W.B. (2014). Perceptions of Regulatory Task Heterogeneity and their relationship with employees' self-reported innovative work behavior, task clarity and need for recovery. Under review.

Abstract

The current research among employees engaged in a workshop (N=109) hypothesized and found that the majority of participants (81%) consider the tasks within their job as having different regulatory characteristics. We refer to this perception as Regulatory Task Heterogeneity (RTH). Extending prior research on task and skill variety, RTH was found to have benefits as well as costs for self-reported work behaviors and outcomes. The amount of RTH is positively related to employees' innovative work behavior and negatively related to task clarity. A curvilinear relationship between RTH and need for recovery after work was found. Employees with low RTH (regulatory task homogeneity) and high RTH (regulatory task heterogeneity) both reported longer recovery time after work.

A core aim of researchers and practitioners in organizational psychology is to identify conditions that help employees function optimally in their work. Research on how to organize a set of tasks contained in a certain position (referred to as job design) demonstrates the importance of offering employees sufficient task and skill variety: the degree to which a job requires a variety of different skills, abilities and tasks (Hackman & Oldham, 1976). Thus far, research in this tradition has mainly examined task and skill variety in relation to work motivation, work engagement and job satisfaction. This has revealed positive effects (e.g. on overall work motivation, proactivity, and extra-role behavior; Humphrey, Nahrgang & Morgeson, 2007; Podsakoff, Mackenzie & Bommer, 1996a), as well as negative outcomes (e.g. on role confusion and fatigue; Karsh, Booske & Sainfort, 2005; Spector & Jex, 1991; Xie & Johns, 1995; Zaniboni, Truxillo & Fraccaroli, 2013).

In prior research, little attention has been devoted to how tasks may differ in the type of goal attainment activities they elicit. We build on recent research demonstrating the distinction between tasks that can advance the organization when performed well ('promotion' or 'star' tasks – aiming to achieve a desirable end-state such as a new product) versus tasks that negatively affect the organization when performed poorly ('prevention' or 'guardian' tasks – aiming to avoid that errors are made for instance in a public company report; Jacobs, 1981; Van Dijk & Kluger, 2011). Whereas promotion tasks demand eagerness and a fervent way of working towards goal attainment (Friedman & Förster, 2001; Higgins, Shah & Friedman, 1998; Wallace & Chen, 2006), prevention tasks require a vigilant way of working towards goal attainment (Seibt & Förster, 2004; Wallace & Chen, 2006).

We posit that the combination of these two task types in a single job presents a novel – and as yet unexamined - source of task and skill variety that employees can encounter. In the present research we develop an index to assess the perceived presence of both regulatory tasks types in a single job. We refer to this type of task and skill variety as Regulatory Task Heterogeneity (RTH). We examine how RTH relates to the tendency of employees to engage in innovative behavior. We also investigate potentially adverse consequences of this type of task and skill variety, by relating the amount of RTH to task clarity and work-related fatigue. In the sections that follow, we develop our theoretical framework and predictions.

Task variety and its effects on employee behavior

Enriched jobs, high in task and skill variety, have reliably been tested to improve employees' internal work motivation (Deci & Ryan, 2000; Fried & Ferris, 1987), job performance (Humphrey, Nahrgang & Morgeson, 2007), work engagement (Salanova & Schaufeli, 2008) and job satisfaction (Griffeth, Hom & Gaertner, 2000; Ichniowski & Shaw, 1999). In turn, high levels of motivation and satisfaction enhance the probability of employees engaging in much desired extra-role behaviors - leading employees to go beyond formal

role descriptions, which is known to enhance organizational performance (Organ, 1988; Paine & Bachrach, 2000; Podsakoff, Mackenzie & Bommer, 1996a; Podsakoff, Ahearne & MacKenzie, 1997).

One of the most valued extra-role behaviors is innovative work behavior of employees (Anderson, De Dreu & Nijstad, 2004; De Jong & Den Hartog, 2005).

Innovative work behavior is the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit performance within this role, group or organization (West & Farr, 1990). Prior research in organizational contexts indeed shows a positive relationship between jobs that require a broad mix of skills and innovative work behavior (Dorenbosch, Van Engen & Verhagen, 2005; Hammond, Neff, Farr, Schwall & Zhao, 2011; Shalley, Gilson & Blum, 2000). Farr (1990) proposes that in jobs characterized by a great variety in tasks and skills, the employees' thinking ability and knowledge of intermittent work processes is enhanced, promoting the generation of innovative ideas. Additionally, higher levels of overall job demands and complexity (due to increased task variety) are associated with higher intrinsic motivation resulting in more persistence in problem solving (Shalley, Gilson & Blum, 2000). This may also enhance the likelihood that employees consider different alternatives resulting in innovative solutions to problems (Shalley, 1995). These findings are in line with experimental research, which also demonstrates that people's engagement in innovative problem solving depends on their motivation and ability to perceive the broader implications of their actions (instead of focusing on specific details(Friedman & Förster, 2001; Förster & Higgins, 2005). The literature refers to this ability as a global and inclusive style of information processing (as opposed to a local style of processing; Förster & Higgins, 2005; Förster & Dannenberg, 2010).

Even though task and skill variety within jobs have been found to enhance motivation and innovative work behavior in employees, there may also be a downside to this. First, when the task and skill variety in a job is substantial, employees can become confused about how to handle their different job aspects (Desombre, Kelliher, Macfarlane & Ozbilgin, 2006). The amount of task and skill variety might thus undermine the perceived *clarity* of the task and may thus diminish individual confidence in knowing what is expected and what to do (Van Veldhoven & Meijman, 1994).

Additionally, prior research suggests possible negative consequences of task and skill variety for job stress. The relationship with outcome variables related to perceived stress, is often curvilinear in nature. Jobs characterized by very little or no variety and complexity are perceived to be stressful, as are jobs that contain too many different tasks (Chung-Yan, 2010; Xie & Johns, 1995). These results are in keeping with activation theory (Hancock & Ganey, 2003; Scott, 1966), which posits an inverted U-shaped relationship between arousal

and performance, such that there is an optimal level of activation or stimulation that aids performance. Too little arousal results in boredom and too much leads to mental overload (Gaillard, 1993; Gardner, 1986). Thus, although increased task and skill variety in jobs can provide greater stimulation to the worker, an excess of task variety is likely to result in too much activation, resulting in stress or fatigue.

In this prior research, task and skill variety was assessed in terms of differences in task *content*. The current research complement this work by addressing another important form of task and skill variety, namely in terms of *regulatory task characteristics*. Our aim is to examine whether the positive and negative implications of task and skill variety documented in the literature also apply to what we refer to as Regulatory Task Heterogeneity.

Regulatory Focus Theory and regulatory task characteristics

Motivational goals in self-regulation are specified in Regulatory Focus Theory, developed by Higgins (1997). This theory distinguishes between two motivational systems that guide individual goal attainment activities: a prevention orientation and a promotion orientation. When a prevention orientation is activated, the individual wants to fulfill safety and security needs and as such formulates goals as duties and responsibilities. When a promotion orientation is activated, people seek to satisfy nurturance and achievement needs and therefore pursue goals formulated as ideals (Higgins,1997).

Although these regulatory orientations were first conceived in terms of individual differences (Higgins,1997), they are currently looked upon as more dynamic orientations towards goal achievement. By now, there is abundant evidence that situational characteristics can also summon a specific regulatory orientation (Brockner & Higgins, 2001; Faddegon, Ellemers & Scheepers, 2009; Levine, Higgins & Choi, 2000; Van Dijk & Kluger, 2011). Relevant to our current aims, prior studies have shown that even certain task features in a work context can activate a dominant regulatory orientation in employees. Thus, not only do regulatory orientations affect task performance (see also Crowe & Higgins, 1997; Friedman & Forster, 2001; Forster, Higgins, & Taylor Bianco, 2003; Seibt & Forster, 2004), different types of tasks can also prime these regulatory orientations. A recent study by Van Dijk and Kluger (2011), for example, demonstrated that people are able to characterize their organizational tasks as either "prevention oriented" or "promotion oriented" (Van Dijk & Kluger, 2011; see also the distinction between "star" and "guardian" jobs; Jacobs, 1981). They further found that prevention tasks – tasks that negatively affect the organization when performed poorly - can activate a prevention orientation in employees. When performing such a task, employees are focused on finding what is wrong and what they should avoid. Examples are tasks such as detecting errors in company reports, or identifying suspicious objects on a radar screen. Likewise, promotion tasks – tasks that can advance the

organization when performed well - can summon a promotion orientation in employees, as they are keen on finding what is right and what could be gained. Developing new products or initiating organizational change are examples of such tasks (Van Dijk & Kluger, 2011).
Prior research has shown that prevention tasks are best approached with a vigilant work strategy, aimed at avoiding errors. By contrast, promotion tasks are best approached with an eager, gain oriented work strategy (Friedman & Forster, 2001; Seibt & Forster, 2003; Wallace & Chen, 2006).

Regulatory Task Heterogeneity

We posit that many jobs require that employees engage both in prevention- and promotion tasks in the context of their job. We introduce the concept of regulatory task heterogeneity (RTH), to indicate the extent to which employees perceive this to be the case. We define regulatory task heterogeneity as the perceived presence of *both* types of task demands in a single job. Prior analyses and research suggests that such regulatory task variety is likely to occur (Brockner, Higgins & Low, 2004; Wallace & Chen, 2006). For instance, employees working at a R&D department are not only expected to be creative in developing new products or ideas that can bring success to the organization (i.e. a promotion task), they are also responsible for the implementation process of these products or ideas, a phase in which it is crucial that they make no mistakes (i.e. a prevention task; Herman & Reiter-Palmon, 2011). Likewise, the entrepreneurial process has been recognized to require the combination of diverging regulatory orientations (Brockner, Higgins & Low, 2004). Here too, generating ideas with the potential to be successful is important, as is "doing the due diligence" of screening the ideas for reasons not to go forward with it. Finally, research on safety performance also suggests that employees may have to deal with different regulatory task goals within the same job. On the one hand they need to follow rules and work accurately (i.e. have a prevention task goal) to avoid safety hazards, on the other hand they often feel the pressure to work quickly and proactively (i.e. have a promotion task goal) to make production deadlines within their job (Wallace & Chen, 2006).
Hence, based on prior theory and research we argue that regulatory task heterogeneity characterizes many jobs. Our first hypothesis is therefore:

> *Hypothesis 1: Employees are likely to perceive their jobs as containing tasks with different regulatory goals.*

Besides testing the existence of regulatory task heterogeneity within jobs as a specific form of task and skill variety, the current research also aims to investigate how RTH relates to employees' perceptions of a number of relevant work behaviors and outcomes.

How RTH relates to work behaviors and outcomes

If regulatory task heterogeneity exists and can indeed be considered a form of task and skill variety, it should relate to key work aspects in similar ways as the traditional forms of task and skill variety have been shown to do. When employees work on both prevention- and promotion tasks within the same job, they pursue different task goals (avoiding mistakes vs. gaining desirable end states) and use different work strategies (vigilance vs. eagerness) to achieve work relevant outcomes.

Performing a job that contains different aspects is assumed to motivate and challenge employees. It should help them develop a global processing style and make them more aware of their contribution to larger scale work processes (Farr, 1990; Förster & Higgins, 2005). These cognitive and motivational effects of having a job that taps into different skills and abilities make it more likely that employees go beyond their formal job requirements and engage in innovative work behavior (Dorenbosch, Van Engen & Verhagen, 2005; Hammond, Neff, Farr, Schwall & Zhao, 2011; Shalley, Gilson & Blum, 2000). Our second hypothesis therefore is:

Hypothesis 2: To the extent that employees perceive their job to be characterized by more RTH, they will report engaging in more innovative work behavior.

Since the task goals that people pursue in jobs that contain both promotion- and prevention tasks diverge, employees have to figure out each time what type of goal they have to pursue, and subsequently decide on the work strategy that will contribute to goal attainment (Crowe & Higgins, 1997; Friedman & Forster, 2001; Seibt & Forster, 2003; Wallace & Chen, 2006). To the extent that task and skill variety requires such consideration, it has been shown to be confusing to employees (Desombre, Kelliher, Macfarlane & Ozbilgin, 2006). Therefore we argue that when RTH increases, perceived task clarity will diminish.

Hypothesis 3: Increased levels of RTH will be negatively associated with employee perceptions of task clarity.

In a similar fashion, prior research has shown that dealing with too many different task goals and work strategies within the same job can be tiring (Chung-Yan, 2010; Xie & Johns, 1995). Job-related fatigue is often measured by the time people need to recover after a day of work (Van Veldhoven & Broersen, 2003). In general, research in this domain suggests that task variety and need for recovery are related by means of an inverted U shape: too little variety has been shown take longer recovery time as has too much variety. We anticipate that regulatory task variety will be no different. A low amount of regulatory task heterogeneity (having a job that only requires a single type of regulatory goal orientation) might be related to a higher need for recovery, as will a large amount of heterogeneity (having a job that

encompasses tasks that clearly differ in regulatory orientation). An optimum recovery time is expected when there is a moderate level of RTH in a job.

Hypothesis 4: The relationship between RTH and need for recovery is curvilinear: low levels of RTH will be related to higher need for recovery, as will high levels of RTH.

Method

Participants

This research was conducted among all 109 civil servants within a finance, tax and IT department of a large Dutch governmental institution (about 1500 employees in total). Within the department worked financial controllers, tax officers and IT specialists (48% were male, 52% were female). On average, they worked 33 hours per week for the company (ranging from 16 to 40 hours per week). The participants were colleagues who worked together in 12 different work teams each with their own supervisor.

The data for the research were collected as part of a person-job fit training and participants filled out questionnaires prior to the training. Since participation in the training was obligatory, we obtained data on the promotion and prevention tasks from all 109 participants. Some missing values occurred in the collection of the questionnaire data. Of 95 people (87% of the people in the department) we were able to combine the data from the training with the questionnaire data.

Procedure

Research participants were recruited in the context of a person-job fit training designed by TNO. The overall purpose of this training was to give employees insight in the different tasks contained in their job and how to adjust these to fit their personal needs. The larger training consisted of three sessions that took place over the course of 6 months in 2012, and was obligatory for all employees of the department. Before and during the first training session we had the opportunity to collect data for the present research. Before the first training session a survey was administered. During this session, participants were requested to list all specific tasks that they work on within their job on separate post-its. To indicate the relative time they spend on a task per week, the task was noted on a small sized post-it, a medium sized post-it or a large-sized post-it, to indicate small, medium or large tasks respectively. Each participant collated the post-its describing their separate tasks on a large sheet of paper in front of them (for a similar approach, see Berg, Dutton & Wrzesniewski, 2013).

Regulatory Task Heterogeneity

During the training session, participants were further asked to characterize each of the tasks they indicated (regardless of the time spent on it) as a "prevention task", a "promotion task", "a combination task", or an "undifferentiated task"). The definitions that the employees received to explain different regulatory task characteristics were taken from earlier research, and were illustrated with an example from a soccer context (for a similar procedure, see Faddegon, 2007).

Employees learned that a prevention task was "a task in which a poor performance negatively effects the organization. A good performance on this task does not stand out nor draws attention" (Jacobs, 1981; Van Dijk & Kluger, 2011). This was illustrated with the task of a defense player in a soccer team, who is often scrutinized for a mistake that leads to a goal of the opponent, but is hardly ever praised for providing a solid defense. A promotion task was defined as "a task in which a poor performance does hardly influence the organization. A good performance, on the other hand, draws everyone's attention" (Jacobs, 1981; Van Dijk & Kluger, 2011). This was illustrated with the role of a striker in a soccer team, who is the center of attention and reward when he/she scores the winning goal, but is far less likely to be blamed for being passed by a member of the opposing team or for failing to score a goal.

When tasks contained both prevention- and promotion elements, participants were instructed to characterize these as "combination" tasks. Tasks that could not be defined in prevention or promotion terms could be included as "undifferentiated" tasks. Examples that participants provided of promotion tasks were: "trouble shooting and advising (internally and externally)", "developing new software" or "undergoing work-related training". Examples of prevention tasks included "checking and managing budgetary resources", "processing notices of objection or archiving documents". An example of an undifferentiated task was "reading and answering email".

The aim of the guided instruction was to go beyond tapping into employees' global impression of their job by thinking of the first task that came to mind, or by focusing on their most important task alone. Instead, we first extracted all the different tasks comprised in their job, and then asked them to characterize the regulatory orientation of each task.

To check and be able to correct for the size ratio of the small vs. medium vs. large tasks employees indicated, a subsample of 16 employees was asked to more specifically estimate the amount of time per week they spend on their 'large' tasks, their 'medium' tasks and their 'small' tasks. These estimates indicate that 'large' tasks on average take 10 times more time than 'small' tasks. 'Medium' tasks take on average 5 times more time than 'small' tasks. To represent this difference when calculating the regulatory heterogeneity of the tasks contained in a single job, a 'large' task was assigned a weight of 10, a 'medium' task a weight

of 5 and a 'small' task a weight of 1. Assigning these weights allowed us to take into account not only *how many* different prevention versus promotion tasks employees performed within their job, but also the *time spent* on these different tasks. Thus, when we refer to the number of regulatory oriented tasks in the results and discussion section, we refer to these weighted numbers.

After the first training session each participant's task post-it composition was photographed and labelled to ensure that the task data could be merged with the survey data. To obtain the distribution of the regulatory oriented tasks two independent raters added up the weighted tasks per workshop participant. Two raters were used to count the tasks (as displayed on the digital photo's), in order to prevent summation mistakes. When discrepancies in their counting occurred, the workshop data was reevaluated and recounted.

Based on the factual task descriptions weighted by the time spent on each task we computed an index representing the Regulatory Task Heterogeneity implied in each participant's job.

Creating a regulatory task heterogeneity index

An index ranging from 0 (no heterogeneity) to 1 (maximum heterogeneity) was created to indicate the regulatory task heterogeneity in each job. The regulatory characteristics of the weighted tasks were processed into a mathematical formula, $RTH = \left[\frac{Min(Prev + Comb, Prom + Comb)}{Max(Prev + Comb, Prom + Comb)}\right] \times \left[\frac{Prev + Prom + Comb}{Total}\right]$, which calculates the distribution of promotion vs. prevention tasks, corrected for the number of undifferentiated tasks. In the formula "Prev" represents the number of prevention tasks, "Prom" the number of promotion tasks, "Comb" the number of combination tasks and "Total" is the total number tasks, including the undifferentiated tasks.

For example: an employee whose job consists of 10 promotion tasks, 20 prevention tasks, 3 combination tasks and 6 undifferentiated tasks receives an RTH index score of (10 + 3) / (20 + 3) X (20 + 10 + 3) / (20 + 10 + 3 + 6) = 0.48, indicating a moderately heterogeneous job. An employee who has indicated working on 15 promotion tasks, 15 prevention tasks, 3 combination tasks and 6 undifferentiated tasks, receives an RTH index score of (15 + 3) / (15 + 3) X (15 + 15 + 3) / (15 + 15 + 3 + 6) = 0.85, indicating a more heterogeneous job.

Work behaviors and outcomes

Prior to the start of the training session, participants were presented with a digital questionnaire to assess relevant work behaviors and outcomes. All questions were asked on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Items were coded such that high scores indicate high levels of the construct of interest. All items are

reported in Appendix A.

Participants were asked to report the amount of ***innovative work behavior*** they display in their job with the innovation scale developed by Jansen, Van Den Bosch and Volberda (2006). The scale consisted of 8 items measuring both explorative innovations (e.g.; "We invent new products and services") and exploitative innovations within the organization (e.g.; "We frequently refine existing products and services"). The overall reliability of this scale was good, α = .89. ***Task clarity*** was assessed with 3 items of the task clarity scale (Van Veldhoven & Meijman, 1994). An example of a task clarity item is: "At the beginning of a day at work, it is totally clear to me what I have to do that day", α = .78. ***Need for recovery*** was assessed with 4 items from the need for recovery scale (Van Veldhoven & Broersen, 2003). An example of a need for recovery item is: "After a day at work I am really tired", α = .85.

Control variables

Total number of tasks contained in a job: in the current research we were interested in measuring the relationship between RTH (the amount of regulatory task heterogeneity within a job) and focal work behaviors and outcomes. When testing for the predicted relations we controlled for the total number of tasks contained in each employee's job.

Individual prevention and promotion orientation: We know from prior research that individual regulatory orientations can relate to relevant work behaviors and outcomes of employees, regardless of Regulatory Task Heterogeneity. For example, prior research has consistently shown that an individual's promotion orientation positively relates to the amount of creative or innovative work behavior (Friedman & Forster, 2001, 2002; Neubert, Kacmar, Carlson, Chonko & Roberts, 2008). We assessed these individual differences in regulatory orientations, to be able to examine whether RTH relates to our focal outcome variables after ruling out any effects of individual regulatory orientations. The individual regulatory orientations of employees were assessed with the state self-regulation scale developed by Lockwood, Jordan and Kunda (2002). Nine items were used to assess employees' prevention orientation (e.g.; "I frequently think about how I can prevent failures in the workplace", α = .80), another nine items indicated their promotion orientation (e.g.; "At work, I typically focus on the success I hope to achieve in the future", α = .79).

Analysis of the data

The 109 research participants represented 13 different work teams. To control for possible dependency between individuals who belong to the same team, we employed multilevel analysis, using a stepwise procedure (see Hox, 2002; Snijders & Bosker, 1999). In Step 1 a

basic model was tested without any explanatory or independent variables (null or empty model). The Likelihood Ratio Statistic (LRT) of this model can be used to compare against other (nested) models.

In Step 1a, we calculated the intra class coefficients (or ICC), indicating the proportion of the variance in the dependent variable that is attributable to the team that the employees belong to. When the ICC score for a given dependent variable was significant, we included a team specific intercept in subsequent analyses to correct for the dependency among members of this specific team.

In Step 2, three control variables were added to the model: the total number of tasks listed by the individual, the individual's promotion orientation, and the individual's prevention orientation. In Step 3, RTH was added as a predictor to the model, to test our main predictions. Improvement of the model over Step 2 was tested using a LRT. In Step 4 interactions between RTH and the two individual regulatory orientations were added to the model, to check whether the relation between RTH and focal work behaviors and outcomes depended on the regulatory orientation of the employee. Finally, in Step 5, we investigated whether the relationship between RTH and each outcome variable is curvilinear, by adding the quadratic effect of RTH to the model. Note that the results of Step 4 and 5 are only reported when they add significantly to our prediction of the dependent variables.

Results

On average, participants used 9.48 (*SD* = 2.69) different post-its to characterize the different tasks within their job. The minimum number of post-its used was 4, the maximum number was 17.

We hypothesized (Hypothesis 1) that employees would perceive a mixture of prevention and promotion tasks within their job. Out of 109 workshop participants, 88 (80,7%) indicated that this was indeed the case. Comparing the time-weighted number of tasks, on average, employees reported performing 23 prevention tasks, 11 promotion tasks, 3 combination tasks and 6 undifferentiated tasks contained in their job. These results corroborate Hypothesis 1; a majority of the employees examined in this study reported their job as being heterogeneous in terms of regulatory task goals.

The sample of government employees we examined, reported having more prevention tasks than promotion tasks. Comparing the time-weighted number of tasks, as a collective, the workshop participants listed 2471 prevention tasks, 1169 promotion tasks, 353 combination tasks and 697 undifferentiated tasks. Prevention tasks thus make up 52,7% of the total number of tasks listed by members of the organization. Promotion tasks make up almost 25% of the total number of tasks. This fits the nature of this government agency

which is charged with providing information and service on taxation.

Multilevel analyses

Deviance statistics for Step 1 and Step 1a in the analyses are reported in Table 1.

Table 1: *Deviance statistics for all multilevel regression models*

	Response Variable		
Step	**InnovativeWork Behavior**	**Task Clarity**	**Need for Recovery**
1	279.95	279.95	282.71
1a	269.09	267.59	272.96
2	229.22	261.54	230.06
3	224.04	256.43	226.46
4	222.11	250.78	224.91
5	222.06	247.37	219.95

Innovative work behavior

Hypothesis 2 predicted that RTH would be positively related to the amount of innovative work behavior reported. When the three control variables (total number of tasks of the employee, prevention and promotion orientation of the employee) were added to the model in Step 2, the model significantly improved (LRT = 39.87, $df = 3$, $p < .05$). Consistent with prior work on regulatory orientations, the individual's promotion orientation revealed a significant positive relationship with self-reported innovative work behavior ($p = .0001$). However, when the main predictor RTH was added to the model in Step 3, the relationship between RTH and innovative work behavior was significant and positive (LRT = 5.18, $df = 1$, $p < .05$). As hypothesized, an increase in RTH was related to a significant increase in innovative work behavior reported. This relationship between RTH and innovative work behavior emerged after correcting for the individual's promotion orientation. Adding interactions between RTH and employees' regulatory orientations (Step 4) or the quadratic effect of RTH to the model (Step 5), did not significantly improve model fit.

Task clarity

Hypothesis 3 predicted that RTH would be negatively related to the amount of task clarity employees perceive in their job. When the three control variables were added in Step 2, this did not significantly improve the model (LRT = 6.05, $df = 3$, $p > .05$). None of these control variables was significantly related to the perceived amount of task clarity. In Step 3 we introduced our main predictor RTH to the model. Adding RTH to the model made the positive relation between the individual's promotion orientation and task clarity

significant: individuals then reported more task clarity as their promotion orientation was stronger, $p < .05$. As hypothesized, however, the relationship between RTH and task clarity was significant as well, and negative (LRT = 5.11, $df = 1$, $p < .05$). When RTH increased, perceived task clarity of the employee decreased. Adding interactions between RTH and employees' regulatory orientations (Step 4) and the quadratic effect of RTH to the model (Step 5), did not significantly improve further model fit.

Need for recovery

Hypothesis 4 predicted that the relationship between RTH and need for recovery would be curvilinear in nature. It was anticipated that both low RTH and high RTH would be related to higher need for recovery, and that the need for recovery would be relatively lower under moderate RTH. We introduced the three control variables to the model in Step 2. This improves the model significantly (LRT = 52.65, $df = 3$, $p < .05$); the total number of tasks relates negatively to the need for recovery, and the individual's prevention orientation relates positively to the need for recovery. We introduced our main predictor RTH to the model in Step 3. The linear relationship between RTH and the need for recovery was positive and significant (LRT = 3.6, $df = 1$, $p < .05$). When RTH increases, need for recovery also increases. Both the total number of tasks and the prevention orientation of the employees remained significant predictors of need for recovery, when RTH was added to the model. When interactions between RTH and employees' prevention and promotion orientation were added to the model in Step 4, the Likelihood Ratio Test indicates that these two effects are not significant (LRT = 1.55, $df = 2$, $p > .05$).

In Step 5, we introduced the quadratic effect of RTH to the model, in order to test whether the relationship between RTH and need for recovery might be curvilinear in nature. The Likelihood Ratio Test (LRT = 4.96, $df = 1$, $p < .05$) indicates that adding the quadratic effect for RTH indeed significantly improves the model. The quadratic effect of RTH significantly predicted the need for recovery after correcting for variance associated with the three control variables, RTH, and interactions of RTH with employees' regulatory orientation. This offers evidence in line with Hypothesis 4. As anticipated, employees with a regulatory homogeneous job, as well as those with a regulatory heterogeneous job reported a relatively high need for recovery. The need for recovery was reported to be lowest when employees characterize the regulatory task goals contained in their job as being moderately heterogeneous (see Figure 1). When the curvilinear relationship was added to the model, RTH as a linear predictor of need for recovery became non-significant ($p = .21$). Both the total number of tasks and employee prevention orientation remained significant predictors of need for recovery in Step 5.

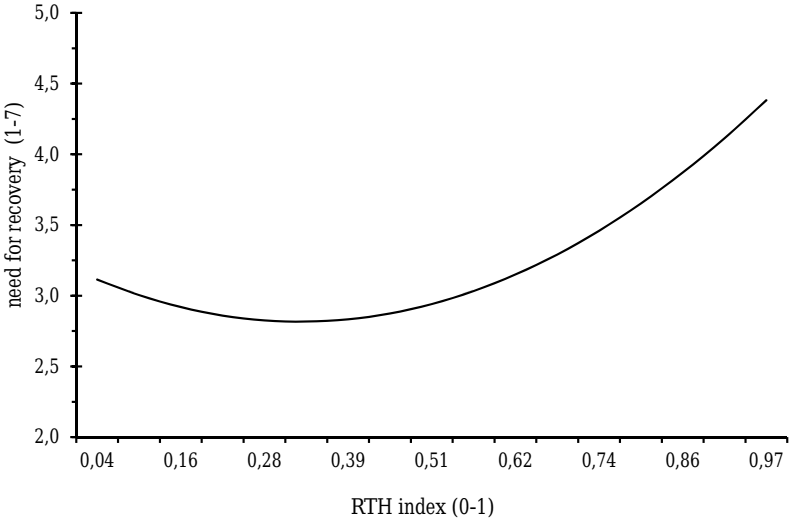


Figure 1.*The curvilinear relationship between RTH and need for recovery*

Discussion

Theoretical implications

This study is the first to demonstrate that employees perceive their jobs as containing a mixture of prevention and promotion tasks. These findings contribute to insights from prior research on self-regulation, which tend to examine performance in tasks that are characterized by a single regulatory orientation. They also extend current insights on task and skill variety, which in prior research was conceptualized mainly in terms of task content rather than regulatory task goals. This key observation has led us to introduce the concept of Regulatory Task Heterogeneity (or RTH).

The added value of introducing RTH as an alternate form of task and skill variety is illustrated by the further findings of our study. RTH relates to a number of focal work behaviors and outcomes, in ways that parallel previous findings in the literature on task variety. On the one hand, employees performing in jobs that contain variety stemming from regulatory diverse task, indicate that they work more innovatively. As such, our research extends prior findings on job design and work environment characteristics, as it establishes RTH as a relevant job characteristic that facilitates innovative work behavior. On the other hand, our results show that RTH is associated with lack of task clarity and increased fatigue risks. This notion adds to existing knowledge on possible downsides of *too much* task and skill variety, an aspect that is often overlooked in current work propagating task enrichment (for exceptions see Chung-Yan, 2010, Xie & Johns, 1995; Zaniboni,

Truxillo & Fraccaroli, 2013). Based on the current results and the general notion that jobs are becoming progressively more complex (Howard, 1995), we argue that it is essential to keep an eye on these potentially negative consequences of increased task and skill variety.

Limitations and Future Research Directions

This study on RTH constitutes a first effort to capture this concept and examine its relations with self-reported work behaviors and outcomes. Inevitably, it also suffers from a few shortcomings. The RTH index that we created indicates the amount of task heterogeneity within a job. It is a ratio variable which takes four types of regulatory tasks into account. However, the measure does not include the total number of tasks within a job. In theory this means that a job that consists of 1 (perceived) promotion task and 1 (perceived) prevention task, will be given the same RTH score, as a job that consists of 10 (perceived) promotion tasks and 10 (perceived) prevention tasks. The latter type of job however, arguably is more diverse and demanding than the former. Despite this feature of our measure, we made sure that this could not compromise the value of our findings. First, we checked to make sure that there are no employees in our dataset who have indicated that their jobs only contains a very limited number of tasks. The minimum number of tasks identified by employees on post-its is four. Although some employees indicated to have no or only a few promotion tasks, on average (using the time-weighted numbers), employees listed 23 prevention tasks and 11 promotion tasks. These results imply that the jobs in this organization were indeed (perceived as) representing multiple regulatory task goals. Secondly, in the multi-level analyses the total number of tasks listed by each employee was included as a control variable, before testing the effects relating to our predictions. This allowed us to establish the impact of a job that contains regulatory diverse tasks, over and above the impact of having a job that contains many different tasks. The results show in all cases that RTH predicts our focal work behaviors and outcomes, after correcting for any effects of the total amount of tasks contained in a job. This again validates our reasoning that establishing the regulatory diversity of tasks and examining the ratio in which they occur within jobs, has unique explanatory power for important work behaviors and outcomes. In fact, the results relating to hypothesis 4 show a negative relationship between the total number of tasks within a job and the need for recovery. This suggests that the absolute number of different tasks that people perform within their jobs is no direct reason to be concerned. The presence of different regulatory task goals within one job however, is.

Our method of data collection allows us to document rather precisely on how many different tasks employees work, and whether they perceive these tasks to be prevention or promotion oriented. However, our method does not provide conclusive insight into the strategies employees use to deal with the regulatory heterogeneity contained in their job, or

the order in which different tasks are performed by employees. As such, we have no insight in how often employees actually switch between regulatory different task goals or how they adapt their work strategies to accommodate these diverging task requirements. Even though the number of different prevention- and promotion tasks suggests that employees must switch task goals from time to time, it is possible that employees organize their tasks in such a way, that tasks that have similar regulatory task goals are clustered together. Future research might reveal whether this is the case – for instance with diary studies requiring research participants to keep a task log. Future studies might also examine whether this actually is a useful strategy to increase task clarity and prevent fatigue from switching, or whether this type of clustering diminishes the benefits associated with regulatory task heterogeneity in terms of innovative work behavior.

Our sample of research participants contained individuals working on a range of different jobs in the organization. Nevertheless, the type of tasks that are performed in the organization we examined, shows that employees characterize a majority of their tasks as prevention tasks (53% of the total number of tasks) rather than promotion tasks (25% of the total number of tasks). In this case, the positive relationship between RTH and innovative work behavior might reflect an increase in the amount of promotion tasks within a job. Based on the current data we cannot exclude this possibility. However, speaking for our favored interpretation is the fact that the relations we observed mirror those previously documented in the literature on task and skill variety which has been associated with enhanced motivation and innovative work behaviors. Moreover, we regard it as a realistic possibility, that a similar ratio (a majority of prevention tasks and a minority of promotion tasks) can be observed in many organizations. In fact, we find it hard to imagine an organization (or jobs within organizations) in which employees primarily or only work on promotion tasks. Future studies might seek out organizations or employee samples where this seems to be the case, as a way to test the generality of our findings across different types of jobs and organizations.

Finally, since the data in this study are correlational in nature, causal relations between RTH and employees' self-reports cannot be inferred conclusively. Nevertheless, we feel encouraged to interpret our observations as such, in view of prior research that has established the causal impact of task and skill variety on similar work behaviors and outcomes, in longitudinal studies. This suggests that the correlational relations that we obtained might well hold up in a longitudinal design. Indeed, now that we have provided initial evidence for the viability and relevance of RTH as a construct of interest, it would be relevant to monitor the effects of such task variety over time. In this way, it can be examined how long it takes for an high RTH job to cause (chronic) fatigue. This might help establish for instance whether people learn to cope with the task heterogeneity over time,

or whether the effects on fatigue due to regulatory task heterogeneity exacerbate over time. Alternatively, a longitudinal design would make it possible to investigate whether work satisfaction derived from a challenging job serves as a buffer for negative consequences of regulatory task heterogeneity, such as lack of task clarity and fatigue over time.

Practical Implications

The results of this study indicate that it can be beneficial for HR practitioners and managers to take notice of regulatory task heterogeneity. Our research suggests that highly desired innovative work behavior in employees might be stimulated by a job design that is high in variety on promotion tasks and prevention tasks. Such innovative work behavior could contribute to performance on an individual level, as well as on an organizational level (Anderson, De Dreu & Nijstad, 2004). New ideas and initiatives can help optimize work processes and facilitate more efficient working, thereby augmenting the chances of organizational survival (Anderson et al., 2004; De Jong & Den Hartog, 2005).

In addition, the identification of the promotion tasks in an employee's job, might serve as an important guideline as to *where* innovative work behavior could help the organization forward. Instead of seeking innovation across the board, it might be preferred to target such behavior to specific types of tasks. Indeed, innovative behavior might have adverse consequences when employees are working on a prevention task for instance. By tailoring innovation attempts to those tasks that are best suited for such efforts, possible downsides of innovative work behavior, such as irresponsible risk taking, might be averted.

HR practitioners and managers could also play an important role in diminishing possible down sides of high RTH. For example, research on task clarity suggests that managers play an important part in clarifying an employee's tasks (Kim, Egan, Kim & Kim, 2013). A manager can provide specific task related feedback and instructions to ameliorate employees' understanding of different task goals within their job (Allenbaugh, 1983; Peterson & Hicks, 1996). Such task and role clarification by managers has been shown to benefit employee performance (Fried, Ben-David, Tiegs, Avital & Yeverechyahu, 1998). In addition, such clarification by managers could serve as a buffer against work related fatigue.

Conclusion

The current research extends prior work on task and skill variety by showing that people perceive the tasks within their job to differ in their regulatory characteristics, a concept we refer to as Regulatory Task Heterogeneity (or RTH). It was found that the amount of RTH is positively related to employees' innovative work behavior and negatively related to the task clarity employees perceive in their job. In addition, a curvilinear relationship between RTH

and need for recovery after work was found. Employees with low RTH (regulatory task homogeneity) and high RTH (regulatory task heterogeneity) both reported longer recovery time after work

References

Allenbaugh, G. (1983). Coaching: A management tool for a more effective work performance. Management Review,72, 21–26.

Anderson, N., De Dreu, C.K.W., & Nijstad, B.A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of Organizational Behaviour, 25,* 147-173. DOI: 10.1002/job.236

Berg, J.M., Dutton, J.E.,& Wrzesniewski, A. (2013). Job crafting and meaningful work. In B. J.Dik, Z.S. Byrne & M.F. Steger (Eds.), *Purpose and meaning in the workplace* (81-104). Washington, DC: American Psychological Association.

Brockner J., & Higgins E.T. (2001). Regulatory focus theory: Implications for the study of emotions at work. *Organizational Behavior and Human Decision Processes, 86*, 35–66. DOI: 10.1006/obhd.2001.2972

Brockner, J., Higgins, E.T., & Low, M.B. (2004). Regulatory focus theory and the entrepreneurial process. *Journal of Business Venturing, 19*, 203-220. DOI: 10.1016/S0883-9026(03)00007-7

Chung-Yan, G.A. (2010). The non-linear effects of job complexity and autonomy on job satisfaction, turnover and psychological well-being. *Journal of Occupational Health Psychology, 15,* 237-251. DOI: 10.1037/a0019823

Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes, 69,* 117–132. DOI: 10.1006/obhd.1996.2675

De Jong, J.P.J., & Den Hartog, D.N.(2005). Determinanten van innovatief gedrag: een onderzoek onder kenniswerkers in het MKB, *Gedrag & Organisatie, 18,* 235- 259.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11,* 227–268. DOI: 10.1207/S15327965PLI1104_01

Desombre, T., Kelliher, C., MacFarlane, F., & Ozbilgin, M. (2006). Re-organizing work roles in health care: Evidence from the implementation of functional flexibility. *British Journal of Management, 17,* 139-151. DOI: 10.1111/j.1467-8551.2005.00473.x

Dorenbosch, L., Van Engen, M., & Verhagen, M. (2005). On-the-job innovation: the impact of job design and human resource management through production ownership. *Creativity and Innovation Management, 14,* 129-141.

Farr, J.L. (1990) Individual Innovation. In West, M.A. and Farr, J.L. (Eds.) *Innovation and Creativity at Work.* (pp.1-13). Chichester: Wiley.

Faddegon, K. (2007). Regulatory Focus in Group Contexts (doctoral dissertation).

Faddegon, K., Ellemers, N., & Scheepers, D. (2009). Eager to be the Best, or Vigilant Not to Be the Worst: The Emergence of Regulatory Focus in Disjunctive and Conjunctive Group Tasks. *Group Processes and Intergroup Relations, 12,* 653-671. DOI: 10.1177/1368430209339922

Förster, J., Higgins, E.T., & Bianco A.T. (2003). Speed/accuracy decisions in task performance: Built in trade-off or separate strategic concerns. *Organizational Behavior and Human Decision Processes, 90*, 148–164. DOI: 10.1016/S0749-5978(02)00509-5

Förster J., & Higgins, E. T. (2005). How global versus local perception fits regulatory

focus. *Psychological Science, 16*, 631-636. DOI: 10.1111/j.1467-9280.2005.01586.x

Förster J., & Dannenberg, L. (2010). GLOMO-sys: A systems account of global versus local processing. *Psychological Inquiry, 21,* 175-197. DOI: 10.1080/1047840X.2010.487849

Fried, Y., & Ferris, G. R. (1987). The validity of the job characteristics model: A review and meta-analysis. *Personnel Psychology, 40,* 287–322. DOI: 10.1111/j.1744-6570.1987.tb00605.x

Fried, Y., Ben-David, H. A., Tiegs, R. B., Avital, N., & Yeverechyahu, U. (1998). The interactive effect of role conflict and role ambiguity on job performance. *Journal of Occupational and Organizational Psychology, 71*, 19–27.

Friedman, R. S., & Förster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality & Social Psychology, 81,* 1001–1013. DOI: 10.1037//0022-3514.81.6.1001

Gaillard, A. W. K. (1993). Comparing the concepts of mental load and stress. *Ergonomics, 36,* 991–1005. DOI: 10.1080/00140139308967972

Gardner, D. G. (1986). Activation theory and task design: An empirical test of several new predictions. *Journal of Applied Psychology, 71,* 411–418. DOI: 10.1037/0021-9010.71.3.411

Griffeth, R.W., Hom, P.W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests and research implications for the next millennium. *Journal of Management, 26,* 463-488. DOI: 10.1016/S0149-2063(00)00043-X

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance,16,* 250–279. DOI: 10.1016/0030-5073(76)90016-7

Hammond, M.M., Neff, N.L., Farr, J.L., Schwall, A.R., & Zhao, X. (2011). Predictors of individual-level innovation at work: A meta-analysis. *Psychology of Aesthetics, Creativity and the Arts, 5,* 90-105. DOI: 10.1037/a0018556

Hancock, P. A., & Ganey, H. C. N. (2003). From the inverted to the extended-U: The evolution of a law of psychology. *Journal of Human Performance in Extreme Environments, 7,* 5–14.

Herman, A., & Reiter-Palmon, R. (2011). The effect of regulatory focus on idea generation and idea evaluation. Psychology of the Aesthetics, Creativity and the Arts, 5, 13-20. DOI: 10.1037/a0018587

Higgins, E. T. (1997). Beyond pleasure and pain. American Psychologist, 52, 1280-1300. DOI: 10.1037/0003-066X.52.12.1280

Higgins, E. T., Shah, J. Y., & Friedman, R. (1998). Emotional responses to goal attainment: Strength of regulatory focus as moderator. *Journal of Personality and Social Psychology, 72*, 515–525. DOI: 10.1037/0022-3514.74.2.285

Howard, A. (1995). *Changing nature of work.* San Francisco: Jossey-Bass.

Hox, J. J. (2002). Multilevel analysis: Techniques and applications. New Jersey: Lawrence Erlbaum.

Humphrey, S.E., Nahrgang, J.D., & Morgeson, F.P. (2007). Integrating motivational, social and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *Journal of Applied Psychology, 92*, 1332-1356. DOI: 10.1037/0021-9010.92.5.1332

Ichniowski, C., & Shaw, K. (1999). The effects of human resource management systems on economic performance: An international comparison of U.S and Japanese plants. *Management Science, 45*, 704-721. DOI: 10.1287/mnsc.45.5.704

Jacobs, D. (1981). Toward a theory of mobility and behavior in organizations: An inquiry into the consequences of some relationships between individual performance and organizational success. *The American Journal of Sociology, 87,* 684-707.

Jansen, J.J.P., Van Den Bosch, F.A.J., & Volberda, H.W. (2006). Exploratory innovation, exploitative innovation and performance: Effects of organizational antecedents and environmental moderators. *Management Science, 52,*1661-1674. DOI: 10.1287/mnsc.1060.0576

Karsh, B., Booske, B.C., & Sainfort, F.(2005). Job and organizational determinants of nursing home employee commitment, job satisfaction and intent to turn over. *Ergonomics, 48,* 1260-1281. DOI: 10.1080/00140130500197195

Kim, S., Egan, T.M., Kim, W,. & Kim, J.(2013). The impact of managerial coaching behavior on employee work related reactions. *Journal of Business in Psychology, 28,* 315-330. DOI 10.1007/s10869-013-9286-9

Levine, J. M., Higgins, E. T., & Choi, H-S. (2000). Development of strategic norms in groups. *Organizational Behavior & Human Decision Processes, 82*, 88-101. DOI: 10.1006/obhd.2000.2889

Lockwood, P., Jordan, C. H., & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology, 83*, 854–864. DOI: 10.1037//0022-3514.83.4.854

Neubert, M.J., Carlson, D.S., Kacmar, M.K., Chonko, L.B., & Roberts, J.A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology, 93,*1220-1233. DOI: 10.1037/a0012695

Organ, D.W. (1988) *Organizational citizenship behavior: The good soldier syndrome.* Lexington: Lexington Books.

Peterson, D. B., & Hicks, M. L. (1996). *Leader as coach: Strategies for coaching and developing others.* Minneapolis: Personnel Decisions International.

Podsakoff, P.M., MacKenzie, S.B., & Bommer, W.H.(1996). Meta-analysis of the relationships between Kerr and Jermier's substitutes for leadership and employee job attitudes, role perceptions and performance. *Journal of Applied Psychology, 81*, 380-399. DOI: 10.1037/0021-9010.81.4.380

Podsakoff, P.M., Ahearne, M., & MacKenzie, S.B. (1997). Organizational citizenship behavior and the quantity and quality of work group performance. *Journal of Applied Psychology, 82*, 262-270. DOI: 10.1037/0021-9010.82.2.262

Podsakoff, P. M., MacKenzie, S.B., Paine, J.B., & Bachrach, D.G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management, 26,* 513–563. DOI: 10.1177/014920630002600307

Salanova, M., & Schaufeli, W.B. (2008). A cross-national study of work engagement as a mediator between job resources and proactive behavior. *The International Journal of Human Resource Management, 19*, 116-131. DOI: 10.1080/09585190701763982

Scott, W. E. (1966). Activation theory and task design. *Organizational Behavior and Human Performance, 1,*3–30. DOI: 10.1016/0030-5073(66)90003-1

Seibt, B., & Förster, J. (2004). Stereotype threat and performance: How self-stereotypes influence processing by inducing regulatory foci. *Journal of Personality and Social Psychology, 87,* 38–56. DOI: 10.1037/0022-3514.87.1.38

Shalley, C. E. (1995). Effects of coaction, expected evaluation, and goal setting on creativity and productivity. *Academy of Management Journal, 38,* 483–503. DOI: 10.2307/256689

Shalley, C.E., Gilson, L.L., & Blum, T.C. (2000). Matching creativity requirements and the work environment: effects on satisfaction and intentions to leave. *Academy of Management Journal, 43*, 215-223. DOI: 10.2307/1556378

Snijders, T. A. B., & Bosker, R. J. (1999). Multilevel-analysis: An introduction to basic and advanced multilevel modeling. London: Sage.

Spector, P. E., & Jex, S. M. (1991). Relations of job characteristics from multiple data sources with employee affect, absence, turnover intentions, and health. *Journal of Applied Psychology, 76,* 46–53. DOI: 10.1037//0021-9010.76.1.46

Van Dijk, D., & Kluger, A. N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organizational Behavior, 32,* 1084-1105. DOI: 10.1002/job.725

Van Veldhoven, M.J.P.M., & Broersen, S. (2003). Measurement Quality and Validity of the "Need for Recovery Scale". *Occupational and Environmental Medicine, 60*, 3-9.

Van Veldhoven, M.J.P.M., & Meijman, T.F. (1994). *The measurement of psychosocial job demands with a questionnaire: the questionnaire on the experience and evaluation of work (VBBA).* Amsterdam: NIA.

Wallace, J. C., & Chen, G. (2006). A multilevel integration of personality, climate, self-regulation, and performance. *Personnel Psychology, 59,* 529–557. DOI: 10.1111/j.1744-6570.2006.00046.x

West, M. A., & Farr, J. L. (1990). *Innovation and creativity at work: Psychological and organizational strategies.* Chichester: John Wiley & Sons, Ltd.

Xie, J. L., & Johns, G. (1995). Job scope and stress: Can job scope be too high? *Academy of Management Journal, 38,* 1288–1309. DOI: 10.2307/256858

Zaniboni, S., Truxillo, D.M.,& Fraccaroli, F.(2013). Differential effects of task and skill variety on burnout and turnover intentions for older and younger workers. *European Journal of Work and Organizational Psychology, 22,* 306-317. DOI: 10.1080/1359432X.2013.78228.

Appendix A: full description of the items used in the research

Innovative work behavior

(Subscale) Exploratory innovation

1. I invent new products and services
2. I experiment with new techniques and approaches in my work
3. I look for opportunities to make use of new products and services to serve our clients
4. I regularly introduce new ideas to my management to improve our services

(Subscale) Exploitative innovation

1. I regularly implement small adaptations to existing products and services
2. I participate in thinking about the improvement of existing products and services at work
3. I improve the efficiency of products and services by refining them
4. I'm contacting colleagues in order to improve the way we work

Task clarity

1. At the beginning of a work day, it is totally clear to me what I have to do
2. It is totally clear to my which tasks belong to my work
3. It is totally clear to me what I'm responsible for, and which tasks are not my responsibility

Need for recovery

1. By the end of the work day, I feel really worn out
2. I find it difficult to concentrate in my free time after work
3. During the last part of my working day, a feeling of tiredness prevents me from doing my work was well as I normally would
4. When I get home from work, I need to be left in peace for a while

Prevention focus

1. In general, I am focused on preventing negative events in the workplace
2. I am more oriented towards preventing losses than I am towards achieving gains in the workplace
3. My major goal in my work right now is to avoid becoming a failure.
4. I am anxious that I will fall short of my responsibilities and obligations at work
5. I often think about the person I am afraid I might become in the workplace in the future
6. I often worry that I will fail to accomplish my work goals

7. I often myself experiencing bad things that I fear might happen to me in the workplace
8. I frequently think about how I can prevent failures in the workplace
9. I see myself as someone who is primarily striving to become the self I "ought" to be—to fulfill my duties, responsibilities, and obligations

Promotion focus

1. I frequently imagine how I will achieve my hopes and aspirations in the workplace
2. I often think about the person I would ideally like to be in the future
3. At work, I typically focus on the success I hope to achieve in the future
4. I often think about how I will achieve success at work
5. My major goal in work right now is to achieve my ambitions
6. I see myself as someone who is primarily striving to reach my "ideal self" – to fulfill my hopes, wishes and aspirations at work
7. In general, I am focused on achieving positive outcomes in my work
8. I often imagine myself experiencing good things that I hope will happen to me at work
9. Overall, I am more oriented towards achieving success than preventing failure at work

3

How self-regulation by managers relates to employee initiatives and employee performance

This chapter is based on: Beudeker, D.A., Rink F.A., Ellemers N. & Blonk R.W.B. (2013), Initiatiefrijk en functie-inhoudelijk presteren. De regulatiestrategieën van leiders in relatie tot het functioneren van medewerkers, *Gedrag & Organisatie, 26 (3)*, 277-292.

Abstract

This study examined how two different self-regulation orientations that managers can use (i.e., a promotion orientation or a prevention orientation) relate to the initiatives that employees take in their work and to the overall task performance of employees. Data from 42 employees working in four reemployment services in the Netherlands demonstrates that managers' use of a promotion orientation (as perceived by employees) is significantly associated with initiative taking in employees (Hypothesis 1), while managers' use of a prevention orientation (as perceived by employees) is significantly associated with their task performance (Hypothesis 2). These results suggest that managers should balance the use of both regulatory orientations in their work in order for employees to function optimally.

A manager's behavior, and in particular the self-regulation orientation he or she uses in dealings with employees, has been found to be an important predictor of the work initiatives and performance of these employees (Wu, McMullen, Neubert & Yi, 2008; Neubert, Kacmar, Carlson, Chonko & Roberts, 2008; Wallace, Little & Hill, 2010). Self-regulation refers to one's ability to adapt cognition, emotions and behavior, both consciously and unconsciously, to achieve set goals (Karoly, 1993).

A highly influential theory on self-regulation (i.e., Regulatory Focus Theory, Higgins, 1997) assumes the existence of two motivational systems (i.e., orientations) that regulate people's purposive goal directed behavior; a promotion orientation and a prevention orientation. The two regulation orientations therefore also tend to influence the ways in which people attempt to achieve work goals. Those who adopt a promotion orientation aim to realize their own ideals at work, or the ideals of their organization, and tend to emphasize the importance of reaching success in achieving these ideals. Those who adopt a prevention orientation are primarily concerned with meeting their direct task obligations and responsibilities (Brockner & Higgins, 2001; Kark & Van Dijk, 2007; Neubert et al., 2008). These people often find it important to avoid errors while achieving their work goals.

Prior research suggests that one's hierarchical position within an organization can evoke, or induce a certain self-regulation orientation in people. The presence of resources and opportunities, as well as the experience of freedom, make it easy for managers to adopt a promotion orientation that is driven by gains and successes (Sassenberg, Jonas, Shah & Brazy, 2007; Keltner, Gruenfeld & Anderson, 2003; Higgins, 1997). Although research has demonstrated that a regulatory promotion orientation used by managers positively relate to the creativity levels observed in their employees (Wu, McMullen, Neubert & Yi, 2008), some recent studies provide suggestive evidence that the ability of managers to transcend this role-congruent orientation may relate positively to other relevant work behaviors of employees. The current study aims to further examine this possibility. The central prediction is that the tendency of managers to adopt their role-defined promotion orientation will relate positively to the extent to which employees are willing to take initiatives (a prerequisite of creative work behavior). Additionally, we argue that the ability of managers to adopt a prevention orientation will be positively related to other important outcomes which should be visible in objective indicators of employees' in-role performance.

Managers' Self-Regulation Orientations

It was initially thought that the orientation people use to regulate their behavior is a stable personal characteristic (Higgins, 1997). More recent research in organizational settings has shown, however, that the orientation used may be context dependent - for example - on the task or work role assumed by the person in question (Brockner & Higgins, 1997;

Levine Higgins & Choi, 2000; Faddegon, Ellemers & Scheepers, 2009). In this respect, it has been found that the role of being a manager tends to evoke a promotion orientation in people (Sassenberg, Jonas, Shah & Brazy, 2007; Keltner, Gruenfeld & Anderson, 2003; Higgins, 1997). A managerial role encompasses certain features that offer people the scope to exercise a promotion orientation. Managers operate in a relatively powerful position where they often do not have to account for their actions; they thus possess a great deal of autonomy. Once in power, managers also operate in a reward-rich environment where they not only receive more financial rewards for their contributions than regular employees do, they also receive more social rewards for these contributions than do regular employees (i.e., in terms of praise and flattery; Keltner et al. 2003). Research demonstrates that having autonomy and the opportunity to receive rewards generally makes people more approach oriented (Fiske, 1993).

There are two other reasons why a managerial role easily induces a promotion orientation in people. First, a managerial role requires the ability to process a great deal of information on employee and organizational-level activities (Fiske, 1993). This global, explorative and visionary work approach matches the work strategy that follows from the use of a promotion orientation (Förster & Dannenberg, 2010). Second, prior research has shown that people who tend to adopt a promotion orientation in accomplishing their goals, are generally also more attracted to occupying a managerial role (Sassenberg et al., 2007). In other words, a managerial role makes it more likely that people adopt a promotion orientation towards their work, but this role also attracts individuals with a promotion orientation. It remains to be seen, however, whether managers who solely rely on this role congruent orientation are in the best position to stimulate their employees to demonstrate the wide range of work behaviors needed to perform well in their job.

Managers' Perceived Use of a Promotion Orientation and Employee Initiatives

Wu, McMullen, Neubert & Yi (2008) showed that managers who adopt a role-induced promotion orientation can stimulate creativity and initiative taking in employees. Given their relatively powerful position, the expectations and behavioral norms that managers convey tend to be closely monitored and copied by their employees (Bandura, 1986; Brockner & Higgins, 2001). The self-regulation orientation used by managers can thus serve as an example to employees and can encourage them to take more work initiatives and act more creatively.

New initiatives tend to make a major contribution to the performance of employees by enhancing their personal abilities, knowledge and skills (De Jong & Den Hartog, 2005; Anderson, De Dreu & Nijstad, 2004). Nevertheless, employees who undertake such initiatives do not automatically perform well in their job. For example, West (2002)

has demonstrated that employees who regularly develop new ideas only perform above standard when they are capable of putting these ideas into practice, and are allowed to do so. These boundary conditions are sometimes difficult to overcome. For example, experimental studies on the execution of creative tasks have found that individuals who are able to think of new, creative ideas often have trouble in subsequently selecting and implementing the most feasible option (Herman & Reiter-Palmon, 2011). Moreover, in a work context, employees who take new initiatives can meet considerable opposition from colleagues who wish to avoid the uncertainty and stress that comes along with the implementation of these initiatives (Janssen, Van de Vliert & West, 2004). This can lead to conflicts and impair the task performance of all individuals involved (Janssen et al., 2004).

To conclude, although there is literature that suggest that managers who use a promotion orientation should be positively related to intentions of their employees to take initiatives and develop new ideas at work, these intentions do not always translate into concrete task outcomes of employees. A manager's reliance on a role-congruent promotion orientation may thus not have the desired relationship with their objective task performance.

Managers' Perceived Use of a Prevention Orientation and Employee Performance

Leadership research suggests that managers who are able to transcend their role-defined regulation orientation (i.e., by adopting a prevention orientation) may ensure that employees perform well on their formal task responsibilities. For example, Neubert, Kacmar, Carlson, Chonko en Roberts (2008) found that when managers who aimed at "initiating structure" were positively related to the in-role performance of employees. The authors explain this relationship as the result of a "spill-over" effect, such that leaders that initiate structure seem to evoke a prevention orientation in employees, which in turn is related to better in-role performance. However, there may also be a direct positive relationship between managers who "initiate structure" and the in-role performance of employees because these managers in fact had been able to adopt a role-transcending prevention orientation, which helps employees to structure their work and to implement activities that contribute to their in-role performance.

Research suggests that managers who adopt a prevention orientation can indeed stimulate task behaviors in employees that are usually positively associated with overall performance (Barrick & Mount, 1991; Salgado, 1997; Stewart, 1999). For instance, managers who use this orientation set out concrete task objectives and aim to minimize task failure (Förster & Higgins, 2005). Because of this meticulous way of working, it has been argued that managers who adopt a prevention orientation should have detailed knowledge of the characteristics of the employees working for them and of the tasks employees need to perform. will stimulate employees to work accurately (Förster, Higgins & Bianco, 2003)

and will use a well thought-out guidance approach (Brockner & Higgins, 2001; Kark and Van Dijk, 2007). Moreover, with their detailed task knowledge, managers with a prevention orientation can foresee whether corrective action is needed during the execution of a task.

Managers' use of a prevention orientation may also relate positively to the overall performance of employees because some of the tasks that employees have to execute simply require this orientation. These are so-called prevention oriented tasks; failure on these tasks has serious consequences for the organization while a good performance on these tasks does not really stand out (Van Dijk & Kluger, 2011). An example of such a prevention oriented task is detecting errors in company reports (Van Dijk & Kluger, 2011). When working on this task, employees need to keep focused on what is wrong and what they should avoid in order to perform well. Because of their subordinate role, it is highly likely that employees may in fact need to perform more prevention oriented tasks than promotion focused tasks. So employees do not enhance their in-role performance on this task when they develop additional new plans and initiatives. A manager who helps them perform well in this role should be aware of and sensitive to these task features and be able to guide employees in performing well on such tasks.

Hypotheses

To conclude, we propose that both the tendency of managers to rely on a role-congruent promotion orientation and the ability of managers to transcend their role by displaying a prevention orientation can be positively related to employee intentions and employee behaviors. We therefore designed a field study to examine how the regulatory orientations used by managers related to the extent to which employees are willing to take new initiatives as well as to their objective task performance. We hypothesize the following;

Hypothesis 1. A manager's perceived use of a promotion orientation will be positively related to employees' intentions to take initiatives at work.

Hypothesis 2. A manager's perceived use of a prevention orientation will be positively related to employees' objective task performance.

Method

Participants and Study Procedure

In the course of 2010, questionnaires were sent to employees who worked as job coaches at four different reemployment services in the Netherlands. During this same period, objective data on the task performance of these employees were collected from their managers. The reemployment services were responsible for implementing the provisions of the Dutch social security legislation and for providing a range of services aimed at helping

unemployed and disabled people to re-enter the work process. So, the employees that we approached had the task to help unemployed people with finding a new job, and to persuade new employers to hire them.

The reemployment services were approached via contacts with the Dutch organization for Applied Scientific Research TNO. The researchers gave a brief presentation on the objectives of the study to the management of each reemployment service and sent an email to the employees asking them whether they would be willing to take part in the study. All employees who agreed to participate were sent an online questionnaire.

For 42 employees we were able to collect data on 1) their self-reported initiative taking at work, 2) their perceptions of their managers' regulatory orientation and 3) their objective work performance. The average age of the employees of whom we collected all information necessary for our research, was 42.4 years (*SD* = 10.59) and the proportion of male employees was 29%, (71% was female).

Independent Variables: Managers' Self-Regulation Orientations

Managers' use of the two self-regulation orientations was determined by asking the employees which orientation they predominantly observed in their manager when directing their activities at work. In this way we assessed managers' self-regulation orientations as perceived by the employees. Drawing on the regulatory focus scale developed by Lockwood, Jordan and Kunda (2002), eight statements assessing the extent to which their manager used the role-congruent promotion orientation, and seven regulation statements capturing the extent to which their managers were able to transcend to a prevention orientation, were developed. A principal components analysis (PCA) revealed considerable overlap in the constructs of the managers' regulation orientations. Based on the PCA we therefore created two scales that did capture the two distinct regulatory orientations in managers. The promotion orientation scale consisted of four regulation statements assessing the extent to which their manager used the role-congruent promotion orientation (e.g., "My manager encourages me to achieve my ideals and ambitions at work.", alpha = .93). The prevention orientation scale consisted of 7 regulation statements capturing the extent to which their managers were able to transcend to a prevention orientation (e.g.; "My manager regularly reminds me about my responsibilities and obligations at work", alpha = .79). The full list of items is displayed in appendix 1.

Dependent Variables

Employee initiative taking. After characterizing the behavior of their managers in this way, the employees were asked to report the extent to which they take initiatives in their own work. This variable was assessed with three statements (alpha = .73) from the personal

initiative scale proposed by Frese, Fay, Hilburger, Leng and Tag (1997). An example of such a statement is: "I am particularly good at realizing ideas in my work". The full list of items is displayed in appendix 1.

Employee performance. Employee performance data were based on their annual client targets over 2010 and were retrieved from each participating reemployment service. The annual client target represents a certain number of clients that employees have to place in a new job. This target is corrected for the hours employees work per annum. The performance measure we used was the extent to which employees were able to meet this target (in %). Within the reemployment services, this target is an important performance indicator, used to monitor employees' progress. We received these performance data in the final half of 2010. The reemployment services provided this information in different months. As a result they sometimes did not yet have a complete overview of results obtained in 2010. If this was the case, we established the extent to which employees were 'on track' in meeting their performance targets for the whole year, by correcting results achieved so far for the number of months that had passed. A Shapiro-Wilk test confirmed that the performance data were normally distributed (p = .89).

Control Variables

The four reemployment services where the study was carried out were comparable in size and the region where they were located. Nevertheless, we included the location, as well as info about two demographic background variables from the employees (i.e., their gender and age), as control variables in the analyses. None of these control variables significantly influenced the effects we observed and report below.

Results

Descriptives

A correlation analysis (see Table 1) revealed that the gender and age of participants were significantly correlated to each other (r = -.36, p = .02), meaning that the women in our sample were younger than the men. The demographic control variables did not relate to other variables of interest to hypothesis testing. The extent to which employees perceived their managers to use a promotion orientation was positively and significantly correlated to employee's self-reported initiative taking (r = .34, p = .03), as proposed in Hypothesis 1. Additionally, there was a significant positive association between the extent to which employees indicated their managers used a prevention orientation and employee's objective task performance (r = .44, p = .004), as proposed in Hypothesis 2. As the perceived promotion

orientation and prevention orientation scores for the managers were marginally significantly correlated ($r = .27$, $p = .09$), we could not regard them as completely independent predictors of employee initiative taking and employee performance. We corrected for this association when further testing our hypothesized relationships by including both regulation orientations in subsequent regression analyses (i.e., both orientations are included in all analyses, either as a key predictor or as a control variable).

Table 1: *Correlation of all independent, dependent and control variables*

	Gender	Age	Reemployment service	Promotion orientation of manager	Prevention orientation of manager	Initiative taking of employee	Percentage of unemployed reintegrated
Gender	1	-.36*	.14	.11	-.12	-.08	-.14
Age		1	-.01	-.26	-.26	.20	.008
Reemployment service			1	-.05	-.03	-.01	-.25
Promotion orientation of manager				1	.27	.34*	.14
Prevention orientation of manager					1	-.09	.44**
Initiative taking of employee						1	-.13
Percentage of unemployed reintegrated							1

*p <.05 **p <.01

Regression Analyses

In order to test Hypothesis 1 for employee initiative taking, the reemployment service office, gender and age of the employees and the managers' perceived use of the prevention orientation were first included in the model as control variables (step 1). The managers' promotion orientation was then included as a predictor in the model in step 2. There was no significant relation between any of the control variables and employees' initiative taking, but the extent to which the employees perceived their managers to use a promotion orientation was significantly related to employees' initiative, as predicted in Hypothesis 1 ($\beta = .38$, $p = .03$). Adding the managers' promotion orientation to the model explained 12.3% of the variance in employee initiative taking ($p = .03$), resulting in a ΔR^2 of .17 for the total model. The results thus support Hypothesis 1 (see Table 2).

Table 2: *Multiple regression results for hypothesis 1*

	B	**SE B**	***beta***
Step 1			
Gender	-.13	.38	-.06
Age	.03	.02	.26
Reemployment service	.06	.15	.07
Prevention orientation of manager	-.11	.24	-.08
Step 2			
Promotion orientation of manager	.47	.21	.38*

*p <.05 **p <.01
R^2 = .041 for step 1, ΔR^2 = .125 for step 2 (p =.03)

A similar procedure was followed to test the second hypothesis concerning the employees' objective performance. We again included the reemployment service office and employees' gender and age as control variables in the model and this time added the managers' use of a promotion orientation as a control variable to this first step. The managers' perceived prevention orientation was then included as a predictor in the model in step 2. None of the control variables were significantly related to employees' objective performance, as anticipated. The extent to which employees perceived their manager to use a prevention orientation was a significant predictor of objective task performance (β = .48, p = .004). Managers' perceived prevention orientation explains 20% of the unique variance in employees' objective performance. This change in R^2 is significant (p = .004) bringing the ΔR^2 of the total model to .28. The results of the multiple regression analysis, summarized in Table 3, thus support Hypothesis 2.

Table 3: *Multiple regression results for hypothesis 2*

	B	**SE B**	***beta***
Step 1			
Gender	-.03	.35	-.01
Age	.02	.02	.01
Reemployment service	-.17	.14	-.18
Promotion orientation of manager	.09	.19	.07
Step 2			
Prevention orientation of manager	.68	.22	.48**

*p <.05 **p <.01
R^2 = .075 for step 1, ΔR^2 = .200 for step 2 (p =.004)

Significance Testing of Correlational Differences

In view of the restricted sample size in this study, we examined whether one of the two orientations is a stronger predictor of the dependent variables than the other. A Steiger's Z test for Hypothesis 1 demonstrates that managers' perceived use of a promotion orientation was significantly more strongly correlated with employees' initiative taking than managers' perceived use of a prevention orientation (p = .024). By contrast, managers' perceived use of a prevention orientation was more strongly correlated with the objective performance of employees than managers' perceived use of a promotion orientation, as expected, even though the difference between these correlations was only marginally significant (p = .098).

Discussion

Theoretical Implications

This study demonstrates that managers' use of a promotion orientation, as perceived by employees, is positively related to the extent to which employees report to undertake new initiatives at work. Managers' use of a prevention orientation on the other hand, does not relate to employee initiative taking. Hence, whilst a promotion orientation in managers seems to inspire initiatives in employees, a prevention orientation does not necessarily deject this behavior. This finding extends prior studies (Baas, De Dreu & Nijstad, 2011; Beudeker, Rink, Ellemers & Blonk, 2014) demonstrating that a prevention orientation does not automatically undermine creativity or initiative taking. In addition, as predicted, when employees perceived their managers to use a prevention orientation, this was positively related to their objective performance. Managers' perceived use of a promotion orientation was less clearly related to objective employee performance. This finding contributes to current insights on the implications of managers' ability to go beyond what is expected in their role by demonstrating that has positive consequences for the performance of employees. An important implication of this conclusion is that managers may do well to deploy both regulatory orientations to encourage initiative taking in employees as well as ensuring that their task performance remains optimal.

Strengths, Limitations and Future Research Directions

An important strength of our study was the use of an objective employee performance measure. The number of clients that find new work within one year arguably depends to a considerable extent on the motivational and intervention techniques used by the social service employees. Yet, we acknowledge that the unemployed clients have an important role in this process as well. Of course some clients more easily find a job themselves without

much help from social service employees. But these clients will be randomly distributed amongst social services employees' caseloads as well as reemployment offices.

There are a few other limitations to this study that imply some caution in drawing conclusions from these data. First, the data in this study are cross-sectional in nature, and therefore do not necessarily offer support for a causal relationship between the regulatory orientation of a manager and employee behavior. Since the employees examined here assessed the regulatory orientation of their managers as well as their own degree of initiative taking, it may be that employees who often take initiatives are also more inclined to perceive their manager to use a promotion orientation and value this behavior. Arguing against this explanation, we refer to prior research in which researchers control for the regulatory orientation of the employees and still find a similar relationship between a promotion orientation in managers and initiative taking in employees (Wu, McMullen, Neubert & Yi, 2008).

As an additional argument against this explanation of our results we note that there is good reason to assume that subordinates tend to perceive their superiors accurately rather than being biased or projecting their own preferences on them. Since employees are dependent on their managers, it is important for them to make an accurate estimate of what the latter wants from them – independent from their own behavior or wishes (Fiske, 1993). Employees thus often develop an accurate, detailed picture of their managers. We therefore feel confident about the robustness and direction of the obtained relationship. Future research might establish further evidence for the patterns we observed, ideally with a longitudinal setup. Such longitudinal data collection requires a big investment in time, effort and money and is therefore only worthwhile when there are clear indicators of new and interesting relationships. Our study is therefore an important first step in revealing new knowledge on managers' use of a promotion and/or a prevention orientation in relation to important employee behaviors.

Second, the present study only considers a specific and small sample of employees in the social security sector. These employees carry out prevention tasks on a daily basis. Serious consequences are likely to ensue if they do not receive proper guidance from their managers. For instance in the administration of the cases dealt with, data from various government departments have to be linked via the national insurance number of the client in question. If employees were to fill in the wrong national insurance number, information about this client could be lost and the client could lose benefits; such errors can take a long time to correct. In a work context such as this where costs of making errors are very high, a manager whom displays awareness of prevention concerns is relevant for task performance. The results obtained are at thus certainly applicable to managers and employees in this sector, but we realize that further research might reveal whether our findings also apply

to other sectors. Prior work by Neubert et al. (2008) suggests this might be the case as they obtained corresponding results in a longitudinal study concerning the performance of employees in private sector organizations.

The relations we observed imply that managers may need to learn to adjust their self-regulation orientation to the kind of work output they want from their employees. While the results of this study suggest that it is theoretically possible to do both (the two orientations were reasonably correlated in the perceptions employees held of their managers), meta-analytical evidence demonstrates that such a positive relationship is generally uncommon (Lanaj, Chang & Graen, 2012). The promotion orientation and the prevention orientation thus usually represent two clearly different strategies for goal achievement that people use. So, we believe that combining both orientations may be difficult. Future research can address this issue and examine how managers can learn to transcend their role-congruent promotion orientation to adopt a prevention orientation in work situations where employees need to work meticulously and meet certain requirements. Experimental studies have demonstrated that switching between these two orientations is possible (Higgins, Shah & Friedman, 1997; Friedman & Förster, 2001), confirming the idea people's regulatory orientations are not carved in stone, and can be adapted to suit their circumstances. Moreover, research by Van Dijk and Kluger (2011) showed that managers are able to adjust their feedback to whether employees need to perform a promotion-oriented or prevention-oriented task. Yet given that both orientations are orthogonal constructs (Higgins, 1997; Lanaj, Chang & Graen, 2012), managers who would have to master very different behaviors when switching to a prevention orientation.

Another question raised by our results is whether the influence of managers on employee initiative taking and employee performance can be modulated by employees themselves. For example, we did not consider employees' own regulatory orientation in our study, but it would be interesting to investigate whether a promotion oriented manager also stimulates employees with a dominant prevention orientation to take more initiative on the work floor, or to test whether – in line with the ideas of Shah, Higgins and Friedman (1998) and Stam, van Knippenberg and Wisse (2010) – some kind of match is needed between the manager's regulatory orientation and that of the employee in order to achieve a clear-cut effect on either initiative taking or objective performance (see also Hamstra, van Yperen, Wisse & Sassenberg, 2011; Van Dijk & Kluger, 2004).

Conclusion and Practical Implications

The key conclusion of the present study is that managers' perceived role-congruent promotion orientation is positively related to initiatives that employees take at work. Additionally, managers' perceived prevention orientation relates positively to employees

overall task performance. An important practical implication of these findings is that managers may wish to consider whether their dominant management style is promotion oriented or prevention oriented. Moreover, it might be good for managers to make a conscious effort to use their non-dominant regulatory orientation occasionally, particularly when this orientation matches employee task requirements. They could try using promotion oriented management when their employees have to perform tasks where initiative taking is important, and prevention oriented management when employees need to work meticulously and take responsibilities. In this way, managers can match their leadership to the tasks that employees need to execute, and raise employees' overall task performance to a new level.

References

Anderson, N., De Dreu, C.K.W. & Nijstad, B.A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of Organizational Behavior, 25,* 147-173.

Baas, M., De Dreu, C.K.W. & Nijstad, B.A. (2011). When prevention promotes creativity: The role of mood, regulatory focus and regulatory closure**.** *Journal of Personality and Social Psychology, 100,* (5), 794-809.

Barrick M. R. & Mount MK. (1991). The big-five personality dimensions in job performance. *Personnel Psychology*, *44*, 1–26.

Berger, A., Kofman, O., Livneh, U. & Henik, A. (2007). Multidisciplinary perspectives on attention and the development of self-regulation. *Progress in Neurobiology, 82,* 256-286.

Beudeker, D.A., Ellemers, N., Rink, F.A. & Blonk, R.W.B. (2014). Self-regulation by managers and organizational performance: On the importance of transcending the managerial role at work. Manuscript submitted for publication.

Brockner, J. & Higgins, E.T. (2001). Regulatory focus theory: Implications for the study of emotions at work. *Organizational Behavior and Human Decision Processes, 86,* 35–66.

Brockner, J., Higgins, E.T. & Low, M.B. (2004). Regulatory focus theory and the entrepreneurial process. *Journal of Business Venturing, 19,* 203-220.

De Jong, J.P.J. & Den Hartog, D.N. (2005). Determinanten van innovatief gedrag: een onderzoek onder kenniswerkers in het MKB. *Gedrag & Organisatie, 18(5),* 235- 259.

Faddegon, K., Ellemers, N. & Scheepers, D. (2009). Eager to be the Best, or Vigilant not to be the Worst: The Emergence of Regulatory Focus in Disjunctive and Conjunctive Group Tasks. *Group Processes & Intergroup Relations, 12,* 653-671.

Finke, R.A. (1985). Theories relating mental imagery to perception. *Psychological Bulletin, 98,* 236–259.

Fiske, S.T. (1993). Controlling other people: the impact of power on stereotyping. *American Psychologist, 48 (6),* 621-628.

Förster J. & Higgins, E.T. (2005). How global versus local perception fits regulatory focus. *Psychological Science, 16*, 631-636.

Förster J, Higgins E.T. & Bianco A.T. (2003). Speed/accuracy decisions in task performance: Built in trade-off or separate strategic concerns. *Organizational Behavior and Human Decision Processes, 90,* 148–164.

Förster J. & Dannenberg, L. (2010). GLOMO-sys: A systems account of global versus local processing. *Psychological Inquiry 21,* 175-197.

Frese, M., Fay, D., Hilburger, T., Leng, K. & Tag, K. (1997). The concept of personal initiative: Operationalization, reliability and validity in two German samples. *Journal of Occupational and Organizational Psychology*, 70, 139-161.

Friedman, R.S. & Förster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality & Social Psychology, 81*(6), 1001–1013.

Friedman, R. & Förster, J. (2000). The effects of approach and avoidance motor actions on the elements of creative insight. *Journal of Personality and Social Psychology, 79*, 477–492.

Hamstra, M.R.W., Van Yperen, N.W, Wisse, B. & Sassenberg, K (2011). Transformational-transactional leadership styles and followers' regulatory focus: fit reduces followers' turnover intentions. *Journal of Personnel Psychology, 10(4),* 182-186.

Herman, A. and Reiter-Palmon, R. (2011). The effect of regulatory focus on idea generation and idea evaluation. Psychology of the Aesthetics, Creativity and the Arts, 5 (1), 13-20.

Higgins, E.T. (1997). Beyond pleasure and pain. American Psychologist, 52, 1280-1300.

Higgins, E.T., Shah, J. & Friedman, R. (1997). Emotional responses to goal attainment: Strength of regulatory focus as moderator. *Journal of Personality and Social Psychology, 72*, 515-525.

Janssen, O., Van de Vliert, E. & West, M (2004). The bright and dark sides of individual and group innovation: a special issue introduction. *Journal of Organizational Behavior, 25,* 129-145.

Kark, R. & Van Dijk, D. (2007). Motivation to lead, motivation to follow: the role of self-regulatory focus in leadership processes. *Academy of Management Review, 32(2),* 500-528.

Karoly, P. (1993). Mechanisms of self-regulation: a systems view. *Annual Review of Psychology, 44*, 23-52.

Keltner, D., Gruenfeld, D. H. & Anderson, C. (2003). Power, approach and inhibition. *Psychological Review, 110,* 265-284.

Lanaj, K., Chang, C., & Johnson, R.E. (2012). Regulatory focus and work-related outcomes: a review and meta-analysis. *Psychological Bulletin 138(5),* 998-1034.

Langens, T. (2007). Regulatory focus and illusions of control. *Personality and Social Psychology Bulletin, 33(2),* 226-237.

Levine, J. M., Higgins, E. T. & Choi, H-S (2000). Development of strategic norms in groups. *Organizational Behavior and Human Decision Processes, 82,* 88-101.

Lockwood, P., Jordan, C.H. & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology, 83*(4), 854–864.

Neubert, M.J., Carlson, D.S., Kacmar, M.K., Chonko, L.B. & Roberts, J.A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology, 93(6),* 1220-1233.

Northouse, Peter, G. Leadership: Theory and Practice, Third Edition, Sage Publications, New Delhi, 2004.

Sassenberg, K., Jonas, K.J., Shah, J.Y. & Brazy, P.C. (2007). Why some groups just feel better: The regulatory fit of group power. *Journal of Personality and Social Psychology, 92*, 249-267.

Salgado J.F. (1997). The five-factor model of personality and job performance in the European community. *Journal of Applied Psychology, 82*, 30–43.

Semin, G.R., Higgins, T., de Montes, L.G., Estourget, Y. & Valencia, J.F. (2005). Linguistic signatures of regulatory focus; how abstraction fits promotion more than prevention. *Journal of Personality and Social Psychology, 84 (1),* 36-45.

Shah, J., Higgins, E. T., & Friedman, R. S. (1998). Performance incentives and means: How regulatory focus influences goal attainment. *Journal of Personality and Social Psychology, 74*, 285 - 293.

Stam, D.A., Van Knippenberg, D. & Wisse, B. (2010). The role of regulatory fit in visionary leadership. *Journal of Organizational Behavior, 31,* 499-518.

Stewart GL. (1999). Trait bandwidth and stages of job performance: Assessing differential effects for conscientiousness and its subtraits. *Journal of Applied Psychology, 84*, 959–968.

Tierney, P., Farmer, S.M. & Graen, G.B. (1999). An examination of leadership and employee creativity: the relevance of traits and relationships. *Personnel Psychology 52,* 591–620.

Van Dijk, D. & Kluger, A.N. (2004). Feedback sign effect on motivation: Is it moderated by regulatory focus? *Applied Psychology: An International Review, 53*, 113–135.

Van Dijk, D. & Kluger, A.N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organizational Behavior, 32,* 1084-1105.

Wallace, J.C. & Chen, G. (2006). A multilevel integration of personality, climate, self-regulation, and performance. *Personnel Psychology, 59,* 529–557.

Wallace, J.C., Little, L., Hill, A.D. & Ridge, J.W (2010). CEO regulatory foci, environmental dynamism and small firm performance. *Journal of Small Business Management, 48 (4),* 580-604.

West, M.A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology, 51 (3), 355-387.*

West, M.A. & Farr, J.L. (1990). *Innovation and creativity at work: Psychological and organizational strategies*. Chichester: John Wiley & Sons, Ltd.

Wu, C., McMullen, J., Neubert, M. & Yi, X. (2008). The influence of leader regulatory focus on employee creativity. *Journal of Business Venturing, 23,* 587-602.

Appendix 1: full description of the items used in the research

Managers' promotion orientation

1. My manager urges me to realize my ideals and ambitions at work
2. My manager urges me to think about the person I would ideally like to be in the future
3. My managers urges me to achieve my ambitions in my work
4. My manager urges me to strive to reach my "ideal self" – to fulfill my hopes, wishes and aspirations.

Managers' prevention orientation

1. My manager teaches me to avoid negative occurrences at work
2. My manager shows me on a regular basis that he/she worries that I will fail to accomplish my work goals
3. My manager talks about examples of bad things that might happen to me at work
4. My manager reminds me of my responsibilities and obligations on a regular basis
5. My manager teaches me to be more oriented towards preventing losses than towards achieving gains in my work
6. My manager urges me to avoid failure at all cost
7. My manager urges me to strive to be the person I "ought" to be – to fulfill my duties, responsibilities and obligations

Employee initiative taking

1. I actively attack problems that occur at work
2. I am particularly good at realizing ideas at work
3. Whenever something goes wrong, I search for a solution immediately

4

Self-regulation by Managers and Organizational Performance: On the Importance of Transcending the Managerial Role at Work

Based on: Beudeker, D.A., Ellemers, N., Rink, F.A. & Blonk, R.W.B. (2014). Self-regulation by Managers and Organizational Performance: On the Importance of Transcending the Managerial Role at Work. Under review.

Abstract

Due to their high power role, managers tend to focus on gains and organizational ideals (i.e., to adopt a promotion orientation). This management behavior is often valued by their direct environment. However, adopting a role-defined self-regulation orientation has the downside of being unilateral and may not help managers to contribute optimally to organizations facing relatively complex tasks. The current research predicts that managers who are able to transcend their role-defined promotion orientation (i.e., by adopting a prevention orientation) can have added value for organizations.

A field study amongst 34 Dutch social service organizations was conducted. Self-reports concerning self-regulatory orientations of 50 managers were related to the organizational performance of the social services.

As hypothesized, the ability of these managers to use a prevention orientation was positively related to indicators of organizational performance. Manager's self-reported use of a promotion orientation was not related to these indicators.

Our study is the first to show a positive relation between managers' use of the prevention orientation and objective organizational performance. Our research suggests that organizations facing relatively complex tasks could benefit from managers who are able to transcend their role-defined promotion orientation.

The current economic crisis raises the question when and why managers take risks to achieve organizational goals. Extant power and social role theories explain that such behaviors can result from their powerful role in the organization, which tends to evoke a self-regulatory focus on gains and successes (i.e., a promotion focus orientation, Higgins, 1997). This self-regulation orientation is associated with risk taking, but has also been related to visionary leadership and creative problem solving. As managers are expected to help realize organizational ideals, they have long been appreciated for displaying these qualities.

Recently however, practitioners and researchers have challenged the true value of role-congruent management behaviors for organizational performance. Self-regulation research suggests that managers who focus primarily on promotion goals may be unable to estimate the full impact of their risky approach for the organization. Indeed, a promotion orientation facilitates the achievement of only part of many different managerial goals. Research on leadership and extra-role behavior indicates that managers not only need to be visionary, innovative and gain focused. It is also their duty to monitor subordinates, to implement new procedures and to ensure a consistent performance level that guarantees organizational longevity. These tasks require managers to self-regulate in a way that is motivated by safety and security goals (i.e., a prevention orientation, Higgins, 1997).

This study aims to elucidate how managers' self-regulation orientation is related to organizational performance. We combine insights on regulatory focus (Higgins, 1997) and extra-role behavior (Podsakoff, MacKenzie, Paine and Bachrach, 2000; Podsakoff, Whiting, Podsakoff and Blume, 2009), to predict that managers' ability to transcend their role-defined promotion orientation should be positively related to organizational performance. This prediction was tested among 50 managers of 34 Dutch social service organizations where managers' self-reported ability to adopt a promotion or a prevention self-regulation orientation was related to subjective and objective indicators of organizational performance. We also examined how innovativeness of the organizational climate - that managers perceived - related to organizational performance. We anticipated managers to associate an innovative climate with performance benefits, even if there is no actual link with objective organisational performance.

This work contributes to the literature in different ways. First, we address the possible downside of power-related self-regulation preferences (e.g., Keltner, Gruenfeld and Anderson, 2003). Second, we examine displays of self-regulation behavior that do not directly follow from one's formal organizational role, as a new form of extra-role behavior in organizations (Podsakoff et al., 2009). Finally, we test whether managers' behavioral preferences actually relate to organizational performance. While this may seem quite plausible, only a few studies to date have provided empirical support for this relationship.

Self-Regulation at Work

An individual's self-regulation orientation at work can be defined as the set of behaviors that is generally used to regulate goal-directed activities over time and across changing circumstances (Karoly, 1993). A highly influential theory on self-regulation is Regulatory Focus Theory (RFT) introduced by Higgins (1997). This theory maintains that people's self-regulation towards goal attainment is guided by two different motivational systems: a promotion orientation and a prevention orientation. People who self-regulate their goal accomplishments using a promotion orientation are mainly motivated by the hopes and gains associated with success. People who self-regulate by using a prevention orientation are generally motivated by the safety and security that can be attained with goal accomplishment.

Research has shown that those who adopt a promotion orientation process new information in an exploratory and global way (Förster and Higgins, 2005). They can effectively combine different insights into one idea or thought (Förster and Dannenberg, 2010) and are not afraid to take risks in order to attain their goals (Crowe and Higgins, 1997). Additionally, a promotion orientation helps them to perform well on tasks requiring creative insight and idea generation (Friedman and Förster, 2001) and to make decisions relatively quickly (Förster, Higgins and Taylor Bianco, 2003; Wallace and Chen, 2006). In contrast, individuals who adopt a prevention orientation try to circumvent risks (Crowe and Higgins, 1997). To do so, they use a detailed way of processing (new) information (Förster, 2005; Förster and Dannenberg, 2010) that allows them to make accurate (but slower) decisions (Förster, Higgins and Taylor Bianco, 2003; Wallace and Chen, 2006). They tend to perform well on tasks that require analytical reasoning and are aimed at preventing failure (Seibt and Förster, 2004).

Self-regulatory preferences were originally conceptualized as stable individual difference variables, but a growing body of research suggests that a dynamic approach is more appropriate (Higgins, 1997). Situational aspects such as a team goals (Faddegon, Scheepers and Ellemers, 2008), collective reward structures (Faddegon, Ellemers and Scheepers, 2009), task characteristics (Van Dijk and Kluger, 2011) or organizational roles (Keltner, Gruenfeld and Anderson, 2003) can summon a specific regulatory orientation in people. When peoples regulatory orientation is in line with their task, environment or organizational role, they report to be more motivated and engaged (Higgins, Shah and Friedman, 1998; Förster, Higgins and Idson, 1998; Higgins, 2000), they perform better (Friedman and Förster, 2001; Seibt and Förster, 2004), and tend to feel "in place" (Sassenberg, Jonas, Shah and Brazy, 2007). Hence, there appear to be strong incentives to self-regulate one's behavior in line with situational task or role demands.

Role-Congruent Self-Regulation by Managers

The primary role of a manager is to lead and direct work of subordinates. An important feature of this role is that managers hold formal power over their subordinates; they can provide and withhold resources, or administer punishments if needed (Keltner, Gruenfeld and Anderson, 2003). Accordingly, being a manager entails that one operates in a reward-rich environment that is within one's control (Fiske, 1993). Another important role characteristic is that managers often experience a great deal of autonomy; infrequently have to account for their actions and are less dependent on others to get access to resources (Keltner et al., 2003). The abundant presence of resources and opportunities, as well as the experience of freedom, make it likely that managers adopt a self-regulation promotion orientation: they focus on the possibility for gains and successes, heightening the inclination to take risks (Sassenberg, Jonas, Shah and Brazy, 2007; Keltner et al., 2003; Higgins, 1997).

The tendency of managers to adopt a role-congruent promotion orientation is generally reinforced by subordinates, who value and reward visionary leaders. For example, research has found that subordinates see managers who adopt a promotion orientation as role models that stimulate their own innovative work behavior (Amabile, Schatzel, Moneta and Kramer, 2004; Tierney, Farmer and Graen, 1999; Wu, McMullen, Neubert and Yi, 2008). Subordinates tend to believe that managers who value new initiatives and create such an innovative climate contribute positively to organizational performance (McLoughlin and Harris, 1997: Anderson, De Dreu and Nijstad, 2004).

To date, only a few studies have found empirical evidence for a direct relation between leadership that fosters an innovative climate and organisational performance. It seems that this relationship coincides with, and sometimes even depends on, other climate features, such as a high degree of psychological safety (e.g., Baer and Frese, 2003), organizational efficiency (e.g., Payne and Mansfield, 1973), and social cohesion among employees and managers (e.g., through positive emotions, see Ozcelik, Langton and Aldrich, 2008). Moreover, some of this research relied on subjective ratings only, as managers evaluated the extent to which their organization was innovative *and* performed well (e.g. Baer and Frese, 2003). Yet the tendency for managers to adopt a role-congruent promotion orientation, may have inflated their perceptions of this relationship

Recent studies on self-regulation also suggest that it is not self-evident that organizational performance relates to the tendency of managers to use their role-defined promotion orientation. Although there are merits in adopting a promotion orientation when working on creative tasks that require visionary thinking (Friedman and Förster, 2001), it is recognized that a promotion orientation can also cause people to think that they have more control over their work outcomes than they actually have (Langens, 2007). A promotion orientation makes people so sensitive to their desired end state that they become blinded to the fact that it may be (too) difficult to achieve.

Additionally, the performance enhancing effects of a promotion orientation have primarily been observed with relatively simple, uni-dimensional tasks in controlled environments. A recent study using a more complex creativity task where ideas had to be generated and implemented in different phases, revealed that a promotion orientation only helped individuals to *generate* innovative ideas; it did not help them to *evaluate* their ideas against implementation standards (Herman and Reiter-Palmon, 2011). In fact, individuals who adopted a promotion orientation actually performed sub-optimally during the second phase because they preferred risky ideas over feasible ones. These findings converge with the results of a recent field study revealing that the tendency of managers to adopt a role-congruent promotion orientation only relates to organizational performance in specific contexts (Wallace, Little, Hill and Ridge, 2010). Organizations operating in a dynamic, changing environment that required creative thinking benefited more from managers who used a promotion orientation than organizations operating in a more stable environment, as this required a more vigilant management approach.

In sum, it has long been assumed that there should be a direct, positive relationship between managers who use their role-defined promotion orientation and organizational performance. However, most real-life management tasks are complex and multifaceted in nature (Mumford, Lonergan, and Scott, 2002), suggesting that managers who are able to transcend their role-defined orientation may be of greater value for the organization.

Role-Transcending Self-Regulation by Managers

There are several reasons why the performance of the organization might benefit from managers who are able to transcend their role-defined promotion orientation. First, managers who adopt a prevention orientation despite their organizational role are motivated to avoid errors (Higgins, 1997, 2000) and tend to carefully assess the feasibility of new work ideas and strategies (Herman and Reiter-Palmon, 2011). This should help them even when implementing new strategies and ideas, as managers have to ensure that subordinates are able to execute their ideas, that financial budgets are in order and that performance fluctuations remain minimal.

Second, a recent field study suggests that managers who adopt a prevention orientation feel more responsible for an accurate execution of *existing* work strategies. Prevention oriented managers enhanced the in-role performance of subordinates by closely monitoring work progress (Beudeker, Rink, Ellemers and Blonk, *in press*). This resonates with research showing that leaders who 'initiate structure' benefit the in-role performance of subordinates (Neubert, Kacmar, Carlson, Chonko and Roberts, 2008). This leadership style shares important features with a prevention orientation, as it is characterized by the definition of rules and the creation of clear performance expectations (Fleishman, 1973). Ensuring

that subordinates correctly execute vital organizational tasks in this way tends to enhance organizational performance (Judge, Piccolo and Ilies, 2004). Thus, prior work suggests that managers' ability to adopt a prevention orientation relates to positive organizational outcomes.

This reasoning is in line with research on extra-role behavior. Extra-role behavior is generally defined as work behavior that goes beyond one's formal role description, is not recognized by formal reward systems and does not raise punitive consequences when neglected by job incumbents; Van Dyne and Le Pine, 1998). Classic examples are displays of altruistic helping or sportsmanship (Podsakoff, Ahearne, and MacKenzie, 1997). Although research in this domain has not yet considered this possibility, managers who adopt a prevention orientation go beyond the self-regulation orientation that directly follows from their formal power role, and therefore can be seen as displaying extra-role behavior.

Although empirical evidence is limited, it is generally assumed that the willingness and ability to 'go the extra mile' enhances work performance (Podsakoff, MacKenzie, Paine and Bachrach, 2000; Podsakoff, Whiting, Podsakoff and Blume, 2009). Rather than depending on the effectiveness of specific extra-role behaviors, the underlying principle is that any work role is dynamic and interactive by nature, requiring managers as well as subordinates to be adaptable to task changes and to the needs of others.

Based on relevant theory and prior research, we hypothesize that:

H1: There is a positive relation between managers' tendency to adopt a prevention orientation and organizational performance.

The Current Study

We examined our hypothesis within Dutch social service organizations where managerial tasks clearly require a promotion orientation as well as a prevention orientation. That is, due to the ambition to improve public services, the managers were asked to do what is typically expected from managers; to be visionary, to take initiative and to invest in process innovations. Yet at the same time, these organizations needed to follow strict legal rules concerning welfare-requests. This means that the managers also had to structure and unify the legal processes to ensure that subordinates made no mistakes on this dimension.

Method

Study Sample

In total, 50 managers (*M* age 50.3 years, *SD* = 6.99; 66% male, 34% female) from a representative sample of 34 Dutch social service organizations participated in our study. These managers were formally held accountable for the performance of their organization.

The number of participating managers per organization depended on organizational size, which ranged from nine to 1900 employees; in larger organizations more managers were held accountable for organizational outcomes. In cases where multiple managers from one organization participated in the study, we aggregated their subjective performance ratings to represent a single organizational outcome score. Almost all managers (96%) had a full time contract.

Procedure and Method

Managers were personally approached by telephone to participate in the study. Once they expressed their interest in our research, they received a digital questionnaire to obtain their ratings of the extent to which they used a promotion or prevention orientation in order to achieve their management goals. They also rated how well they thought their organization was performing, as a subjective estimate of organizational performance. To objectively assess organizational performance we obtained quantitative data revealing the achievement of the primary goal of each social service organization: reintegrating unemployed people.

In addition to the above measures, we also asked managers to rate the innovative climate within their organization, to be able to assess how the perceived organizational climate relates to the two performance indicators. This can reveal whether new initiatives are merely believed to benefit the organization, or truly relate to organizational performance.

All self-report measures used a five-point Likert scale ranging from one (strongly disagree) to five (strongly agree). Items were coded such that high scores indicate high levels of the construct of interest.

Self-Regulation Orientations. To assess managers' self-regulation orientations, we used the state self-regulation scale from Lockwood, Jordan and Kunda (2002). Managers' adoption of a promotion orientation was assessed with nine statements (e.g.; "At work, I typically focus on the success I hope to achieve in the future", $\alpha = .71$), as was their use of a prevention orientation (e.g.; "I frequently think about how I can prevent failures in the workplace", $\alpha = .74$).

Subjective performance estimates. Managers' subjective perceptions of organizational performance were measured with a four-item scale developed by Jaworski and Kohli (1993, e.g.; "Our organization is successful in attaining its goals", $\alpha = .72$).

Objective performance indicator. To obtain an objective indicator of organizational performance, we derived quantitative data from a governmental database that collects financial information from social services organizations (www.stimulanszmonitor.nl).

From these data, we could calculate the proportion of organizational clients that *ended* their welfare payments over the first quarter of 2010. The total number of organizational clients that had ended their welfare payment between January 1st and April 1st 2010 was divided by the total number of clients on welfare payment on December 31st 2009. This proportion was multiplied by 100 to create a percentage indicating "welfare payment development" per organization during this period.

Innovative Organizational Climate. We used the innovation scale from Jansen, van den Bosch and Volberda (2006), adapting the items to refer to the social service context, to assess whether managers believed their organization was characterized by an innovative climate. The final scale consisted of eight items (α = .72) comprising both explorative innovations (e.g.; "We invent new products and services") and exploitative innovations (e.g., "We frequently refine existing products and services").

Control Variables

To control for external variables that could potentially influence the organizational performance indicators, we assessed the age and gender of research participants. Additionally, we included three organizational level control variables. First, the size of the social service organization, as research has shown that the impact of managers on organizational performance tends to be larger in smaller organizations (Ling, Simsek, Lubatkin and Veiga, 2008).

Second, the number of organizational clients that *started to receive* welfare payments in the first quarter of 2010 was included as a control, as the assignment of new welfare payments tends to differ per region, and thus per social service organization, and we wanted to make sure that the performance effects observed do not depend on such regional differences.

Third, we controlled for the percentage of clients in each organization (on December 31st 2009) that already received welfare payment for more than five years. Research demonstrates that these clients are difficult to reintegrate (Carrol, 2006; Aaronson, Mazumder and Schlechter, 2010), which may negatively influence the performance of social service organizations.

Including these controls limited the number of social service organizations that could be included in the study to the ones that were able to supply the organizational level data we requested.

Results

Descriptive Statistics

Table 1 (located at the end of the manuscript) shows an overview of all means, standard deviations and correlations of the variables in our study.

The self-reported use of a promotion orientation and a prevention orientation, represented two independent constructs that were not significantly correlated, in line with theories on self-regulation (Higgins, 1997; Lanaj, Chang and Johnson, 2012). In accordance with their high power role, the managers in our sample indicated they were generally more inclined to use a promotion orientation at work (M = 3.33, SD = .41) than a prevention orientation (M = 2.41, SD = .46). The correlation between the subjective and objective indicators of organizational performance, was medium sized (Cohen, 1988) and marginally significant (p = .09), warranting their consideration as two separate measures. The correlation between managers' tendency to adopt a prevention orientation and self-rated organizational performance was not significant. The correlation with objective organizational performance was positive and significant. Managers' inclination to adopt a promotion orientation was not significantly correlated with either indicator of organizational performance.

Notably, the extent to which managers perceived their organization to be innovative was positively and significantly correlated to their own perceptions of organizational performance (Cohen, 1988) and unrelated to the degree to which they used both regulation orientations. Thus, these managers believe in the virtues of an innovative organizational climate, regardless of the self-regulation orientation they adopt. Nevertheless, as we anticipated, perceptions of an innovative organizational climate were unrelated to objective organizational performance.

The individual level control variables, participant gender and age, were not significantly correlated with the organizational performance indicators, even though participant gender related to perceived innovative work climate. As for the organizational-level control variables, we only found a significant relation between the percentage of clients who received welfare payment for more than 5 years and subjective organizational performance. The other two control variables, size of the social service organization and the percentage of new clients that started to receive welfare payments in the first quarter of 2010, were both significantly correlated with the objective performance indicator.

These observations converge with prior evidence (Carrol, 2006; Ling, Zeki, Lubatkin and Veiga, 2008; Aaronson, Mazumder and Schlechter, 2010), and warrant their inclusion as control variables in further analyses. All statistics are represented in Table 1.

Table 1. *Correlation matrix with number of data points (N), means, standard deviations and correlations of all variables*

Measure	***N***	***M***	***SD***	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1. Prevention orientation managers	45	2.41	.46	1	-.18	-.09	.36*	.16	-.04	.05	.02	-.37*	.32*
2. Promotion orientation managers	45	3.33	.41		1	.03	-.12	-.03	.13	-.13	.19	.30*	.00
3. Innovative organizational climate	45	3.57	.37			1	.24	.48**	-.04	-.03	.14	.33*	.14
4. Objective organizational performance	40	9.54	3.33				1	.27	-.32*	.45*	-.07	-.12	.28
5. Subjective organizational performance	45	3.23	.52					1	-.09	-.15	.36*	.02	.08
6. Size of organization	45	98.16	279.50						1	-.21	.31	.11	-.03
7. Percentage of clients new to welfare	40	14.14	6.04							1	-.29	-.06	.13
8. Percentage of clients >5 years on welfare	34	36.14	12.69								1	.06	.03
9. Gender	45											1	-.08
10. Age	45	50.28	6.52										1

*p <.05 **p <.01

Hypothesis Testing

To test our central prediction we ran two hierarchical regression analyses. In both analyses, we first included the control variables (step 1). We then entered managers' perceptions of working in an innovative organizational climate (step 2). Finally, we included our key predictors of organizational performance (the use of a promotion orientation in step 3 and the use of a prevention orientation in step 4). This approach allows us to test (in steps 3 and 4) whether managers' self-regulation orientations statistically predict organizational performance regardless of the relationship with other potentially relevant variables.

Subjective Performance Estimates

None of the control variables significantly predicted the subjective performance indicator except for the percentage of clients within each organization that already received welfare payment for more than five years (β = .32, p = .04). Importantly, this did not influence the relationship between managers' use of the two self-regulation orientations and subjective estimates of organizational. Together, the control variables explained 7% of model variance (ΔR^2 = .07). Step two of the analysis again reveals that managers tend to believe that their organization is performing well when they perceive an innovative organization climate (β = .46, p = .007); these perceptions explained an additional 24% of the variance in self-reported organizational performance resulting in a ΔR^2 of .31 (p = .003).

Managers' tendency to use a promotion orientation was unrelated to subjective performance estimates (β = -.04, p > .05) and did not contribute to the predictive power of the model. The degree to which the managers used the role-transcending prevention orientation was positively related to the subjective performance indicator, even though this relationship did not reach significance (β = .29, p >.05). Adding the managers' prevention orientation to the model explained an additional 3.3% of the variance in the subjective performance indicator (p < .05), resulting in a ΔR^2 of .34 for the total model.

Objective Performance Indicator

Two control variables were significantly related to objective organizational performance: the number of clients within each organization that started to receive welfare payments in the first quarter of 2010 (β = .37, p = .01) and the size of the social service (β = -.36, p = .01). Thus, social service organizations that assigned a lot of welfare payments to new clients also *ended* a lot of welfare payments to existing clients, indicating high turn-around rates. Additionally, the larger the participating organizations were, the worse they performed. Together, these control variables explained 23 % of variance in the model (ΔR^2 = .23). These variables did not significantly affect the strength of the relationships between the self-regulation orientations managers used and objective organizational performance.

Step two in this analysis demonstrated that managers' perceptions of an innovative organization climate was not significantly related to objective organizational performance (β = .10, p > .05.) and hardly improved the predictive value of the model (ΔR^2 rises to .24), indicating that variations in perceived innovative organizational climate explained just 1% of the variance in objective performance. Thus, there was no evidence that the organization actually performed better when managers perceived the climate to be innovative.

Finally, we find evidence corroborating our central prediction. The degree to which managers use a promotion orientation was unrelated to objective organizational performance indicator (β = -.07, p > .05) and did not contribute to the predictive power of the model. Yet, the degree to which managers used a (role-transcending) prevention orientation was significantly related to the objective organizational performance outcomes (β = .56, p =.001) and explained a significant additional 23% of the variance (p = .001), resulting in an adjusted R^2 of .47 for the total model.

Discussion

This study was designed to test the prediction that the ability of managers to transcend their role-defined self-regulation orientation (by using a prevention orientation) is positively related to indicators of organizational performance. The data we obtained supported this prediction. The extent to which managers adopt a (role-congruent) promotion orientation was unrelated to subjective or objective indicators of organizational performance. The tendency of managers to use a (role-transcending) prevention orientation showed a relation in the hypothesized direction with the subjective performance indicator, although this relation was not significant. Importantly, the degree to which managers indicated that they adopted a prevention orientation to achieve work goals, was substantially and significantly associated with the objective indicator of organizational performance: the proportion of clients that ended welfare payments.

The present study also set out to examine whether empirical support could be obtained for the general assumption that an innovative climate helps organizations to perform well. The managers in our sample also endorsed this belief. However, we could not demonstrate a direct relation between managers' perceptions of an innovative organizational climate and the objective indicator of organizational performance. This discrepancy between subjective beliefs about relevant predictors of organizational success and observations that can be made in objective performance indicators can account for some of the inconsistencies in the literature. Our findings suggests that managers tend to overestimate the importance of being creative and visionary, and may overlook the risks involved in solely focusing on this aspect of their broader responsibilities.

Theoretical Implications

Prior research on self-regulation has suggested that managers who adopt a prevention orientation may be valuable for organizations (Neubert, Kacmar, Carlson, Chonko and Roberts, 2008; Beudeker, Rink, Ellemers and Blonk, 2013). Previous observations revealed that these managers can enhance the performance of subordinates, without translating these effects to the organizational level. The current study extends existing insights by demonstrating a direct relationship between managers' tendency to adopt a prevention orientation and objective organizational performance. This has a number of theoretical and practical implications.

It has long been believed that organizational performance benefits from managers who use a promotion orientation, giving priority to the achievement of gains and successes as central work goals. This role-congruent self-regulation orientation may indeed be helpful for managers who need to develop long term organizational strategies or whose primary task is to develop innovative work processes. However, one key implication that can be derived from the present findings is that there is little added value in the *individual's* inclination to adopt a promotion orientation when *role-related* features already activate promotion goals. In fact, recent leadership research has revealed that managers who adopted a promotion orientation may even jeopardize organizational outcomes, as they felt less responsible for collective goals than managers who adopted a prevention orientation (Brebels, De Cremer, Van Dijke and Van Hiel, 2011; Sassenberg, Scheepers and Ellemers, 2012). Our study suggests that performance benefits can be gained when managers are able to use a prevention orientation to complement role requirements, as this helps them fulfill a broader range of goals associated with their complex task. At the same time, the current findings reveal that managers are unlikely to be aware of the added value of their ability to do this. Extending prior research in which people evaluated innovative ideas positively regardless of their feasibility (Herman and Reiter-Palmon, 2011), our data demonstrate that managers associate organizational success mainly with an innovative organizational climate, despite there being no objective evidence for this belief.

Limitations and Future Research

The present findings offer evidence for our predictions, to corroborate and extend prior observations. We consider the inclusion of objective statistics to indicate organizational performance as a strength of this research. Nevertheless, we acknowledge that we could only obtain the data needed to properly test our predictions from a relatively small sample of organizations. Furthermore, it is important to note that relations between subjective ratings and objective organizational performance were tested cross-sectionally.

Now that we have found initial support for our predictions it seems worthwhile to further examine the development of the relationship between managers' self-regulation orientations and a broader array of indicators relevant for organizational performance in a larger sample, with a longitudinal design.

Our central finding that managers' tendency to adopt a role-transcending prevention orientation relates to organizational performance also raises novel questions that deserve attention in future research. For example, the holy grail pursued in theory and research on effective management is how to define "the best" leadership style. However, it may well be that specific organizational goals or task characteristics determine what is best. We examined our predictions among a sample of social service organizations in the Netherlands. Even though managers in this type of organization perform tasks that are characterized by promotion as well as prevention goals, it can be argued that the majority of the tasks that managers and employees are involved in, gravitate towards prevention oriented tasks. In other organizations (e.g. in the profit sector) it might be the case that competitive concerns that call for a promotion orientation dominate the manager's role. Thus, the extent to which our results generalize to other contexts deserves to be investigated in future research. The way that a manager's self-regulation orientation is related to organizational performance may well be contingent on specific task demands.

Finally, the present data raise the question how easy it is for managers to transcend role-congruent self-regulation. Recent findings suggest it may be quite challenging to switch between a promotion orientation and a prevention orientation, even if this is the best way to perform well in organizational contexts where managers have complex roles incorporating different task types (see e.g., Van Dijk and Kluger, 2011; Beudeker, Ellemers, Rink, de Rooij, Dorenbosch and Blonk, 2012). This is consistent with the literature on extra-role behaviour, which also suggests that it is quite difficult for people to transcend their work role, as this requires flexibility, effort and a focus on collective goals (Karau and Williams, 1993). In this context we note that promotion and prevention orientations should not be seen as opposite ends of a single continuum. As we have seen in the present study too, these two forms of self-regulation tend to emerge independently of each other, and indicate different strategies for goal achievement. This in itself seems to make it more difficult to switch back and forth. To date, little is known about the conditions that facilitate this, or about the long-term effects of complex task demands that require people to switch between different self-regulation strategies on well-being and work motivation.

Conclusion and Practical Implications

The present results reveal that managers' ability to transcend their role-defined promotion orientation - by using a prevention orientation - is positively related to organizational

performance, even though these managers think that an innovative work climate is more important for organizational success. These findings may inform policy makers and practitioners who want to curb risky management behaviors. First, organizations can ensure that top management not only consists of individuals who are inclined to adopt a promotion orientation but also includes managers who can adopt a prevention orientation. Second, in their leadership courses or high-potential trainings, organizations can make managers who prefer to use a promotion orientation more aware of the limitations of this self-regulation strategy, and highlight the potentially negative consequences of their behavior. At the same time, they can reassure managers who adopt a role-transcending prevention orientation that their behavior may not seem to fit their role, but can actually represent an important personal advantage that adds value to the organization. Finally, organizations might adapt their promotion and incentive structures to convey that attention should (also) be paid to prevention oriented aspects of managerial tasks. All these measures can help to overcome the tradition to seek out and value promotion oriented behavior as the only way to manage an organization.

References

Aaronson, D., B. Mazumder and S. Schlechter (2010). 'What is behind the rise in long-term unemployment?', *Economic Perspectives,* 34 (2), pp. 28-51.

Amabile, T.M., E.A. Schatzel, G.B. Moneta and S.J. Kramer (2004). 'Leader behaviors and the work environment for creativity: Perceived leader support', *The Leadership Quarterly,* 15, pp. 5-32.

Anderson, N., C.K.W. De Dreu and B.A. Nijstad (2004). 'The routinization of innovation research: A constructively critical review of the state-of-the-science', *Journal of Organizational Behavior,* 25, pp. 147-173.

Baer, M. and M. Frese (2003). 'Innovation is not enough: climates for initiative and psychological safety, process innovations and firm performance', *Journal of Organizational behavior,* 24, pp. 45-68.

Beudeker, D.A., F.A. Rink, N. Ellemers and R.W.B. Blonk (2013). 'The relationship between leaders' self-regulation strategies and employee initiative taking and objective task performance', *Gedrag en Organisatie,* 26 (3), pp.277-292.

Beudeker, D.A., F.A. Rink, L. Dorenbosch N. Ellemers, M. de Rooij and R.W.B. Blonk (2012). 'Regulatory task heterogeneity influences employee regulatory focus, task clarity and need for recovery', paper presented at the WAOP Conference, 23 November, Groningen, The Netherlands.

Brebels, L., D. De Cremer, M. Van Dijke and A. Van Hiel (2011). 'Fairness as a social responsibility: A moral self-regulation account of procedural justice enactment'. *British Journal of Management,* 22, pp. 47-58.

Carroll, N. (2006). 'Explaining unemployment duration in Australia'. *The economic record,* 82 (258), pp. 298-314.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences.* Lawrence Erlbaum Associates, New Jersey.

Crowe, E. and E.T. Higgins (1997). 'Regulatory focus and strategic inclinations: Promotion and prevention in decision-making'. *Organizational Behavior and Human Decision Processes,* 69, pp.117–132.

Faddegon, K., D. Scheepers and N. Ellemers (2008). 'If we have the will, there will be a way: regulatory focus as group identity'. *European Journal of Social Psychology,* 38, pp. 880-895.

Faddegon, K., N. Ellemers and D. Scheepers (2009). 'Eager to be the best, or vigilant not to be the worst: the emergence of regulatory focus in disjunctive and conjunctive group tasks'. *Group processes and intergroup relations,* 12 (5), pp.653-671.

Fiske, S.T. (1993). 'Controlling other people: the impact of power on stereotyping'. *American Psychologist,* 48 (6), pp. 621-628.

Fleishman, E.A. (1973). 'Patterns of leadership behavior related to employee grievances and turnover'. *Personnel Psychology,* 15, pp. 43-56.

Förster, J., E.T. Higgins and L.C. Idson (1998). 'Approach and avoidance strength during goal attainment: Regulatory focus and the "goal looms larger" effect'. *Journal of Personality and Social Psychology,* 75, pp. 1115-1131.

Förster, J., E.T. Higgins and A.T. Bianco (2003). 'Speed/accuracy decisions in task performance: built-in trade-off or separate strategic concerns?'. *Organizational behavior and Human Decision Processes,* 90 (1), pp. 148–164.

Förster J. and E.T. Higgins (2005). 'How global versus local perception fits regulatory

focus'. *Psychological Science,* 16, pp. 631-636.

Förster J. and L. Dannenberg (2010). 'GLOMO-sys: A systems account of global versus local processing'. *Psychological Inquiry,* 21, pp.175-197.

Friedman, R. S. and J. Förster (2001). 'The effects of promotion and prevention cues on creativity'. *Journal of Personality and Social Psychology,* 81 (6), pp. 1001–1013.

Herman, A. and R. Reiter-Palmon (2011). 'The effect of regulatory focus on idea generation and idea evaluation'. *Psychology of the Aesthetics, Creativity and the Arts,* 5 (1), pp. 13-20.

Higgins, E. T. (1997). 'Beyond pleasure and pain'. *American Psychologist,* 52, pp. 1280-1300.

Higgins, E. T., J.Y. Shah and R. Friedman (1998). 'Emotional responses to goal attainment: Strength of regulatory focus as moderator'. *Journal of Personality and Social Psychology,* 72, pp. 515–525.

Higgins, E. T. (2000). 'Making a good decision: Value from fit'. *American Psychologist,* 55, pp. 1217-1230.

Jansen, J.J.P., F.A.J. Van den Bosch and H.W. Volberda (2006). 'Exploratory innovation, exploitative innovation and performance: Effects of organizational antecedents and environmental moderators'. *Management Science,* 52, pp. 1661-1674.

Jaworksi, B.J. and A.K. Kohli (1993). 'Market orientation – antecedents and consequences', *Journal of Marketing,* **57** (3), pp. 53-70.

Judge, T.A., R.F. Piccolo and R. Ilies (2004). 'The forgotten ones? The validity of consideration and initiating structure in leadership research'. *Journal of Applied psychology,* 89 (1), pp. 36-51.

Karau, S.J. and K.D. Williams (1993). 'A meta-analytical review and theoretical integration', *Journal of Personality and Social Psychology,* 65 (4), pp. 681-706.

Karoly, P. (1993). 'Mechanisms of self-regulation: a systems view'. *Annual Review of Psychology,* 44, pp. 23-52.

Keltner, D., D.H. Gruenfeld and C. Anderson (2003). 'Power, approach and inhibition', *Psychological Review,* 110, pp. 265-284.

Lanaj, K., C. Chang and R.E. Johnson (2012). 'Regulatory focus and work-related outcomes: a review and meta-analysis'. *Psychological Bulletin,* 138 (5), pp. 998-1034.

Langens, T. (2007). 'Regulatory focus and illusions of control'. *Personality and Social Psychology Bulletin,* 33 (2), pp. 226-237.

Ling, Y., Z. Simsek, M.H. Lubatkin and J.F. Veiga (2008). 'The impact of transformational CEO's on the performance of small- to medium-sized firms: does organizational context matter'. *Journal of Applied Psychology,* 93 (4), pp. 923-934.

Lockwood, P., C.H. Jordan and Z. Kunda (2002). 'Motivation by positive or negative role models: Regulatory focus determines who will best inspire us'. *Journal of Personality and Social Psychology,* 83 (4), pp. 854-864.

McLoughlin, I. and M. Harris (1997). *Innovation, organizational change and technology.* Thompson Business Press, London.

Mumford, M.D., D.C. Lonergan and G.M. Scott (2002). 'Evaluating creative ideas: Processes, standards, and context'. *Critical Inquiry,* 22, pp. 21-30.

Neubert, M.J., D.S. Carlson, M.K. Kacmar, L.B. Chonko and J.A. Roberts (2008). 'Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior'. *Journal of Applied Psychology,* 93 (6), pp. 1220-1233.

Ozcelik, H., N. Langton and H. Aldich (2008). 'Doing well and doing good: The relationship between leadership practices that facilitate a positive emotional climate and organizational performance'. *Journal of Managerial Psychology,* 23 (2), pp. 186-203.

Payne, R.L. and R. Mansfield (1973). 'Relationships of perceptions of organizational climate to organizational structure, context and hierarchical position'. *Administrative Science Quarterly,* 18 (4), pp. 515-526.

Podsakoff, P.M., M. Ahearne and S.B. MacKenzie (1997). 'Organizational citizenship behavior and the quantity and quality of work group performance'. *Journal of Applied Psychology,* 82 (2), pp. 262-270.

Podsakoff, N, P., S.W.Whiting, P.M. Podsakoff and B.D. Blume (2009). 'Individual and organizational level consequences of organizational citizenship behaviors: a meta-analysis'. *Journal of Applied Psychology,* 94 (1), pp. 122-141.

Podsakoff, P. M., S.B. MacKenzie, J.B. Paine and D.G. Bachrach (2000), 'Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research'. *Journal of Management,* 26, pp. 513–563.

Sassenberg, K., K.J. Jonas, J.Y. Shah and P.C. Brazy (2007). 'Why some groups just feel better: The regulatory fit of group power'. *Journal of Personality and Social Psychology,* 92, pp. 249-267.

Sassenberg, K., D. Scheepers and N. Ellemers (2012). 'The attraction of social power: The influence of construing power as opportunity versus responsibility'. *Journal of Experimental Social Psychology,* 48 (2), pp. 550-555.

Seibt, B. and J. Förster (2004). 'Stereotype threat and performance: How self-stereotypes influence processing by inducing regulatory foci'. *Journal of Personality and Social Psychology,* 87, pp. 38–56.

Tierney, P., S.M. Farmer and G.B. Graen (1999). 'An examination of leadership and employee creativity: the relevance of traits and relationships'. *Personnel Psychology,* 52, pp. 591–620.

Van Dijk, D. and A.N. Kluger (2011). 'Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective'. *Journal of Organizational Behavior,* 32, pp. 1084-1105.

Van Dyne, L. and J. Le Pine (1998). 'Helping and voice extra-role behaviors: evidence of construct and predictive validity'. *Academy of Management Journal,* 41(3), pp. 108-119.

Wallace, J. C. and G. Chen (2006). 'A multilevel integration of personality, climate, self-regulation, and performance'. *Personnel Psychology,* 59, pp. 529–557.

Wallace, J.C., L.M. Little, A.D. Hill and J.W. Ridge (2010). 'CEO regulatory foci, environmental dynamism and small firm performance'. *Journal of Small Business Management,* 48 (4), pp. 580-604.

Wu, C., J. McMullen, M. Neubert and X. Yi (2008). 'The influence of leader regulatory focus on employee creativity'. *Journal of Business Venturing,* 23, pp. 587-602.

Appendix A – full description of the scale items used in the research

Prevention focus

1. In general, I am focused on preventing negative events in the workplace
2. I am more oriented towards preventing losses than I am towards achieving gains in the workplace
3. My major goal in my work right now is to avoid becoming a failure.
4. I am anxious that I will fall short of my responsibilities and obligations at work
5. I often think about the person I am afraid I might become in the workplace in the future
6. I often worry that I will fail to accomplish my work goals
7. I often myself experiencing bad things that I fear might happen to me in the workplace
8. I frequently think about how I can prevent failures in the workplace
9. I see myself as someone who is primarily striving to become the self I "ought" to be—to fulfill my duties, responsibilities, and obligations

Promotion focus

1. I frequently imagine how I will achieve my hopes and aspirations in the workplace
2. I often think about the person I would ideally like to be in the future
3. At work, I typically focus on the success I hope to achieve in the future
4. I often think about how I will achieve success at work
5. My major goal in work right now is to achieve my ambitions
6. I see myself as someone who is primarily striving to reach my "ideal self" – to fulfill my hopes, wishes and aspirations at work
7. In general, I am focused on achieving positive outcomes in my work
8. I often imagine myself experiencing good things that I hope will happen to me at work
9. Overall, I am more oriented towards achieving success than preventing failure at work

Subjective organizational performance

1. In comparison to other Dutch social services, our organization is performing very well
2. Our organization is successful in attaining its goals
3. Our organization is performing beyond my expectations
4. In comparison to other Dutch social services, our organization is high in cost-effectiveness

Innovative organizational climate

(Subscale) Exploratory innovation

1. We invent new products and services
2. We experiment with new products and services
3. We look for opportunities to make use of new products and services to serve our clients
4. We regularly introduce new ways to activate our clients

(Subscale) Exploitative innovation

1. We regularly implement small adaptations to existing products and services
2. Our organization introduces improved, but existing services that have been used by other municipalities
3. We improve the efficiency of products and services
4. We frequently refine the existing products and services

5

Testing the effectiveness of interventions to enhance performance on regulatory oriented tasks

Based on: Beudeker, D.A., Ellemers, N., Rink, F.A. & Blonk, R.W.B. (2014). Testing the effectiveness of interventions to enhance performance on regulatory oriented tasks. Under review.

Abstract

In four experimental studies it was examined whether people's motivation and performance on tasks with regulatory characteristics that differ from their own could be enhanced. Participants were presented with two possible interventions to create fit; a fit where people's regulatory orientation was used as a reference point and the task was fitted accordingly (see the *task adjustment* hypothesis) or a fit intervention which takes the task requirements as a reference point and helped participants to adjust themselves to these requirements (see the *individual adjustment* hypothesis). Both interventions were tested with the use of performance incentives (Studies 4.1 and 4.2) and with the use of work strategies (Studies 4.3 and 4.4).

In two of the four studies, where participants had to perform a promotion task (Studies 4.2 and 4.4) ,none of the hypotheses could be confirmed. In the studies on the prevention task (Studies 4.1 and 4.3), however, we found evidence suggesting that the intervention that helped individuals adjust themselves to the task was effective regardless of whether performance incentives or work strategies were used. The intervention also enhanced the performance of all people exposed to it, even those who already naturally experienced fit between their personal regulatory orientation and the task's regulatory goal. Moreover, the interventions that helped individuals to adjust to the task requirements yielded task performance improvements while participants did not report enhanced task motivation, or indicated being aware that they had performed well.

Workers in organizations are confronted with many different tasks within their job. Inevitably, some of these tasks will be less in line with their work preferences. It is important however, that performance on such tasks does not fall behind, since this might negatively influence organizational functioning (Lepak & Schnell, 2002). The goal of the current research is therefore to test the effectiveness of specific interventions that might enhance performance when people perform tasks that do not fit with their self-regulatory preferences.

Prior research in the domain of regulatory focus has shown that people's motivational preferences and goal directed actions are guided by two regulatory orientations; a focus on gain and successes (i.e. a promotion orientation) and a focus on safety and security (i.e. a prevention orientation; Higgins, 1997). It has been found that people are more motivated to work on a task, and perform better on this task, when the task's goals are in line with their regulatory orientation (Higgins, Shah & Friedman, 1998; Friedman & Förster, 2001; Seibt & Förster, 2004), a concept known as regulatory fit (Higgins, 2000). In prior research, regulatory fit is either explicitly created (e.g. by introducing performance incentives that appeal to someone's regulatory orientation; Spiegel, Grant-Pillow & Higgins, 2004; Mann, Sherman & Updegraff, 2004; Latimer et al., 2008) or observed when it occurs (e.g. when task requirements coincide with people's preferred regulatory work strategies; Friedman & Förster, 2001; Seibt & Förster, 2004).Yet what nearly all prior research on regulatory fit has in common, is that the regulatory preference of the *individual* is taken as a *reference* point. Fit occurs when the *task* is *adjusted* to the individual's preferences to enhance motivation and performance.

The majority of research on regulatory fit has been conducted in experimental settings. When we want to apply this knowledge in organizational contexts to optimize work performance, additional concerns come into play. Most notably, many tasks in organizations have regulatory goals of their own that determine the way in which they need to be performed. This raises the question of whether taking the individual's regulatory orientation as a reference point (and fitting the task accordingly) is the best way to address performance in more complex contexts characterized by specific regulatory oriented tasks. Perhaps *individuals* then need to *adjust* their regulatory orientations and do what the *task* requires to enhance their performance. In the latter case, it is the task that serves as a reference point to create fit.

In the current research we aim to investigate what type of fit enhancement (fitting the task to the individual's regulatory preferences or helping individuals to adjust their way of working to the task's regulatory goal) best predicts motivation and performance. This question will be examined in two studies, each testing a different type of intervention to enhance fit. Study 4.1 and 4.2 use an intervention based on *performance incentives*, derived from the regulatory fit literature on tailored messaging. Study 4.3 and 4.4 test the

effectiveness of an intervention in which people are instructed to adopt a certain regulatory *work strategy*.

Theoretical Framework

Individual regulatory orientations as a reference point to enhance performance

Regulatory Focus Theory by Higgins (1997) proposes the existence of two motivational systems (i.e. orientations) that regulate people's purposive goal directed behavior; a prevention orientation and a promotion orientation. When the prevention orientation is activated the individual wants to fulfill safety and security needs (Higgins, 1997). Prevention oriented people tend to work in a structured and orderly manner and avoid taking risks (Crowe & Higgins, 1997; Seibt & Förster, 2004). When the promotion orientation is activated however, people seek to satisfy nurturance and achievement needs (Higgins, 1997). A promotion orientation translates into a way of working characterized by eagerness, risk taking and (as a consequence) less accuracy (Crowe & Higgins, 1997; Förster, Higgins, & Taylor-Bianco, 2003). People have been found to have a moderately stable regulatory preference for one of these orientations in their work (Brockner & Higgins, 1997). Yet organizational circumstances such as leadership (Neubert, Carlson, Kacmar, Chonko & Roberts, 2008; Wu, McMullen, Neubert & Yi, 2008), team goals (Faddegon, Scheepers & Ellemers, 2008) and collective reward structures (Faddegon, Ellemers & Scheepers, 2009) have been shown to influence people's regulatory orientations.

In order to enhance individual motivation and subsequent task performance it is important that people experience a sense of "fit" (Forster, Higgins & Idson, 1998: Higgins, Shah & Friedman, 1998). In nearly all prior research such fit is established by taking people's regulatory orientation as a reference point and fitting the task accordingly. In studies on tailored messaging for instance, performance incentives and work strategies are used to present a task in such a way, that it becomes more appealing to people with a certain regulatory orientation. Individuals with a prevention orientation are told what *can be avoided* by performing well. Individuals with a promotion orientation, on the contrary, are told what *can be gained* by a good performance. Such performance incentives have been demonstrated to impact on health-related behaviors, such as people's fruit and vegetable intake (Spiegel, Grant-Pillow & Higgins, 2004), dental flossing (Mann, Sherman & Updegraff, 2004) and physical activity (Latimer et al., 2008). Yet it is important to note that these are undifferentiated tasks where an optimal task performance could not be framed in terms of either promotion or prevention goals.

Regulatory Tasks

Some experimental studies have examined regulatory fit in situations where a task *is* differentiated, and clearly calls for a promotion or a prevention orientation. In cases as these, it has been found that fit can occur naturally when these task requirements coincide with people's preferred regulatory orientation. For example, individuals with a prevention orientation demonstrate improved performance when they can work on tasks that require analytical reasoning or error prevention (Seibt & Förster, 2004), presumably because these tasks fit their preferred vigilant work strategy. By contrast, people with a promotion orientation perform better when they need to execute tasks that call for creativity or different solutions to a problem (Friedman & Förster, 2001). These tasks correspond well with the eager, risk taking work strategy that promotion oriented people generally display. Moreover, research shows that people report greater motivation to attain their goals when they are allowed to adopt a differentiated work style that fits their regulatory orientation (Freitas & Higgins, 2002; Higgins, 2000).

Research suggests that within organizations, there are many differentiated tasks that call for specific regulatory goals. Employees recognize these task goals and can distinguish prevention tasks from promotion tasks (Van Dijk & Kluger, 2011; Beudeker et al., 2014; see also the distinction between "star" and "guardian" jobs, Jacobs, 1981). So in practice, employees seem to be aware which tasks have a prevention goal and affect the organization negatively when performed poorly - even though a good performance on this type of tasks often stays unnoticed. Examples are tasks such as detecting errors in company reports, or identifying suspicious objects on a radar screen. When performing a prevention task, an employee's goal is to find what is wrong and what should be avoided. Employees also recognize which tasks have a promotion goal, and can advance the organization when performed well. When working on these tasks, an employee's goal is to find what is right and what could be gained. Developing innovative products or promotional campaigns are examples of such tasks.

In organizational life, it is not always possible to assign individuals to tasks that match their regulatory orientation just to create a sense of fit. The broader job assignments that characterize contemporary work settings typically contain a range of different tasks. This means that any person with a prevention orientation will inevitably be confronted with tasks that are characterized by a promotion goal at some point in their work. Likewise, any person with a promotion orientation will at some point have to achieve task goals that are inherently prevention oriented. Higgins, Shah and Friedman (1998) suggest that in these situations, one can revert back to tailored messaging (about performance incentives or work strategies) to create regulatory fit. This approach assumes that a prevention oriented person who needs to perform a promotion task (e.g., who needs to perform an anagram

task that calls for creative reasoning), might be helped to experience regulatory fit when he/she learns what can be avoided by performing well. By contrast, a promotion oriented person who needs to perform a prevention task (e.g., who needs to do a final check on a company report), might experience enhanced fit by learning what can be gained by a good performance on this task.

Taken together, the research by Shah et al., (1998) suggests that when people have to perform a differentiated task that has a clear regulatory goal of its own, the individual's regulatory orientation can serve as a reference point that can be used to enhance motivation and performance.

Task requirements as a reference point to enhance performance

Apart from the study by Higgins, Shah and Friedman (1998), there is very little empirical evidence for the assumption that tailored messaging is also effective when a task's regulatory goal is clearly different from an individual's regulatory orientation. Some observations are in line with this notion, but the specific causal directions of the relationships between regulatory tasks, individual regulatory orientations and performance deserve further exploration. As such, we re-examined the few studies where performance on differentiated tasks was enhanced. A closer examination of prior studies on regulatory fit by Friedman & Förster (2001) and by Seibt & Förster (2004) reveals that in these studies the *person* was actually helped to adjust to task requirements. In these studies, individual regulatory orientations are first *induced* in participants by experimental procedures, after which the participants showed an increased fit with fixed task requirements, leading to better performance. Together with a growing number of studies that also show that individual regulatory orientations are malleable by situational circumstances (Faddegon, Scheepers & Ellemers, 2008; Faddegon, Ellemers & Scheepers, 2009; Neubert, Carlson, Kacmar, Chonko & Roberts, 2008; Van Dijk & Kluger, 2011; Wu, McMullen, Neubert & Yi, 2008), this suggests that task requirements can also serve as a reference point and that people might be inspired or induced to adjust accordingly by means of relatively small interventions.

Research by Van Dijk and Kluger (2011) by example, provides evidence suggesting that one can also take task requirements as a reference point to enhance performance. They actually found that differentiated tasks with clear regulatory goals tend to evoke a matching regulatory orientation in people. For this reason, they argued that regulatory task goals may be just as decisive in determining people's performance as personal regulatory orientations. Indeed, it is possible that adjusting a clearly differentiated task to people's personal regulatory orientation may only create an enjoyable work situation that will enhance motivation. This classic approach may not directly enhance performance because people essentially receive personal performance incentives that deviate from the task's regulatory goals. There is thus

a fair chance that people will not understand the true nature of the task and will approach the task in an inappropriate way.

Unfortunately, prior research suggests that it may not be self-evident to people when and how they have to adapt their regulatory strategy to a task at hand as people work more or less automatically (and perhaps even unconsciously) with their own orientation (Crowe & Higgins, 1997; Förster, Higgins, & Taylor-Bianco, 2003). We therefore consider it worthwhile to examine whether regulatory fit can also be established by *explicitly* communicating the task's regulatory goals so that people are actively helped to adjust their regulatory orientation accordingly. This alternative intervention will probably have a direct positive impact on people's performance (even if they do not report increased motivation to perform well, or may not even notice that this improves their performance). This might extend prior research aiming to achieve performance enhancement primarily through increased *motivation* due to a sense of fit.

Hypotheses

The current research examines the effectiveness of different ways to enhance people's motivation and performance on tasks that require a regulatory orientation that differs from their own. While it has been proposed that this can be achieved by creating regulatory fit between these two orientations, it remains to be examined which strategy to enhance fit will be most effective; fit based on task adjustment or fit based on individual adjustment. Based on prior theory and research and the arguments developed above, we posit two alternative hypotheses:

Task adjustment hypothesis: Individuals will perform better on a task that does not fit their regulatory orientation, when the *task* is presented in line with their regulatory orientations.

Individual adjustment hypothesis: Individuals will perform better on a task that does not fit their regulatory orientation, when *they* are helped to adjust their way of working to regulatory task goals.

These two hypotheses thus differ from each other in their adjustment focus. In presenting a particular task to individuals, it is possible to emphasize either promotion aspects or prevention aspects of the task, for instance through performance incentives of task instructions. The main issue we wish to examine is whether such measures are more effective in enhancing task performance when they match the individual's preferred regulatory focus (task adjustment hypothesis), or when they match distinctive task features (individual adjustment hypothesis). In addition, we note that the mechanism supposedly

underlying these performance effects might be different. In the task adjustment hypothesis, the underlying assumption is that performance is improved through enhanced motivation and willingness to engage in the task. However, the reasoning underlying the individual adjustment hypothesis is different. If this reasoning is valid, helping the individual adjust to task requirements may have a more direct impact on task performance improvement even if it does not impact on task motivation. In fact, according to this line of reasoning, task improvement might be achieved in a relatively 'technical' sense (because individuals are helped to understand which behavioral strategy is required), even if they may not enjoy or prefer to work in this way.

Overview of Studies

To test our hypotheses, we conducted a programmatic series of four experimental studies. In each study, we assessed participants' personal regulatory orientations, assigned them to specific regulatory task and presented them with either a promotion or prevention intervention to improve their performance. These interventions are manipulated through performance incentives in the first two studies (as has been done in prior research by Latimer et al. (2008) and Updegraff, Sherman, Luyster & Mann (2007)). In the second set of studies, the promotion and prevention interventions are conveyed through work strategy instructions (derived from work by Sassenberg, Jonas, Shah & Brazy(2007). Studies 4.1 and 4.3 test the effectiveness of these performance incentives in a prevention task, whereas Study 4.2 and 4.4 test their effectiveness in a promotion task. In all four studies, we observed how the specific intervention that participants received affected their objective task performance and measured their subjective task experiences (i.e., their self-reported performance and motivation).

We compared evidence for the two adjustment hypotheses by examining in each case which intervention enhanced performance: the one that presented the task more in line with individual regulatory preferences regardless of task requirements (task adjustment hypothesis), or the one that emphasized characteristic task features regardless of individual preferences (individual adjustment hypothesis). In the studies examining performance on a prevention task (Study 4.1 and 4.3), non-fit arises for individuals with a focus on promotion. If non-fit is addressed most effectively by presenting the task in line with individual preferences (task adjustment hypothesis), performance on this task should be enhanced by an instruction that accommodates the individual's preference for promotion by enhancing their motivation, despite task requirements. In the case of a promotion task (Study 4.2 and 4.4), non-fit arises for individuals with a focus on prevention, and the task adjustment hypothesis would predict that performance can be enhanced by a prevention instruction. By contrast, the individual adjustment hypothesis would predict that in the case

of non-fit performance enhancement can be achieved by emphasizing task requirements, regardless of the individual's preferred self-regulatory orientation. In this case, the most effective instruction should always be the one that emphasizes a prevention focus in the case of a prevention task (Study 4.1 and 4.3), and a promotion focus in the case of a promotion task (Study 4.2 and 4.4). A graphical representation of the task adjustment hypothesis is depicted in Figure 1. A graphical representation of the individual adjustment hypothesis is depicted in Figure 2. Both figures are reported at the end of this chapter.

We conducted two pretests to ensure that the tasks used in the main studies can indeed be characterized as inherently prevention or promotion oriented. We also ran these tests to check whether participant's baseline motivation and performance levels were indeed lower in the non-fit situations (i.e. when the individual's regulatory orientation differs from the task's regulatory goal) than in a fit situation (i.e. where these two are aligned). The results are largely in line with our expectations. Any issues that occurred where resolved before performing the main studies with these tasks. Full descriptions of the methods and interpretation of the results of the two pretests are provided in Appendix A, reported at the end of this chapter.

For all studies, we provide full reports of what we manipulated and what we measured. The data sets reported in this paper were analyzed only after the data collection for the studies was completed. We provide the lowest *p*-values for analyses that yielded non-significant results. A full description of these results is available upon request from the first author. A full description of all the questionnaire items used is reported in Appendix D, at the end of this chapter. All participants read and signed informed consent forms, were paid for their participation in money or course credit, and were fully debriefed after participating.

Studies 4.1 and 4.2 –Interventions based on Performance Incentives

Study 4.1 examines how two types of performance incentives affect people's performance and subjective task experience on a prevention task. Study 4.2 tests the effects of these incentives on a promotion task. Both studies were conducted at the same time.

Study 4.1: Prevention task

Method. Respondents were 86 students (24 men, 62 women; *M* age = 19.48 years, *SD* = 2.07) from Leiden University. We measured participants' personal regulatory orientations to distinguish between individuals with a preference for promotion vs. prevention and manipulated the type of performance incentive they received, to create four experimental conditions.

Figure 1. *A graphical representation of the (non-fit conditions) of the task adjustment hypothesis*

Task		***Prevention (Study 4.1, 4.3)***		***Promotion (Study 4.2, 4.3)***	
		Individual reg. orient		**Individual reg. orient.**	
		Prevention (fit)	**Promotion (non-fit)**	**Prevention (non-fit)**	**Promotion (fit)**
Exp. condition					
Promotion	Incentives (Study 4.1, 4.2)		+	-	
	Strategies (Study 4.3, 4.4)				
Prevention	Incentives (Study 4.1, 4.2)		-	+	
	Strategies (Study 4.3, 4,4)				

Figure 2. *A graphical representation of the (non-fit conditions) of the individual adjustment hypothesis*

Task		***Prevention (Study 4.1, 4.3)***		***Promotion (Study 4.2, 4.3)***	
		Individual reg. orient		**Individual reg. orient.**	
		Prevention (fit)	**Promotion (non-fit)**	**Prevention (non-fit)**	**Promotion (fit)**
Exp. condition					
Promotion	Incentives (Study 4.1, 4.2)		-	+	
	Strategies (Study 4.3, 4.4)				
Prevention	Incentives (Study 4.1, 4.2)		+	-	
	Strategies (Study 4.3, 4,4)				

Personal regulatory orientation. We assessed participants' regulatory orientations upon arrival in the lab by asking them to complete the Regulatory Focus Questionnaire (Higgins et al., 2001). Participants' prevention orientation was assessed with five statements (e.g. "How often did you obey rules and regulations that were established by your parents"), whereas their promotion orientation was assessed with six statements (e.g. "How often have you accomplished things that got you "psyched" to work even harder"). Each statement had to be answered on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). The scale constructs were sufficiently reliable *(*prevention orientation: alpha = .84; promotion orientation: alpha = .65).

Participants' dominant regulatory orientation was established by means of a difference score. For each participant, we subtracted the scores on the prevention oriented items from their scores on the promotion oriented items (see Zaal, Van Laar, Stahl, Ellemers & Derks, 2011). So a relatively low score on this measure indicates a dominant prevention orientation, while a higher score indicates that the individual is predominantly promotion oriented.

To avoid the possibility that these questions not only measure participants' regulatory orientation, but also prime them with a specific focus, they had to perform a filler assignment before receiving further information on the prevention task and their assigned fit intervention. During the filler assignment, participants had to describe how they commuted to the university that day (for a similar task see Dommer, Swaminathan & Ahluwalia, 2014).

Prevention task. Next, participants had to imagine that they were owners of a biological fast-food restaurant. As the owners, they needed to select overdue provisions from their restaurant's freezer from a list of 132 products. This task can be considered a prevention task because it requires vigilance, accuracy and adherence to rules to detect outdated products (Van Dijk & Kluger, 2011, see also Tanner & Swets, 1954). Furthermore, a good performance on this task does not really stand out, whilst a performance failure (missing a product that is outdated) could potentially have far-reaching negative consequences for the restaurant (Jacobs, 1981).

Performance incentives. Before participants received the product list, they were randomly assigned to one of the two performance incentive conditions. They either received a promotion incentive or a prevention incentive. Both performance incentives were derived from Latimer et al. (2008) and Updegraff, Sherman, Luyster and Mann (2007). Participants received a bogus article from the Dutch Fast-Food Industry Association (DFIA) that supposedly performs annual tests to check whether these restaurants meet

the standard health regulations of the fast-food industry. The *promotion incentive* stated that good restaurant hygiene would help to obtain a "hygiene OK" certificate, which would subsequently increase participants' chances to make bigger profits and to become more successful. The *prevention incentive* stated that good restaurant hygiene would help prevent the owner from missing out on the "hygiene OK" certificate, which would subsequently help participants to avoid profit loss or failure. Full descriptions of these performance incentives are provided in Appendix B. After participants read this article, they had to execute the prevention task. They received the list that contained important information about each product and were asked to mark each product that was past the expiration date.

Measures. *Objective performance* was measured by the number of correct outdated products (i.e. the number of products that were selected as outdated by the participant, that were indeed outdated) and by the number of incorrect outdated products (i.e. 'false alarms'; the number of products that were selected as outdated by the participant, but were still fresh; see Tanner & Swets, 1954).

After the task was finished, participants also had to fill in a questionnaire which contained several manipulation checks and the self-report measures of performance and motivation. *Self-reported performance* was assessed with three items adapted from the performance scale by Goodman & Svyantek (1999; e.g. "I meet all the requirements to perform well on this task"). *Motivation* was assessed with four items adapted from the organizational commitment questionnaire (Porter, Steers, Mowday & Boulian, 1974). The items were slightly altered to address the task (e.g. "I was motivated to perform at my best at this task", alpha =.80). All statements again had to be answered on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree).

Results

Manipulation checks. We checked whether both incentive messages were equally convincing to people so that quality differences could not account for the effects of our fit interventions. For this purpose we adapted a six item scale developed by Updegraff et al. (2007). One example item is: "I found the information in the article convincing" (alpha =.72). Results of a one-way ANOVA confirm that the two incentive messages were both relatively convincing to people (M_{average} = 4.55, SD = .85 F (1,85) = .45, p = .51).

We additionally checked whether participants correctly remembered which incentive they had received. All participants had to indicate their agreement on the following four self-developed statements; (1) "…..the article by the DFIA emphasizes possible disadvantages or costs that can occur when the "hygiene OK" certificate is not obtained"; (2) "…the article

..emphasizes possible benefits that could be gained when a "hygiene OK" certificate is obtained"; (3) "… the DFIA wants to prevent that you'll not be making enough profit" and (4) "…the DFIA wants you to make more profit". Results from a series of one-way ANOVAs on these statements showed that participants actually scored equally high on all statements across the two incentive conditions (*lowest F* (1,85) = .39, p = .54), which suggests that the messages did not effectively communicate the intended regulatory incentive. However, as further analyses on the main measures *do* suggest that participants understood their assigned incentive message correctly, we will report these results below. These results were obtained by conducting two-step regression analyses on the dependent measures. In Step 1, we entered participant's chronic regulatory orientation and the type of incentive they received as independent factors in the model. In Step 2, the interaction between these two factors was added as a predictor to the model.

Objective performance. People's personal regulatory orientation was not significantly associated with the number of correctly indicated outdated products (b = -.36, p = .28), but the type of incentive that people received was significantly associated with this performance indicator. Participants who received a prevention incentive (which clearly matched the task's prevention goal), identified more outdated products correctly than did participants who received a promotion incentive (b = .21, p = .05). The interaction between the participants' personal orientation and the type of incentive they received did not reach significance (b = .32, p = .35). This means that promotion oriented participants did not perform better on the prevention task when they received the classic incentive fit intervention that emphasized their personal orientation. In fact, the prevention incentive was equally effective for them as for prevention oriented participants, suggesting that participants were able to adjust their individual preferences and do what the task required. Hence, these results are in in line with the second individual adjustment hypothesis.

Note that the two independent factors did not significantly predict the second performance indicator (i.e. the number of products *in*correctly indicated as outdated); there were no separate main effects, nor did the two factors interactively influence this measure (lowest p-value in the regression analysis, b = -.08, p = .46).

Subjective measures. We also did not find any significant main effects for the participant's personal regulatory orientation and the type of incentive they received on their self-reported performance and motivation levels. Nor did the two factors interactive affect participants' subjective task experience measures (lowest p-value across the two regression analyses was b = .02, p = .96). These non-significant results are actually consistent with our reasoning underlying the individual adjustment hypothesis; in non-fit situations, task performance

can be enhanced when people are helped to adjust their way of working to the task's regulatory goals. However, this effect is not necessarily attained because people become more motivated to work on the task (as has traditionally been assumed in regulatory fit research), nor do people necessarily realize that their performance is improving.
In study 4.2, we examined whether the two performance incentives yielded similar effects on a promotion task.

Study 4.2: Promotion task

Method. Respondents were 103 students (20 men, 83 women, *M* age = 20.02 years, *SD* = 4.67) from Leiden University. We worked with the same two independent factors as in Study 4.1; participants' personal regulatory orientations and the type of intervention they received. The whole study procedure was also similar to Study 4.1, except that participants now had to perform a promotion task.

Personal regulatory orientation. Participants' personal regulatory orientations were assessed with the same measure as in Study 4.1 (Higgins et al., 2001). Both scale constructs were reliable (prevention orientation: alpha = .82 ; promotion orientation: alpha = .61). We again established their dominant orientation by means of difference scores, with lower scores indicating a preferred prevention orientation and higher scores indicating a preference for a promotion orientation.

Promotion task. After the filler task, participants again had to imagine that they were the owners of biological fast-food restaurant. This time, however, they had to come up with as many ways as possible to make their restaurant known to the public. This task represents a variation of the established "brick" creativity task (Guilford, 1950), which other researchers have also used to examine performance on promotion-type tasks (e.g. Friedman & Förster, 2001). The task requires eagerness, creativity and open mindedness (Van Dijk & Kluger, 2011). Making a mistake on this task does not have immediate consequences for the restaurant, whilst a good performance (developing an outstandingly engaging promotional campaign) could potentially enhance publicity and revenues to a great extent (Jacobs, 1981).

Performance incentives. Before participants had to start with the task, they were randomly assigned to one of the two performance incentive conditions. They either received a prevention incentive or a promotion incentive.

In this study, participants received a bogus article on research conducted by the London Business School, which compared 500 starting businesses that had either used or did not use an original promotional campaign. The *promotion incentive* stated that an

original promotional campaign would help their businesses to make large profits and be very successful. The *prevention incentive* stated that an original promotional campaign would help prevent their businesses from making insufficient profits and therefore being unsuccessful. Full descriptions of these performance incentives are provided in Appendix B. After participants read this article, they had to execute the promotion task and develop as many ideas as they could to promote their restaurant.

Measures. *Objective performance* was measured by counting the distinct number of ideas that participants generated, as well as assessing the quality of the ideas (i.e. the originality and feasibility of the ideas). We followed the coding procedure developed by Rietzschel, Nijstad and Stroebe (2010), and trained two raters who were blind to our conditions to rate all ideas on 'originality' and 'feasibility'(on a five-point scale ranging from 1 = not at all original / feasible, to 5 = very original / feasible). A two-way random model with consistency definition (ICC2) showed that the Intra Class Correlations between the raters can be considered excellent on both dimensions (.87 for originality and .91 for feasibility; see Cicchetti & Sparrow, 1981).

After the task was finished, participants filled in the same questionnaire as in Study 4.1, which contained our manipulation checks and measures to capture participants' subjective task experience (self-reported performance, alpha = .87; self-reported motivation, alpha = .85). All statements again had to be answered on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree).

Results

Manipulation checks. The results of a one-way ANOVA on the message quality check (alpha = .73), confirmed that in this study too, both incentive messages were equally convincing to participants ($M_{average}$ = 3.90, SD = 1.01, F (1,102) = .29, p = .60). A series of one-way ANOVAs on the statements that checked whether participants correctly remembered which incentive they had received, again did not yield any significant effect (*lowest* F (1,102) = .25, p = .62). This could mean that the messages did not communicate the intended regulatory incentive successfully, an issue that we will come back to later.

We followed the same procedure to analyze the dependent measures as in Study 4.1. That is, for each measure, we performed two-step regression models. In Step 1, we entered participant's chronic regulatory orientation and the type of incentive they received as independent factors in the model. In Step 2, the interaction between these two factors was added as a predictor to the model.

Objective performance. In this study, the two independent factors did not significantly predict the number of distinct ideas that participants generated to promote their fast-food restaurant. Participants' personal orientation and the type of incentive they received also had no joint influence on this measure (lowest *p*-value in the regression analysis, $b = .02$, $p = .82$). This means that the effectiveness of the performance incentives did not depend on people's dominant regulatory orientation. We also did not obtain any significant effects on the originality and feasibility of the ideas that participants developed (lowest *p*-value across regression analyses, $b = -.03$, $p = .90$). Hence, we did not find any support for one of the two hypotheses on the objective performance measure.

Subjective measures. We also did not find any significant main effects for the participant's personal regulatory orientation and the type of incentive they received on their self-reported performance and motivation levels. Nor did the two factors interactive affect participants' subjective task experience measures (lowest *p*-value across both regression analyses, $b = -.04$, $p = .90$).

Discussion Studies 4.1 and 4.2

The first two studies provide only partial evidence for the notion that incentives can create regulatory fit and can enhance performance in situations where a person's personal regulatory orientation does not match the task's regulatory goal. In Study 4.2, where participants had to perform a promotion task, their own orientation did not impact on their performance and the type of incentive they received did neither. The results in Study 4.1, however, do look more promising. In this study, participants had to perform a prevention task. These results seem to support the individual adjustment hypothesis as people performed better when they received a prevention incentive that helped them to adjust to the task's goals than when they received a promotion incentive that matched their personal orientation instead. The prevention incentive that matched the task's goal even increased performance regardless of people's personal orientation. This finding suggests that people are able to compensate for their own regulatory preferences when they need to perform a task with a different regulatory goal, provided that it is made explicitly clear to them what the task exactly demands from them.

We did not find any effects of the performance incentives on people's subjective task experiences in both studies. One should always be careful in interpreting null findings, but in Study 4.1 they may suggest that people's performance can be improved, independent from their motivation, or when they themselves do not directly realize this improvement. This possibility is in line with the individual adjustment hypothesis but goes against traditional

research on regulatory fit that takes people's personal regulatory orientations and needs as a reference point to enhance performance. We have no intention to deny the validity of the motivation-performance link, but at the same time, the present results suggest that a clear incentive that takes the task's regulatory goals as a reference point may help people to overcome their personal regulatory preferences in situations where these are not functional. That is, regardless of people's motivation or personal performance estimates, they may still be able to perform perfectly well when they receive the right task intervention.

Limitations. A possible post-hoc explanation for the fact that we did not find any reliable effects in Study 4.2 might be that the promotion task was not interpreted by participants as intended. The results on the manipulation checks suggest this possibility, and a closer look at the ideas generated by participants further confirms this notion. A paired samples t-test in which we directly compared the originality and the feasibility scores, reveals that the ideas generated were significantly more feasible (M = 3.83, SE = .03) than original (M = 1.70, SE = .05, t (102) = -38.98, p = .0001). Hence, the task may not have successfully instructed participants to engage in unrestricted, carefree idea generation – a characteristic feature of promotion oriented tasks. In retrospect, this might provide an explanation as to why promotion oriented participants did not perform better on the task, or why the promotion incentive did not enhance participants' performance on this task.

Another limitation of this first set of studies was that participants were unable to reproduce the performance incentives they had received, even though these clearly were effective in helping them adapt their task performance in Study 4.1. This may on the one hand reflect the general observation that participants can improve their performance without necessarily being able to report whether or how they do this. On the other hand, it could be that the manipulation checks we included to test participants' understanding of the performance incentive they received proved to be too subtle.

In the next two studies, we examined our hypotheses again with the introduction of two different work strategies. In this way, we could test whether inviting people to adapt a specific work strategy also represents an effective intervention to establish regulatory fit. The experimental design was largely similar to the design used in Studies 4.1 and 4.2 except from some minor changes. We kept the prevention task the same, but made it more difficult for participants to broaden their range of responses (the task was relatively easy in Study 4.1). In the promotion task, we emphasized to participants that the promotion task was about creativity. Participants were encouraged to generate *original* ideas and had to write down every idea that came to mind. And finally, we assessed participants' correct understanding of our experimental manipulations in a different way. They now had to explicitly indicate which of the two work strategies they had received.

Studies 4.3 and 4.4– Interventions based on Work Strategies

In the next two studies, participants either receive a work strategy that matches their personal regulatory orientation (to test the task adjustment hypothesis) or a work strategy that matches the task's regulatory goals (to test the individual adjustment hypothesis). Study 4.3 examines how the two strategies affect people's performance and subjective task experience on a prevention oriented task. Study 4.4 tests the effects of these strategies on a promotion task. Both studies were conducted at the same time.

Study 4.3: Prevention Task

Method. Respondents were 105 students (37 men, 68 women, *M* age = 21.2 years, *SD* = 3.03) from Leiden University. The two independent factors again were participants' personal regulatory orientations and the type of intervention they received. Except for the fact that we based the interventions on specific work strategies, the whole study procedure was similar to Study 4.1 and so were the measures we assessed.

Personal regulatory orientation. Upon arrival in the lab, we first assessed participants' personal regulatory orientations on a 7-point Likert scale (Higgins et al., 2001, 1 = strongly disagree to 7 = strongly agree). The two scale constructs were sufficiently reliable (prevention orientation: alpha = .85; promotion orientation: alpha = .65). Participants' dominant regulatory orientation was again established by means of difference scores.

Prevention task. After the filler assignment, participants received information about the prevention task. They again had to imagine that they were owners of a biological fast-food restaurant and were told to select overdue provisions from their restaurant's freezer from a list of 132 products.

Work Strategies. Before participants received the product list, they were randomly assigned to one of the two performance incentive conditions. They either received a promotion strategy which represented the task adjustment hypothesis to solve the non-fit situation (as it matched participants' personal orientation) or a prevention strategy which represented the individual adjustment hypothesis to solve the non-fit situation (because it clearly matched the task's goal).

Both work strategies were created on the basis of research by Sassenberg, Jonas, Shah & Brazy (2007). Participants either received eight tips to adopt a *promotion* strategy towards the task (e.g. "try out different things " and "aim for your ideals"), or eight tips to work with a *prevention* strategy (e.g. "minimize the risk of failure" and "think thoroughly"). Full descriptions of these strategies are provided in Appendix C.

When participants had read the tips, they could start working on the task. They again had to mark each product that was past the expiration date on the product list. This time, there were more outdated products that participants had to identify. At the same time, it was more difficult to recognize them because the product information for each product was presented in a different order.

Measures. *Objective performance* was again measured by the number of correct outdated products and the number of incorrect outdated products. After the task was finished, participants also had to fill in the same questionnaire as in Study 4.1, which assessed their *subjective performance* perceptions (alpha = .89) and task *motivation* (alpha = .87) on 7-point Likert scales (1 = strongly disagree to 7 = strongly agree). This time, however, we only included one dichotomous manipulation check in the questionnaire.

Results

Manipulation check. We developed a new check to see whether participants correctly understood which incentive they had received. We presented a description of both work strategies on the computer screen simultaneously and asked participants to indicate which of the two strategies they had to follow during the task. This check revealed that 93% of all participants indicated that they had worked with the strategy they had been instructed to use, suggesting that we had successfully communicated the intended regulatory strategy. Removing participants who indicated the incorrect strategy from the analyses did not alter the results reported below.

We again conducted a series of step-wise regression models to analyze the main dependent measures. Participant's chronic regulatory orientation and the type of strategy they received were entered as predictors in Step 1. In Step 2, we added the interaction between these two factors as a predictor to the model.

Objective performance. The results largely replicate the results obtained in Study 4.1. Participants' personal regulatory orientation was not significantly associated with the number of correctly indicated outdated products (b = .14, p = .63), but the type of work strategy that they received was a significant predictor of this performance indicator. Participants who were instructed to use a prevention strategy identified more outdated products correctly than did participants who received a promotion work strategy (b = .25, p = .01). This effect did not significantly differ depending on participants' personal regulatory orientation (b = -.10, p = .73), meaning that the prevention strategy was equally effective for promotion oriented participants as for prevention oriented participants. This finding

suggests that the first group of participants was able to adjust their individual preference and do what the task required, which supports the individual adjustment hypothesis.

In this study, we also found significant results on the second performance indicator. There was a marginally significant positive association between participants' personal orientation and the number of *in*correct outdated products (b = .17, p = .09). The more promotion oriented participants were, the more products they incorrectly indicated as outdated. This result confirms that a non-fit situation can be harmful for performance. The type of work strategy participants received was not significantly associated with this performance indicator (b = -.08, p = .40), but this factor did interact marginally with participants' personal orientation (b = -.17, p = .09; see Figure 3). The beneficial effects of the prevention strategy for performance (i.e. the strategy that fits the task requirements in this study) were demonstrated by a simple slopes analysis (Aiken & West, 1991). When using a prevention strategy (+1SD), promotion oriented participants did not make more mistakes than prevention oriented participants (b = .005, t [101] = .014, p = .99). However, when using the promotion strategy (i.e. the strategy that fits their personal preference; -1SD), promotion oriented participants made a lot more mistakes (b = 0,81, t [101] = 2,65, p = .009). In addition, simple main effects analyses demonstrated that mainly for participants with a promotion orientation (+1SD), the applied work strategy mattered for their performance. The promotion oriented made more mistakes while using a promotion strategy (that fits to their personal preference, M = 2.65 , SE = .65), than while using a prevention strategy (that fits to the task requirements, M = .93 , SE = .69) albeit, this effect is only marginally significant, F (1,101) = 3.30, p = .07. On the other hand, for participants with a prevention orientation (-1SD) using a promotion strategy (M = .33, SE = .63) or a prevention strategy (M = .92, SE =.71), did not influence their performance score F(1,101) = .38, p = .54.

Subjective measures. As in Study 4.1, we found no significant main effects for participant's personal regulatory orientation and the type of strategy they received on their self-reported performance and motivation levels. Nor did the two factors interactive affect participants' subjective task experience (lowest p-value across the two regression analyses was b = .01, p = .92). These results are also in line with the individual adjustment hypothesis; in non-fit situations, task performance can be enhanced when people are helped to adjust their way of working to the task's regulatory goals, even when this strategy is not especially motivating or clearly beneficial to people at first sight.

In Study 4.4, we examined whether the two work strategies yielded similar effects on a promotion task.

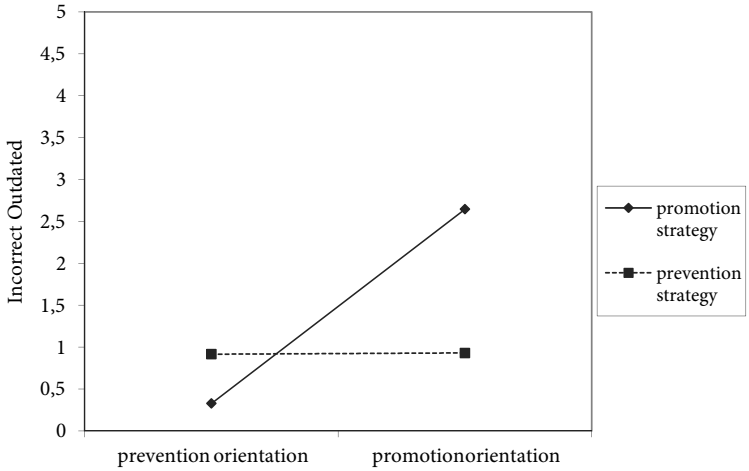


Figure 3. *Interaction plot of the results of Study 4.3*

Study 4.4: Promotion Task

Method. Respondents were 72 students (26 men, 46 women, *M* age = 22.2 years, *SD* = 4.09) from Leiden University. We examined the same two independent factors as in Study 4.3; participants' personal regulatory orientations and the type of work strategy they received. The whole study procedure was also similar to Study 4.3, except that participants now had to perform a promotion task.

Personal regulatory orientation. We again used the questionnaire from Higgins et al., (2001) to assess participants' personal regulatory orientations. Both scale constructs were reliable (prevention orientation: alpha = .87; promotion orientation: alpha = .72). Their dominant orientation was established by means of difference scores (see Studies 4.1, 4.2 and 4.3).

Promotion task. After the filler task, participants again had to imagine that they were the owners of biological fast-food restaurant. But this time, they performed the promotion task, which required participants to come up with as many ways as possible to make their restaurant known to the public. As said, after using it in Study 4.2 this task was adapted so that it now clearly required participants to develop creative ideas. In this way, the task's goal more closely characterized a promotion orientation.

Work Strategies. The strategies that we instructed participants to work with were identical to the strategies used in Study 4.3. This time, however, the prevention strategy represented

the task adjustment hypothesis to solve the non-fit situation (as it matched participants' personal orientation), whereas the promotion strategy now represented the individual adjustment hypothesis to solve the non-fit situation (because it clearly matched the task's goal).

Measures. As in Study 4.2, we measured *objective performance* by counting the distinct number of ideas that participants generated, and by assessing the quality of these ideas (i.e. their originality and feasibility). Two trained two raters who were blind to our conditions rated all ideas on 'originality' and 'feasibility' (on a five-point scale ranging from 1 = not at all original / feasible to 5 = very original / feasible). A two-way random model with consistency definition (ICC2) showed that the Intra Class Correlations between the raters can be considered excellent on both dimensions (.90 for originality and .79 for feasibility; see Cicchetti & Sparrow, 1981). Participants further received the questionnaire used in previous studies, which contained our new manipulation check and captured participants' subjective task experience (self-reported performance, alpha = .84; self-reported motivation, alpha = .87).

Results

Manipulation check. In this study too, 95% of all participants now indicated their assigned work strategy correctly; removing participants who indicated the incorrect strategy from the analyses did not alter the results reported below. These results were again obtained with the regression analyses that followed the same two-step procedures we used previously.

Objective performance. The results of this study closely resemble the results of Study 4.2; participants' personal orientation and the type of strategy they received did not significantly predict the number of distinct ideas that participants generated on the promotion task, nor did they jointly influence this performance indicator (lowest p-value in the regression analysis, (b = -.18, p =.15). We also did not obtain any significant main or interaction effects of the two factors on the originality score of participants' ideas (lowest p-value across regression analyses, b = -.08, p =.52). A marginally significant main effect of the type of strategy on the feasibility of the ideas was found (b = .22, p =.07). When participants used a prevention strategy they generated more feasible ideas compared to participants who were instructed to use a promotion strategy. We did not obtain a significant main effect of the regulatory orientation, nor did we find significant interaction effects (lowest p-value in the regression analysis, b = .15, p =.71) of participants' personal orientation and the type of strategy they received, on the feasibility of the ideas that were generated. So, despite the fact that we made adaptations to improve the promotion task, we did not find support for either one of the two hypotheses on the objective performance measures.

Subjective measures. There were again no significant main effects for participant's personal regulatory orientation and the type of incentive they received on their self-reported performance, nor did the two factors interactively affect participants' subjective task performance (lowest *p*-value, (b = .08, p = .50). This time, however, we did obtain a significant association between participant's personal orientation and their *motivation* to perform the task (b = -.85, p = .03). Prevention oriented participants actually performed *better* on the promotion task than the promotion oriented participants. However, this main effect could be explained by a significant interaction effect between participants' personal orientations and the type of strategy they received (b = .78, p = .04). This result demonstrates that prevention oriented participants were only motivated to perform well on the promotion task when they were instructed to use the promotion strategy that matched the task's goals. Their motivation dropped significantly when they had to work with the prevention strategy that matched their personal orientation. Notably, there was no direct motivation effect of the type of strategy participants received (b = -.13, p = .27).

General Discussion

The four studies we presented examined the best way to enhance people's motivation and performance on tasks that require a regulatory orientation that differs from their own. We presented participants with two possible interventions to create fit; a fit intervention that has been used in prior research where people's regulatory orientation was used as a reference point and the task was fitted accordingly (see the *task adjustment* hypothesis) or a fit intervention which takes the task requirements as a reference point and helped participants to adjust themselves to these requirements (see the *individual adjustment* hypothesis). Both interventions were tested with the use of performance incentives (Studies 4.1 and 4.2) and with the use of work strategies (Studies 4.3 and 4.4).

In two of the four studies, where participants had to perform a promotion task, none of the two hypotheses could be confirmed. In the studies on the prevention task, however, we found evidence suggesting that the interventions which help individuals to adjust themselves to task requirements to create fit may be more effective than the interventions aimed at adjusting the task to the individual. In these studies, interventions that helped individuals adjust themselves to the task was effective regardless of whether performance incentives or work strategies were used. The intervention also enhanced the performance of all people exposed to it, even those who already naturally experienced fit between their personal regulatory orientation and the task's regulatory goal. However, the results do indicate that the new intervention was particularly beneficial for individuals whose regulatory preferences were not well suited to the nature of the task. Moreover, as

we proposed, the interventions that helped individuals to adjust to the task requirements yielded task performance improvements while participants did not report enhanced task motivation, or indicated being aware that they had performed well.

Theoretical Implications

The results that were obtained in our research program are by no means conclusive, yet offer suggestive evidence for the effectiveness of a new intervention to establish regulatory fit in complex work situations. In these situations, people will sooner or later be confronted with a task that clearly has a regulatory goal that differs from their personal regulatory orientation. Rather than adjusting the task to their personal orientation, this intervention helped people to adjust to the task instead. The results provide interesting new viewpoints that deserve further investigation.

First, the success of this intervention (at least on prevention tasks) suggests that there is more to regulatory fit than the research has addressed so far. For non-differentiated tasks that are not clearly characterized by a specific regulatory task goal, it may be beneficial to present the task in such a way that it appeals to people's personal needs. However, in the case of differentiated tasks that do have a specific regulatory prevention goal, this kind of intervention may be less suitable. This intervention to create fit may in fact even work counterproductively as being stimulated to pursue a task in an inherently inappropriate way is unlikely to result in performance improvement. However, helping people to find out *how* to exactly pursue such a prevention task (either through matching performance incentives or matching work strategies) is more likely to have a direct positive impact on their task performance.

Second, these results contribute to existing knowledge on regulatory fit by showing that the interventions that helped people to adjust to the task requirements improved people's performance on prevention tasks that do not match their personal orientation, regardless of whether they were motivated to do so. Indeed, these interventions do not appeal to people's personal regulatory needs, and as such, do not operate through the classic 'regulatory fit mechanism' (i.e., where the experience of fit causes people to assign a greater value to the task, which motivates them to perform well on the task; Higgins, Shah & Friedman, 1998; Spiegel, Grant-Pillow & Higgins, 2004; Mann, Sherman & Updegraff, 2004; Latimer et al., 2008). Instead, the interventions work because they provide people with a concrete guideline on *how* to attend to the prevention task. This guideline enhances performance on the prevention task, but it may not always be enjoyable for people to adjust their work style accordingly. As such, the intervention that helped people to adjust to the task requirements can improve performance on the prevention task independently of people's motivation.

Third, our research participants appeared to be unaware of their enhanced performance on a non-fit prevention task. To our knowledge, this discrepancy between objective task performance and self-reported performance estimates has not been documented in prior research on regulatory fit. This outcome can be a reflection of a previously established phenomenon, namely that people in general are poor estimators of the quality of their own work performance (Pransky, Finkelstein, Berndt, Kyle, Mackell & Tortorice, 2006). However, the effects we obtained might also occur because the interventions that helped people adjust to the task requirements 'do not feel right' to people (contrary to the intervention used in prior research which takes the individual orientation as a reference point; Higgins, 2000). People might tap into this impression of 'not feeling right' when evaluating their own performance; how can something that feels wrong possibly lead to a good outcome? If this is indeed the case, people's judgments of their ability to perform on a task that does not match their personal orientation may be less reliable.

Limitations

In the current research we only find support for the interventions that helped people adjust to the task requirements on the prevention task. When people had to perform the promotion task, the interventions to establish fit (either by adjusting the task to the individual of by helping the individual to adjust to the task) did not work. All participants recognized that this task was promotion oriented (see the pretests in Appendix A), but interestingly enough, the task was performed equally well by promotion oriented and prevention oriented participants. It could be that promotion oriented people performed less than optimal on this task. Even though the promotion task was modeled after standard procedures to induce promotion oriented work behaviors, it differs from the original 'brick' creativity task in one important way. The original task is totally free of context, leaving all possibilities for imagination open. Our promotion task called for creative solutions in the context of a campaign for a very specific type of restaurant (i.e., a biological fast-food restaurant). This context might have limited people's ability to engage in exploratory thinking and may thus not have provided an optimal fit for people with a promotion orientation.

However, it is also possible that promotion and prevention oriented people performed equally well on the promotion task because the prevention oriented people were performing better than anticipated. Prevention oriented people might double their efforts on a promotion task because they identify the task as a necessity and feel responsible to do well ('it has to happen, it is part of the experiment'; Förster, Higgins & Idson, 1998). The motivational scores in Study 4.4 are in line with this possibility.

We find a main effect of both interventions on performance of participants on the prevention task. We take this as evidence that people are able to perform better on (non-

fit) prevention tasks when they adjust themselves and their regulatory preferences to the task requirements. The question remains whether our interventions actually increased the 'fit' between people's regulatory orientations and the task requirements, or whether the enhanced performance is a direct result of the instructions we provided. To start with the latter possibility, we deem it to be unlikely that our interventions directly enhanced participants' performance on the prevention task. First, because performance improvement was only visible among participants with a preference for promotion; no further performance enhancement was visible for those who already reported being focused on prevention. Second, the interventions we used highlight *how* the task should be conducted, in terms of which strategy would be most effective; it did not specify how to find the correct answers, or what these were. In fact, the correct answers (outdated products) were well hidden amongst many distractors (fresh products) and still needed to be correctly detected. The fact that the ability to do so was enhanced among individuals with a promotion orientation suggests that they adopted a performance strategy that was effective for this task, even if it did not fit their personal preferences. Whether actual 'fit' between the people's regulatory orientation and the task is created in this way, cannot be answered conclusively with the present data. Prior research by Van Dijk and Kluger (2011) suggests that one's regulatory orientation can be temporarily altered by the regulatory nature of a task. However, we did not assess people's regulatory orientation *during* the prevention task; the performance outcome is the only indicator we have of the task strategy that they use. The task performance results suggest that promotion oriented people temporarily switched their orientation, whilst working on the prevention task, which we take as indicating enhanced regulatory fit. Indeed, promotion oriented people actively embraced the prevention oriented work instructions and applied them for quite some time during the experiment, helping them to optimize their performance on the prevention task. They applied the work strategies for a relatively extended period of time during the experiment, and we see no evidence that initial effects of task instructions wear off during the task – which should have resulted in an increase of mistakes over time during the experiment. Thus, these data suggest that people were able to apply the work strategy that enabled them to perform well. In prior work, indicators of motivation (self-reports or task persistence) have been used as proxies of perceived regulatory fit (Higgins, 2000). The results of our studies do not reveal such evidence that the interventions we applied affected peoples *self-reported* motivation during the prevention task. This leaves open the possibility that people's enhanced performance on the prevention task relates to another mechanism than regulatory fit. Nevertheless, even though motivation has been used to infer the presence of fit in past research, we note this is not necessarily the *only* indicator of fit. In fact, the adaptation of one's task strategy to secure a successful performance when the task requirements do not match individual regulatory

focus preferences – which was observed here - might simply constitute *another way* to assess fit, independently of (self-reported) motivation. Future research might provide more conclusive evidence in this matter.

The presented research program was conducted in a laboratory setting among student participants. This was a deliberate choice given that this context provided us with an opportunity to construct clear cut regulatory specific tasks with rather simple, straight forward performance measures. However, now that there is initial evidence that regulatory fit can be established by helping people to adjust to the task they need to perform (rather than vice versa), it becomes worthwhile to examine whether similar effects can be obtained in actual work situations. It could be that interventions that help people adjust to the task requirements may encounter challenges in real organizations where people may have experienced that they tend to be rewarded and promoted for displaying promotion strategies rather than prevention strategies. Moreover, in real work contexts, it may be more difficult for people to adjust their personal work goals and strategies because they have relied on them for quite some years, and have used them in many different tasks already.

Finally, in our lab setting, participants had to work on just one differentiated task that clearly did not match with their personal orientation. However, prior field research shows that employees are confronted with such tasks on a regular basis (Beudeker et al., 2014). They thus continuously need to adjust their way of working to match the goals of the tasks at hand in order to perform well. The work of Beudeker et al. (2014) suggests that this continuous adjustment can be tiring for people. It is therefore important that future research examines the long-term effects of interventions that help people to adjust to the task requirements to create regulatory fit. While this intervention could indeed lead to work related fatigue in the long run, it could also create a learning effect. The latter possibility could serve as a buffer against the continuous adjustments that people need to make.

Practical implications

The current research shows that task performance on prevention tasks can be enhanced by two concrete interventions that can be applied in organizations. First, fellow employees or managers can provide a performance incentive that states *what can be avoided* by performing well on the task. Second, prevention oriented work instructions (see Appendix C) can be provided to remind people *how* they should go about the prevention task. The results of this study show that these interventions might be especially beneficial to enhance the performance of promotion oriented people, who are at a disadvantage for a good performance on a prevention task.

Moreover, given that promotion oriented people appeared to be unaware of their enhanced performance on the prevention task, it is important that management provides

regular feedback on their objective task outcomes. This will prevent them from avoiding or rejecting these tasks in the future.

Conclusion

The current research complements prior work on regulatory fit by showing that 'fit' can be obtained by helping people to adapt themselves to a regulatory oriented task (instead of molding a task to fit a person), leading to enhanced performance on the prevention task, even in the case where this task did not match their personal orientation. The results show that this intervention can be based on performance incentives or on work strategies, as long as the instructions clearly match the task' regulatory goals.

References

Beudeker, D.A., Ellemers, N., Rink, F.A., Dorenbosch, L., de Rooij, M., & Blonk, R.W.B. (2014). Perceptions of Regulatory Task Heterogeneity and their relationship with employees' self-reported innovative work behavior, task clarity and need for recovery.

Brockner J., & Higgins E.T. (1997). Regulatory focus theory: Implications for the study of emotions at work. *Organizational Behavior and Human Decision Processes, 86,* 35–66.

Cicchetti, D. V., & Sparrow, S. A. (1981). Developing criteria for establishing interrater reliability of specific items: Applications to assessment of adaptive behavior. *American Journal of Mental Deficiency, 86*, 127–137.

Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes, 69,* 117–132.

Dommer, S., Swaminathan, V., & Ahluwalia, R.(2014). Using differentiated brands to deflect exclusion and protect inclusion: the moderating role of self-esteem on attachment to different brands. *Journal of Consumer Research.* DOI: 10.1086/671763.

Faddegon, K., D. Scheepers &N. Ellemers (2008). 'If we have the will, there will be a way: regulatory focus as group identity'. *European Journal of Social Psychology, 38,* 880-895.

Faddegon, K., Ellemers, N., & Scheepers, D. (2009). Eager to be the Best, or Vigilant Not to Be the Worst: The Emergence of Regulatory Focus in Disjunctive and Conjunctive Group Tasks. *Group Processes and Intergroup Relations, 12,* 653-671.

Förster, J., Higgins, E. T., & Idson, L. C. (1998). Approach and avoidance strength during goal attainment: Regulatory focus and the "goal looms larger" effect. *Journal of Personality and Social Psychology, 75,* 1115-1131.

Förster, J., Higgins, E.T., & Bianco A.T. (2003). Speed/accuracy decisions in task performance: Built in trade-off or separate strategic concerns. *Organizational Behavior and Human Decision Processes, 90*, 148–164.

Freitas, A. L., & Higgins, E. T. (2002). Enjoying goal-directed action: The role of regulatory fit. *Psychological Science, 13,* 1-6.

Friedman, R. S., & Förster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality & Social Psychology, 81,* 1001–1013.

Guilford, J. P. (1950). Creativity. *American Psychologist, 5,* 444–454.

Goodman, S. A., Svyantek, D. J. (1999). Person-Organization fit and contextual performance: Do shared values matter? *Academic Journal of Vocational Behavior, 55,* 254-275.

Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist, 52*, 1280-1300.

Higgins, E. T., Shah, J. Y., & Friedman, R. (1998). Emotional responses to goal attainment: Strength of regulatory focus as moderator. *Journal of Personality and Social Psychology, 72*, 515–525.

Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist, 55,* 1217-1230.

Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: Promotion pride versus prevention pride. *European Journal of Social Psychology, 31,* 3-23.

Jacobs, D. (1981). Toward a theory of mobility and behavior in organizations: An inquiry into the consequences of some relationships between individual performance and organizational success. *The American Journal of Sociology, 87,* 684-707.

Latimer, A. E., Rivers, S. E., Rench, T. A., Katulak, N. A, Hicks, A., Hodorowski, J. K., et al. (2008). A field experiment testing the utility of regulatory fit messages for promoting physical activity. *Journal of Experimental Social Psychology, 44,* 826-832.

Lepak, D. P., & Schnell, S. A. (2002). Examing the human resource architecture: The relationship among human capital, employment, and human resource configurations. *Journal of Management, 28,* 517-543.

Mann, T., Sherman, D., & Updegraff, J. (2004). Dispostitional motivation and message framing: A test of the congruency hypothesis in college students. *Health Psychology, 23,* 330-334.

Neubert, M.J., Carlson, D.S., Kacmar, M.K., Chonko, L.B., & Roberts, J.A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology, 93,*1220-1233.

Porter, L. W., Steers, R. M., Mowday, R. T., & Boulian, P. V. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology, 59,* 603-609.

Pransky, G.,Finkelstein, S., Berndt, E., Kyle, M.,Mackell, J., & Tortorice, D.(2006). Objective and self-report work performance measures: a comparative analysis. *International Journal of Productivity and Performance Management, 55 (5),* 390 – 399. DOI: 10.1108/17410400610671426.

Rietzschel, E.F., Nijstad, B.A. & Stroebe, W. (2010). The selection of creative ideas after individual idea generation: choosing between creativity and impact. *British Journal of Psychology, 101,* 47-68.

Sassenberg, K., Jonas, K.J., Shah, J.Y. & Brazy, P.C. (2007). Why some groups just feel better: the regulatory fit of group power. Journal of Personality and Social Psychology, 92, 249-267. Seibt, B., & Förster, J. (2004). Stereotype threat and performance: How self-stereotypes influence processing by inducing regulatory foci. *Journal of Personality and Social Psychology, 87,* 38–56.

Spiegel, S., Grant-Pillow, H., & Higgins, E. T. (2004). How regulatory fit enhances motivational strength during goal pursuit. *European Journal of Social Psychology, 34,* 39-54.

Tanner, W. P. Jr., & Swets, J. A. (1954). A decision-making theory of

visual detection. *Psychological Review*, *61,* 401–409.

Updegraff, J. A., Sherman, D. K., Luyster, F. S., & Mann, T. L. (2007). The effects of message quality and congruency on perceptions of tailored health communications. *Journal of Experimental Social Psychology, 43,* 249-257.

Van Dijk, D., & Kluger, A. N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organizational Behavior, 32,* 1084-1105.

Wu, C., McMullen, J., Neubert, M. & Yi, X. (2008). The influence of leader regulatory focus on employee creativity. *Journal of Business Venturing, 23,* 587-602.

Zaal, M.P.,Van Laar, C., Stahl, T., Ellemers, N. & Derks, B. (2011). By any means necessary: the effects of regulatory focus and moral conviction on hostile and benevolent forms of collective action. *British Journal of Social Psychology, 50,* 670-689. DOI:10.1111/j.2044-8309.2011.02069.x

Appendix A: Pretests

Both tasks that were used in the Studies 4.1 through 4.4 were pre-tested, as we wanted to ensure that they accurately represented their respective regulatory goals. Moreover, we wanted to examine whether participants indeed performed worse in non-fit situations where their personal regulatory orientation did not match with the task's regulatory goals than in fit situations where this match did exist. For this purpose, we used the exact same experimental procedure as in the main studies, except that participants did *not* receive a regulatory fit intervention. So participants first completed the Regulatory Focus Questionnaire (Higgins et al., 2001) which assessed their personal regulatory orientation and then performed either the prevention task or the promotion task. The constructs measuring participants' personal orientation were reliable in both pretests (lowest alpha = .61).

After participants had finished working on the task they had received, we measured participants' objective performance and their task motivation. These measures were obtained in the same way as reported in the main studies and were sufficiently reliable in both pre-tests (lowest alpha = .80). Participants additionally received six self-developed questions to check their task perceptions. The first three questions assessed whether they saw their assigned task as prevention oriented, the last three questions assessed whether participants believed that their assigned task was promotion oriented. A full description of the items is reported in Appendix D. Based on these items, we formed a prevention task perceptions scale and a promotion task perceptions scale in both pretests (lowest alpha = .57). All measures had to be answered on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree).

Results of Pretest on the Prevention Task

The prevention task was tested in a laboratory among 103 students (20 men, 83 women; *M* age 20.02 years, *SD* = 4.67) from Leiden University. A paired samples t-test in which we directly compared people's scores on the prevention perception items to the promotion perception items confirmed that participants considered the prevention task to be significantly more prevention oriented (M = 5.77, SE = 0.09) than promotion oriented (M = 3.37, SE = 1.05, t (102) = -17.33, p = .0001). Regression analyses further show that participants' personal regulatory orientation did not predict their regulatory perceptions of the task (b = 0.008, p = 0.93 for prevention task perceptions and b = 0.04, p = 0.67 for promotion task perceptions). Together, these results provide convincing evidence that the task carried prevention oriented characteristics which people perceived regardless of their own regulatory orientation.

In line with our reasoning regarding the importance of fit for task performance, participants' personal regulatory orientation significantly predicted their objective performance on the prevention task. Prevention oriented participants more often indicated correctly that products were outdated (b = -.25, p = .01), and less often marked products as outdated while they were still fresh (b = .19, p = .05). Participants' personal regulatory orientation was not related to their motivation to perform well on the prevention task (b = -.07, p = .49), despite what might be expected on the basis of prior research on regulatory fit. On average, participants' motivation to perform well on the task was relatively high (M = 5.32, SD = 1.01). This finding is not necessarily a problem as we predict that the new intervention to create fit can have direct effects on performance, without necessitating motivational enhancement.

Results of Pretest on the Promotion Task

The promotion task was tested with a paper-pencil study among a small sample of 32 students (24 men, 8 women; M age 22.47 years, SD = 2.17) from Delft University of Technology. We considered this sample size warranted because we used an existing promotion-type task and only adapted the description of the cover story. As intended, a paired samples t-test confirmed that participants considered the promotion task to be significantly more promotion oriented (M = 5.31, SE = 1.28) than prevention oriented (M = 3.5, SE = 1.27, t (31) = 7.12, p =.0001). Moreover, subsequent regression analyses show that participants' personal regulatory orientation was not significantly associated with their task perceptions (b = .03, p = .85 for promotion task perceptions and b = -.04, p = .83 for prevention task perceptions), again confirming that the perceived orientation of the task reflected objective task features rather than individuals projecting their own regulatory preferences on the task.

Participants' regulatory orientation was not significantly associated with their task performance on the promotion task, however, the association was in the predicted direction (b = .23, p = .20). Participants' regulatory orientations did not predict their originality scores (b = .09, p = .61), nor their feasibility scores (b = -.26, p = .16). The ideas were rated on both dimensions by two trained raters whose inter rater reliability was high (ICC2 = .86 for originality, and .88 for feasibility).

Participants' regulatory orientation was unrelated to their motivation to perform well on the promotion task (b = -.14, p = .46). Again, we do not consider this to be a problem since we hypothesize that the interventions can impact task performance, without participants being more motivated to perform well.

Conclusion

The pretest on the prevention task shows that this task is suitable for testing our hypotheses. The pretest on the promotion task shows mixed results. The promotion task did not fully reveal the intended performance effects, but the task was clearly perceived to be promotion oriented. We believe that these mixed results were caused by the small sample size in this pretest, as this task worked appropriately in prior research on regulatory fit and creativity. There was also little control during the data collection because students were asked to participate in the pretest while they were visiting the university canteen. We therefore ensured that these two issues were solved when the task was used in main studies.

Appendix B: full description of the performance incentive manipulation

Prevention performance incentive for the prevention task

The Dutch Fast-Food Industry Association (DFIA)tests all Dutch restaurants on the execution of the Restaurant Hygiene Standard once a year. The hygiene test is done by a specially trained inspector. A visit from the inspector can take place at any moment throughout the year. Therefore, it's important to execute the Restaurant Hygiene Standard within your business at all times. If the inspector judges the hygiene in your fast-food restaurant negatively, you will not earn a Hygiene OK certificate.

Research by the DFIA from 2011 shows that customers assign a lot of value to the hygiene OK certificate. Fast-food restaurants without this certificate attracted less customers and made less profit than fast-food restaurants that did possess this certificate.

In conclusion, good hygiene within your business will help you prevent not earning a Hygiene OK certificate. This will help you prevent that your business will not make sufficient profit and you will not be very successful in running your business.

Promotion performance incentive for the prevention task

The Dutch Fast-Food Industry Association (DFIA)tests all Dutch restaurants on the execution of the Restaurant Hygiene Standard once a year. The hygiene test is done by a specially trained inspector. A visit from the inspector can take place at any moment throughout the year. Therefore, it's important to execute the Restaurant Hygiene Standard within your business at all times. If the inspector judges the hygiene in your fast-food restaurant positively, you will earn a Hygiene OK certificate.

Research by the DFIA from 2011 shows that customers assign a lot of value to the hygiene OK certificate. Fast-food restaurants in possession of this certificate attracted more customers and made more profit than fast-food restaurants that did not possess this certificate.

In conclusion, good hygiene within your business will help you to earn a Hygiene OK certificate. This will help your business to make a higher profit and be more successful.

Prevention performance incentive for the promotion task

The London Business School has done research into the effects of advertising and promotional activities for starting businesses. In this large research project (500 starting businesses participated) a comparison was made between businesses with- and businesses without promotional activities. When starting up a business, promotional activities are very important.

The results show that for businesses who did not ran a promotional campaign, revenues decreased by 75%. This is because lesser amounts of customers visited the shop. These customers, on average, spent less money in comparison to customers who went to shops that did ran a promotional campaign. In conclusion, a promotional campaign will help you prevent that you do not make sufficient profit and will not be very successful in running your business.

Promotion performance incentive for the promotion task

The London Business School has done research into the effects of advertising and promotional activities for starting businesses. In this large research project (500 starting businesses participated) a comparison was made between businesses with- and businesses without promotional activities. When starting up a business, promotional activities are very important.

The results show that for businesses who ran a promotional campaign, revenues increased by 75%. This is because larger amounts of customers visited the shop. These customers, on average, spent more money in comparison to customers who went to shops that did not ran a promotional campaign. In conclusion, a promotional campaign will help you to make a lot of profit and be very successful in running your business.

Appendix C: full description of the work strategy manipulation

The regulatory work strategy manipulation is based on a measure for regulatory strategies (by Sassenberg, Jonas, Shah & Brazy, 2007).

Promotion strategy

The task is about to begin. Please apply the following way of working on this task:
- Strive for success
- Try different things out
- Go with your first impression
- Aim for your ideals
- Aspire the highest goal
- Try to be successful
- Enlarge your chance at success
- Do what you like to do

Prevention strategy

The task is about to begin. Apply the following way of working on this task:
- Strive for security
- Follow a set of rules
- Think thoroughly
- Focus on your obligations
- Do what you have to do
- Do not fail
- Minimize the risk of failure
- Do what others are expecting of you

Appendix D: Full description of the scales used in the research

Studies 4.1 through 4.4

Personal regulatory orientation RFQ

1. Compared to most people, are you typically unable to get what you want out of life?
2. Growing up, would you ever 'cross the line' by doing things that your parents would not tolerate?
3. How often have you accomplished things that got you 'psyched' to work even harder?
4. Did you get on your parents' nerves often when you were growing up?
5. How often did you obey rules and regulations that were established by your parents?
6. Growing up, did you ever act in ways that your parents thought were objectionable?
7. Do you often do well at different things that you try?
8. Not being careful enough has gotten me into trouble at times.
9. When it comes to achieving things that are important to me, I feel that I don't perform as well as I ideally would like to do
10. I feel I have made progress towards being successful in my life
11. I have found very few hobby's or activities that capture my interest or motivate me to put effort into them

Inrole performance

1. I meet all the requirements to perform well at this task
2. I've met the goal of this task
3. I think I've performed well at this task

Task motivation

1. I devoted a lot of energy tot his task
2. I was motivated to perform at my best at this task
3. I found it important to perform well at this task
4. I worked hard at this task

Quality of information

1. I found the information in the article convincing
2. I found the message in the article clear
3. The article is important to me
4. The article is accurate
5. The article is memorable
6. The article is of practical value for me

Pretests

Prevention task perception

1. In this task mistakes must be avoided
2. In this task, problems must be avoided
3. This task requires responsible behavior

Promotion task perception

1. This task provides me with the opportunity to achieve success
2. This task provides me with opportunities to be creative
3. In this task there is a chance to benefit from opportunities

Nederlandse Samenvatting

Over zelfregulatie oriëntaties en werkprestatie in organisaties

Wat motiveert mensen in hun werk, en hoe kunnen mensen optimaal presteren? In dit proefschrift zijn deze vragen benaderd vanuit het perspectief van de Regulatory Focus Theory (RFT) van Higgins (1997). RFT gaat uit van twee systemen die het doelgerichte gedrag van mensen sturen; een preventie oriëntatie en een promotie oriëntatie. Wanneer iemand een preventie oriëntatie heeft, is hij/zij gericht op het nakomen van verplichtingen en op het voorkomen van fouten. Wanneer iemand een promotie oriëntatie heeft, ligt de focus juist op het verwezenlijken van idealen en is men op zoek naar kansen om dit succes te bereiken (Higgins, 1997). Wanneer we onderzoek doen naar werkprestaties, zijn de zelfregulatie oriëntaties die mensen in het werk hanteren belangrijk. Deze oriëntaties beïnvloeden namelijk de manier waarop mensen aan hun taken werken en hoe ze proberen om goede resultaten te behalen (Crowe & Higgins, 1997; Friedman & Förster, 2001; Forster, Higgins & Taylor Bianco, 2003; Seibt & Förster, 2004).

Het meeste onderzoek naar zelfregulatie oriëntaties en prestaties is tot nu toe gedaan in laboratoria op universiteiten. Het is de vraag of we deze kennis één op één kunnen toepassen in organisaties om de werkprestatie van medewerkers te verbeteren. Immers, de werkvloer is een stuk complexer dan de gestileerde lab omgeving. Op de werkvloer hebben medewerkers niet alleen te maken met hun eigen zelfregulatie oriëntatie, maar werken ze ook aan taken die regulatieve kenmerken hebben (zogenaamde preventie- en promotietaken; Van Dijk & Kluger, 2011). Daarbij komt dat leidinggevenden ook een zelfregulatie oriëntatie hebben, die zich vertaalt in de manier waarop zij medewerkers aansturen. Er is tot nu toe nog niet veel bekend over hoe al deze verschillende factoren van invloed zijn op de prestaties van medewerkers en op de prestaties van organisaties als geheel.

Het hoofddoel van dit proefschrift is het onderzoeken van de relatie tussen zelfregulatie oriëntaties en werkprestaties van mensen in complexe organisaties. In dit proefschrift richt ik ook de aandacht op het feit dat veel organisaties met name het gebruik van de *promotie oriëntatie* benadrukken en belonen. De promotie oriëntatie wordt in onderzoek veelal in verband gebracht met innovatief werkgedrag (Friedman & Förster, 2001; Neubert, Kacmar, Carlson, Chonko & Roberts, 2008; Lanaj, Chang & Johnson, 2012), en dit is van grote waarde voor organisaties (Anderson, De Dreu & Nijstad, 2004). Echter, goede werkprestaties behaal je als medewerker en als organisatie niet alleen door innovatief te zijn. Er is ook veel werk wat gedaan moet worden, dat juist gebaat is bij een gedegen, analytische en risicomijdende aanpak. Denk bijvoorbeeld maar aan het maken van projectplanningen, het uitvoeren van (veiligheids) procedures of het archiveren van stukken. Werkprestatie op dit soort taken kan juist gebaat zijn bij een preventie oriëntatie.

In dit proefschrift heb ik het werk wat mensen doen genomen als startpunt om te bekijken wat er nodig is om de werkprestatie te verbeteren. Daarbij heb ik specifiek aandacht besteed aan het gebruik van de preventie oriëntatie en onderzocht of deze van toegevoegde waarde kan zijn voor de werkprestaties van medewerkers en van organisaties als geheel.

Overzicht van de literatuur over zelfregulatie en prestatie

Zelfregulatie is de vaardigheid om cognitie, emotie en gedrag (bewust en onbewust) aan de situatie aan te passen, om zo de gestelde doelen te bereiken (Karoly, 1993). Een invloedrijke zelfregulatietheorie van dit moment is de Regulatory Focus Theory (RFT) van Higgins (1997). De RFT stelt dat het doelgerichte gedrag van mensen wordt gestuurd vanuit twee verschillende systemen; een preventie oriëntatie en een promotie oriëntatie. Wanneer mensen hun doelgerichte gedrag reguleren vanuit de preventie oriëntatie, dan doen ze dit om hun behoefte aan veiligheid en zekerheid te bevredigen. Mensen die een preventie oriëntatie hanteren, formuleren hun doelen (in hun werk, of in hun leven) doorgaans als een verplichting of als een noodzaak. Dit resulteert in een gedegen, risicomijdende manier van werken, gericht op het voorkomen van fouten (Crowe & Higgins, 1997; Förster, Higgins & Taylor-Bianco, 2003). Uit onderzoek blijkt dat deze werkwijze zorgt voor een goede werkprestatie op taken waarbij een analytische denkwijze nodig is (Seibt & Förster, 2004), taken die nauwkeurigheid vereisen (Beudeker, Ellemers, Rink & Blonk, 2014), of taken die baat hebben bij het nakomen van regels (bijvoorbeeld voor de veiligheid op de werkvloer; Wallace & Chen, 2006; Wallace et al., 2009). Het kan wel zo zijn een hoge mate van nauwkeurigheid gepaard gaat met een lager werktempo (Forster et al., 2003).

Wanneer mensen hun doelgerichte gedrag reguleren vanuit de promotie oriëntatie, dan is men gemotiveerd om de behoefte aan zelfontwikkeling en succes te bevredigen. Mensen formuleren hun doelen dan graag als idealen die zij hopen te bereiken of als winst die men wil behalen. Men werkt op een gretige manier naar deze doelen toe, en neemt daarbij risico (Crowe & Higgins, 1997). Onderzoek laat zien dat deze werkwijze resulteert in een goede werkprestatie op taken waarbij creativiteit nodig is (Friedman & Förster, 2001), of waarbij ambitieuze productiedoelen moeten worden behaald (Wallace & Chen, 2006; Wallace et al., 2009). Door deze risicovolle manier van werken, zijn mensen die een promotie oriëntatie gebruiken minder nauwkeurig (Forster, Higgins & Taylor Bianco, 2003) en hebben ze minder oog voor veiligheidsaspecten (Wallace & Chen, 2006; Wallace et al., 2009).

Mensen hebben over het algemeen een voorkeur voor één van de twee regulatieve oriëntaties, en het gebruiken deze het vaakst in hun werk (Brockner & Higgins, 1997).

Toch is er steeds meer onderzoek dat laat zien dat je ook kunt beïnvloeden welke zelfregulatie oriëntatie mensen gebruiken. Zo is aangetoond dat leidinggevenden (Neubert, Carlson, Kacmar, Chonko & Roberts, 2008; Wu, McMullen, Neubert & Yi, 2008), het soort

taken dat men uitvoert (Van Dijk & Kluger, 2011), doelstellingen van het team (Faddegon, Scheepers & Ellemers, 2008) en de manier waarop men wordt beloond (Faddegon, Ellemers & Scheepers, 2009) een zelfregulatie oriëntatie op kunnen roepen, die niet in eerste instantie de voorkeur heeft bij mensen.

Uit recent onderzoek blijkt, dat ook taken regulatieve kenmerken of doelen kunnen hebben (Van Dijk & Kluger, 2011). 'Promotietaken' zijn taken waarbij een goede prestatie erg in het oog springt en daarmee positief bijdraagt aan de prestatie van de organisatie als geheel, terwijl een slechte prestatie niet zo opvalt noch veel schade aanricht (Jacobs, 1981; Van Dijk & Kluger, 2011). Voorbeelden van dit soort taken zijn bijvoorbeeld het ontwikkelen van innovatieve producten of het binnenhalen van een subsidie. 'Preventietaken' zijn taken waarbij een slechte prestatie erg opvalt en mogelijk negatieve gevolgen heeft voor het presteren van de gehele organisatie, terwijl een goede prestatie niet direct zichtbaar is en niet direct lijkt bij te dragen aan de prestatie van de organisatie. Voorbeelden van preventietaken zijn het opsporen van fouten in rapporten, of het archiveren van belangrijke documenten.

De regulatieve kenmerken van een taak bepalen de manier waarop deze het best kan worden uitgevoerd. Om goed te presteren op een promotietaak bijvoorbeeld, kan men het best een promotie georiënteerde werkwijze hanteren (gekenmerkt door gretigheid en risicobereidheid; Friedman & Förster, 2001). Maar bij het uitvoeren van 'preventietaken' is juist een waakzame houding en een analytische kijk op de zaak nodig om tot een goede prestatie te komen (Seibt & Förster, 2004). Er is nog maar weinig onderzoek gedaan naar de aanwezigheid van taken met regulatieve kenmerken in organisaties. Er zijn wel enkele onderzoeken waarin wordt *gesuggereerd* dat beide soorten taken aanwezig zijn in veel banen (Brockner, Higgins & Low, 2004; Wallace & Chen, 2006). In dit proefschrift heb ik de kennis op dit gebied uitgebreid.

Een andere lijn van onderzoek binnen het regulatory focus domein sluit aan bij de taken die mensen uitvoeren en gaat over 'regulatieve fit'. Er wordt dusver gesproken van 'regulatieve fit' als de zelfregulatie oriëntatie van het individu overeenkomt met de manier die wordt gebruikt om aan een doel of een taak te werken (Higgins, 2000). Wanneer mensen regulatieve fit ervaren, dan voelen zij zich gelukkiger als zij aan hun doelen werken (Higgins, 2000; Freitas & Higgins, 2002), zijn ze gemotiveerder (Higgins, Shah & Friedman, 1998) en presteren ze beter (Friedman & Förster, 2001; Seibt & Förster, 2004). De kennis over "fit" tussen mensen en taken die duidelijke regulatieve kenmerken of doelen hebben is tot op heden beperkt. Zo lijkt het onvermijdelijk dat medewerkers in hun banen geconfronteerd worden met taken die niet van nature bij hun zelfregulatie oriëntatie en werkwijze passen. Het is belangrijk dat de prestatie op deze taken niet te sterk terugloopt, omdat dit ook negatieve gevolgen kan hebben voor de prestatie van de organisatie als geheel (Lepak &

Schnell, 2002). In dit proefschrift test ik een aantal interventies, die een slechte prestatie op dit soort non-fit taken mogelijk tegen gaat.

De conclusie die kan worden getrokken uit bovenstaande uiteenzetting van de relevante literatuur over zelfregulatie en prestatie is dat er geen 'beste zelfregulatie oriëntatie' bestaat om (werk)prestatie te verhogen. Beide oriëntaties dragen bij aan individuele en organisatie prestatie, al naargelang de aard van de taken die worden uitgevoerd. Er bestaan sterke aanwijzingen dat in veel banen zowel preventietaken als promotietaken voorkomen. Hieruit kan worden afgeleid dat beide zelfregulatie oriëntaties en daaruit voortvloeiende werkwijzen nodig zijn voor medewerkers, om in complexe werkomgevingen tot een goede prestatie te komen. Beide zelfregulatie oriëntaties verdienen daarom gelijke aandacht en beloning. Gek genoeg lijkt dit in veel organisaties niet het geval te zijn.

Voorkeur voor de promotie oriëntatie

In veel organisaties is sprake van een duidelijke voorkeur voor medewerkers met een promotie oriëntatie. Deze oriëntatie wordt in onderzoek in verband gebracht met innovatief werkgedrag, en innovatieve medewerkers zijn belangrijk voor het voortbestaan van organisaties (Anderson, De Dreu & Nijstad, 2004). Medewerkers hebben op hun beurt weer goed door, dat creatieve kwaliteiten gewild zijn binnen bedrijven. Data van 259 miljoen LinkedIn gebruikers van over de hele wereld illustreert dit. In zowel 2011 als in 2012 werd 'creatief' het vaakst gebruikt om de eigen kwaliteiten te omschrijven. Voor het gebruik van de preventie oriëntatie en bijbehorend werkgedrag lijkt echter het tegenovergestelde te gelden. Medewerkers die bij voorkeur gebruik maken van deze zelfregulatie oriëntatie worden snel gezien als 'moeilijk' of 'pessimistisch', omdat ze waakzaam zijn en niet meteen enthousiast reageren op nieuwe ideeën (Liberman, Idson, Camacho & Higgins, 1999). Deze duidelijke afkeer van de preventie oriëntatie kan ertoe leiden dat medewerkers de promotie oriëntatie vaker gaan gebruiken om erbij te horen – zelfs wanneer dit niet de oriëntatie is die van nature bij hen of hun taken past.

Een gebrek aan waardering voor preventietaken kan ontstaan omdat het moeilijk is om je te onderscheiden op dit soort taken. Immers, bij preventietaken valt een goede prestatie niet op, maar een slechte prestatie des te meer. Veel organisaties werken tegenwoordig met een individuele beoordelingssystematiek. Voor het behoud van de baan of om promotie te kunnen maken, is het belangrijk dat de bijdragen van de medewerker aan de organisatie prestatie duidelijk zichtbaar – en dus te beoordelen – zijn. Deze situatie kan ertoe leiden dat medewerkers liever aan promotietaken werken. Al was het maar om de waardering te krijgen die ze verdienen.

Eenzelfde voorkeur voor het gebruik van de promotie oriëntatie, zien we bij leidinggevenden. Leidinggevenden voeren zowel preventietaken (bijvoorbeeld 'controleren

van werk van medewerkers' of 'monitoren van budgetten') als promotietaken uit (bijvoorbeeld 'het ontwikkelen van het strategisch plan voor de organisatie' en 'het oppikken en stimuleren van talent van medewerkers'). Maar, er zijn een aantal factoren in organisaties die ervoor zorgen dat het gebruik van de promotie oriëntatie in leiders prevaleert boven dat van de preventie oriëntatie.

Gedragingen die men over algemeen verwacht van leidinggevenden (zoals het nemen van initiatief, het voorstellen van nieuwe ideeën en vol vertrouwen beslissingen nemen), horen meer bij het gebruik van de promotie oriëntatie dan de preventie oriëntatie (Galinksy & Kilduff, 2013). Zodoende kan bij medewerkers de verwachting ontstaan dat leidinggevenden vooral volgens een promotie oriëntatie aan moeten sturen. Leiders op hun beurt kunnen dan weer druk van medewerkers ervaren om vooral deze oriëntatie te gebruiken. Daarbij komt dat onderzoek laat zien dat mensen die de voorkeur geven aan het gebruik van de promotie oriëntatie om hun doelen te bereiken, zich over het algemeen ook meer aangetrokken voelen tot een leiderschapspositie (Sassenberg, Scheepers & Ellemers, 2012).

Ook de hiërarchische positie van leiders kan een promotie oriëntatie induceren (Keltner, Gruenfeld & Anderson, 2003). Een leiderschapspositie gaat vaak gepaard met een grote mate van autonomie (leiders leggen slechts op een generiek niveau verantwoording af voor hun daden; Keltner et al., 2003). Tegelijkertijd zijn beloningen, zowel financieel als sociaal (bijvoorbeeld in de vorm van lof over het functioneren of vleierij van ondergeschikten) in belangrijke mate aanwezig. Uit onderzoek blijkt dat een grote mate van autonomie gepaard gaande met de aanwezigheid van beloningen ervoor zorgt dat mensen meer actiegericht worden (Fiske, 1993).

Verder is het voor leiders van belang om in korte tijd kennis te nemen van grote hoeveelheden informatie over het functioneren van medewerkers en organisatie onderdelen (Fiske, 1993). Om dit te kunnen doen is een globale manier van informatie verwerken nodig, die over het algemeen volgt uit het gebruik van een promotie oriëntatie (Förster & Dannenberg, 2010). Tot slot worden ook leiders beoordeeld volgens individuele beoordelingssystematiek. Het is hen er dus ook aan gelegen om hun prestaties zichtbaar te maken. Dit kan ervoor zorgen dat zij de nadruk zullen leggen op hun promotietaken, ten koste van de preventietaken.

Leidinggeven vanuit een promotie oriëntatie heeft bewezen voordelen en het is zeker niet mijn bedoeling om deze in twijfel te trekken. Zo blijkt uit onderzoek dat leiders die aansturen vanuit een promotie oriëntatie creativiteit en innovatief werkgedrag stimuleren in medewerkers (Wu, McMullen, Neubert & Yi, 2008). Ik beargumenteer echter dat de taken die een leider doorgaans uitvoert veelomvattender zijn dan het stimuleren van innovatief werkgedrag in medewerkers. In veel organisaties hebben de kerntaken niet

veel met innovatie te maken. Je zou zelfs kunnen stellen dat het merendeel van de taken in organisaties (met name in de publieke sector) onder de noemer 'preventietaken' kan worden geschaard. Deze taken moeten worden uitgevoerd zonder fouten, binnen een afgesproken tijd en een goede prestatie is lastig zichtbaar te maken. Ik stel dan ook voor dat de werkprestatie binnen (dit soort) organisaties gebaat zal zijn bij een leider die ook gebruik maakt van de preventie oriëntatie. In dit proefschrift is dit nader onderzocht.

Dit proefschrift

Regulatieve taak heterogeniteit

In Hoofdstuk 2 (Studie 1) van dit proefschrift rapporteer ik de resultaten van een studie onder 109 medewerkers van een afdeling van een belastingdienst in Nederland. Met deze studie heb ik onderzocht of medewerkers inderdaad ervaren dat er in hun baan zowel preventietaken als promotietaken voorkomen. Medewerkers werd gevraagd om alle taken uit hun baan op aparte post-its te schrijven, en deze post-its vervolgens op een groot vel papier te plakken (voor eenzelfde aanpak zie Berg, Dutton & Wrzesniewski, 2013). Vervolgens werden medewerkers gevraagd om bij iedere taak te bedenken of dit een preventietaak was, of een promotietaak. Om medewerkers hierbij te helpen gaven we ze de definities van elke soort taak (eerder beschreven onder het kopje 'overzicht van de literatuur'; Van Dijk & Kluger, 2011; Jacobs, 1981). Vervolgens namen we de vellen papier in, en hebben we de data geanalyseerd.

Uit de analyse bleek dat 81% van de medewerkers inderdaad ervoer dat zij in de baan aan zowel promotie- als aan preventietaken werkten. Ook lieten de resultaten zien dat medewerkers 50% van hun taken aanduidden als 'preventietaken' en 25% van hun taken als 'promotietaken'. De overige 25% van de taken had volgens de medewerkers zowel kenmerken van promotie áls preventietaken, of kon niet worden ondergebracht bij één van beide typen. Taken als 'het lezen van email' vielen bijvoorbeeld onder deze categorie.

Naast het onderzoek naar het bestaan van regulatieve taak heterogeniteit (RTH), waren we ook benieuwd hoe deze vorm van taakvariëteit (verscheidenheid in taken binnen een baan) zou samenhangen met drie belangrijke werk aspecten; het innovatief werkgedrag, de ervaren taakduidelijkheid en de ervaren vermoeidheid na een dag werken. Deze werk aspecten zijn in eerder onderzoek ook in verband gebracht met taak variëteit (Chung-Yan, 2010; Desombre, Kelliher, Macfarlane & Ozbilgin, 2006; Dorenbosch, Van Engen & Verhagen, 2005; Hammond, Neff, Farr, Schwall & Zhao, 2011; Shalley, Gilson & Blum, 2000; Xie & Johns, 1995). Voordat medewerkers van de belastingdienst de kenmerken van hun taken beoordeelden, beantwoordden zij daarom vragen over de drie werkaspecten. Uit de analyse van deze resultaten blijkt dat een meer heterogene baan (hoog in RTH) positief

gerelateerd is aan het innovatief werkgedrag van medewerkers. Aan de andere kant blijkt dat meer RTH samenhangt met een verminderde perceptie van taakduidelijkheid, en toegenomen gevoelens van vermoeidheid in medewerkers.

Het onderzoek naar regulatieve taak heterogeniteit bevestigt dat in de banen van de meeste medewerkers uit de onderzochte organisatie zowel promotie- als preventie taken voorkomen. De banen die hierbij zijn onderzocht waren verschillend qua inhoud van het werk en qua complexiteit van het werk (variërend van administratief medewerkers tot IT specialisten). De resultaten van Studie 1 zullen daarom naar verwachting te generaliseren zijn naar andere organisaties. Uit deze resultaten kan worden afgeleid dat medewerkers en leidinggevenden in organisaties gebruik moeten maken van *beide* zelfregulatie oriëntaties (al naargelang de taak die wordt uitgevoerd) om optimaal te kunnen presteren in het werk. Desalniettemin laat onderzoek zien dat er verschillende invloeden zijn binnen organisaties die vooral het gebruik van de promotie oriëntatie faciliteren; vooral bij leidinggevenden. Ik stel daarom voor dat vooral leidinggevenden die gebruik maken van de preventie oriëntatie van meerwaarde kunnen zijn voor werkprestatie van medewerkers en voor de organisatie prestatie als geheel. In dit proefschrift is deze hypothese onderzocht in twee studies.

Het gebruik van de preventie oriëntatie door leidinggevenden

We testten het verband tussen de zelfregulatie oriëntatie van leidinggevenden en prestatie in twee studies. Deze studies zijn in dit proefschrift gerapporteerd in Hoofdstuk 3 (Studie 2) en in Hoofdstuk 4 (Studie 3). In beide studies heb ik ervoor gekozen om te kijken naar objectieve prestatiematen en naar subjectieve (door medewerkers zelf gerapporteerde) prestatiematen.

Studie 2 is uitgevoerd onder werkcoaches van vier verschillende UWV werkbedrijven in Nederland. Werkcoaches van het UWV werkbedrijf hebben als belangrijkste taken om recent werkloos geraakte mensen weer aan een baan te helpen en om werkgevers te bewegen om de cliënten van het UWV in dienst te nemen. De zelfregulatie oriëntatie van leidinggevenden werd gemeten door de werkcoaches te vragen naar de manier waarop de leidinggevende hen aanstuurt op het werk. Deze waargenomen zelfregulatie oriëntaties van leiders hebben we vervolgens gerelateerd aan onze twee prestatiematen. In Studie 2 bestond de objectieve prestatiemaat uit de individuele prestatie doelstelling per werkcoach in 2010. Per jaar wordt een target vastgesteld wat het aantal mensen inhoudt, wat dat jaar door de desbetreffende werkcoach aan een baan moet worden geholpen. Als prestatiemaat is in dit onderzoek gekeken naar het percentage van het target wat in 2010 door de desbetreffende werkcoach is gehaald. De subjectieve prestatiemaat die we hebben gebruikt in deze studie was de mate waarin medewerkers nieuwe initiatieven ontplooien op de werkvloer.

De resultaten van Studie 2 laten zien dat aansturing door leidinggevenden die gebruik maken van een promotie oriëntatie, positief gerelateerd is aan de mate waarin medewerkers nieuwe initiatieven ontplooien. De promotie oriëntatie van leiders was niet significant gerelateerd aan objectieve werkprestatie van medewerkers, maar, de preventie oriëntatie van leiders was dat wél. De resultaten van Studie 2 bevestigen dus het vermoeden dat het gebruik van de promotie oriëntatie in de aansturing door leidinggevenden bijdraagt aan de werkprestaties van medewerkers, zij het aan een zeer specifiek deel hiervan. Het gebruik van de preventie oriëntatie in de aansturing lijkt een bredere relevantie te hebben. Deze oriëntatie hangt namelijk positief samen met de kans dat gestelde prestatiedoelstellingen behaald worden.

In Hoofdstuk 4 wordt Studie 3 gerapporteerd. Hierin is de relatie tussen de zelfregulatie oriëntatie van leidinggevenden en prestatie van de gehele organisatie onderzocht. Bij deze studie waren 50 leidinggevenden van 34 sociale diensten uit Nederland betrokken. Deze leidinggevenden beoordeelden de mate waarin zij in de aansturing gebruik maakten van de promotie- en van de preventie oriëntatie. Om de objectieve prestaties van de sociale diensten vast te stellen, verzamelden we kwantitatieve data over het aantal mensen dat over een periode van drie maanden in 2010 aan een baan was geholpen (als percentage van het totaal aantal werklozen geregistreerd bij die sociale dienst). Als subjectieve prestatiematen vroegen we de leiders hoe goed zij dachten dat hun organisatie presteerde en om het innovatieve werkklimaat in de organisatie te beoordelen.

De resultaten van Studie 3 laten zien dat, overeenkomstig met Studie 2, het gebruik van de preventie oriëntatie in de aansturing door leiders positief gerelateerd is aan objectieve prestatie van de organisatie. Het gebruik van de promotie oriëntatie door leiders was niet gerelateerd aan de objectieve prestatie van de sociale diensten. Interessant is echter dat we, ondanks de significante relatie tussen het gebruik van de preventie oriëntatie en *objectieve* organisatie prestatie, geen positieve relatie vinden tussen het gebruik van de preventie oriëntatie en subjectieve prestatie. Dus, leiders lijken zich niet te beseffen dat het gebruik van de preventie oriëntatie wel degelijk een positieve bijdrage kan leveren aan de belangrijkste prestatie doelen van de organisatie. Sterker nog, leiders geloofden dat vooral een innovatief organisatie klimaat zou bijdragen aan betere prestaties. Maar, deze relatie kunnen we niet terugvinden wanneer we het verband tussen een innovatief klimaat en objectieve organisatie prestatie onderzoeken.

De conclusie die kan worden getrokken uit Studie 2 en Studie 3, is dat het gebruik van de promotie oriëntatie door leiders weinig toegevoegde waarde heeft, wanneer deze oriëntatie al wordt gefaciliteerd door omgevingsfactoren. Mij baserend op de resultaten van deze studies concludeer ik dat leiders en medewerkers ervan kunnen profiteren wanneer het gebruik van de preventie oriëntatie meer aandacht krijgt in complexe werk contexten.

Leiders kunnen (tevens) een belangrijke bijdrage leveren aan de werkprestatie van medewerkers wanneer zij werken aan taken met regulatieve kenmerken, die niet in lijn zijn met de zelfregulatie oriëntatie van de medewerker. In Hoofdstuk 5 rapporteer ik een serie experimenten waarin ik twee interventies test, die dit beogen.

Het stimuleren van werkprestatie op taken met regulatieve kenmerken

In Hoofdstuk 5 van dit proefschrift worden vier studies gerapporteerd. Het doel van deze studies was het testen van twee interventies om de werkprestatie te verbeteren op taken met regulatieve kenmerken. Hierbij is specifiek gefocust op situaties waarin non-fit ontstaat; wanneer de kenmerken van de taak niet overeenkomen met de zelfregulatie oriëntatie van het individu. De experimenten vonden plaats in het lab en de deelnemers waren studenten. Veel onderzoek naar regulatieve fit richt zich op het stimuleren van doelgericht gedrag op taken die geen regulatieve kenmerken hebben. Voorbeelden hiervan zijn bijvoorbeeld het eten van fruit en groente (Spiegel, Grant-Pillow & Higgins, 2004), tanden flossen (Mann, Sherman & Updegraff, 2004) of sporten (Latimer et al., 2008.). Om zo'n taak aantrekkelijker te maken, laten onderzoekers deze taak aansluiten bij de personen die ze uitvoeren (er wordt een 'fit' tussen persoon en taak gecreëerd). Om mensen met een promotie oriëntatie te motiveren bijvoorbeeld, wordt er benadrukt welke winst ze met het uitvoeren van de taak kunnen bereiken. Mensen met een preventie oriëntatie raken juist gemotiveerd door het voorkomen van problemen. Om hen te interesseren voor een taak kun je dus benadrukken wat ze ermee kunnen voorkomen.

Anders wordt het echter, wanneer een taak regulatieve kenmerken heeft, die bepalen hoe zo'n taak moet worden aangepakt. De vraag is of het dan zinvol is om de taak aan te sluiten bij de persoon. Wellicht dat het beter is om 'fit' op een andere manier te bewerkstelligen – namelijk door de persoon en zijn/haar werkwijze beter aan te laten sluiten bij wat de taak vraagt. In de onderzoeken gerapporteerd in Hoofdstuk 5 heb ik onderzocht of het creëren van 'fit' door mensen te helpen aan te sluiten bij wat de taak vraagt, effectief is om werkprestatie te verhogen.

Voor aanvang van de experimenten hebben we eerst een preventietaak en een promotietaak ontwikkeld. In beide taken werden proefpersonen gevraagd zich voor te stellen dat zij de eigenaar waren van een biologische snackbar. In de preventietaak moesten proefpersonen de vriezer controleren op producten die over datum waren. Deze producten moesten worden geselecteerd uit een lange lijst van producten die aanwezig waren in de vriezer. Dit is een preventietaak omdat een goede prestatie geen directe bijdrage levert aan de prestatie van de snackbar. Wanneer een bedorven product over het hoofd werd gezien, konden klanten hier ziek van worden, en dit had mogelijk wél grote negatieve gevolgen voor de snackbar (Van Dijk & Kluger, 2011; Jacobs, 1981). Objectieve prestatie op deze taak werd

gemeten als het aantal producten dat proefpersonen correct aanmerkten als bedorven, en als het aantal producten wat men aanmerkte als zijnde bedorven terwijl ze nog goed waren (waarbij dus vals alarm werd geslagen).

Ook in de promotietaak stelden proefpersonen zich voor dat ze de eigenaar waren van een biologische snackbar. Hierbij werd hen echter gevraagd om zoveel mogelijk creatieve manieren te bedenken om reclame te maken voor de snackbar. Deze taak is een promotietaak omdat het bedenken van een slecht reclame idee geen directe negatieve gevolgen had voor de prestatie van de snackbar. Een heel goed idee kon de naamsbekendheid en omzet van de snackbar mogelijk flink verhogen (Van Dijk & Kluger, 2011; Jacobs, 1981). Objectieve prestatie van proefpersonen op deze taak bestond uit het aantal reclame ideeën dat proefpersonen bedachten. Ook werd de kwaliteit van deze ideeën getoetst door onafhankelijke studentassistenten. Hierbij werd gekeken hoe origineel een idee is, en hoe haalbaar.

In de experimenten werden vervolgens twee verschillende interventies getest. In de eerste soort interventie werden de doelen van de taak benadrukt. Wanneer men werkte aan een preventietaak werden proefpersonen erop attent gemaakt wat er moest worden vermeden. Wanneer men werkte aan een promotietaak werd juist benadrukt welke winst er kon worden behaald (Latimer et al. 2008; Updegraff, Sherman, Luyster and Mann, 2007).
In de tweede soort interventie werd de werkstrategie benadrukt, waarmee het best aan de taak gewerkt kon worden. Voor een preventietaak was dit een strategie waarin men nauwkeurig werkt en probeert fouten te vermijden. Voor een promotietaak is dit een strategie waarbij verschillende dingen werden uitgeprobeerd en geprobeerd werd om de idealen te bereiken (strategie instructie is gebaseerd op het werk van Sassenberg, Jonas, Shah & Brazy, 2007).

In alle studies werd eenzelfde volgorde aangehouden. Eerst werd de zelfregulatie oriëntatie van de proefpersonen gemeten, dan lazen proefpersonen de werk instructies en vervolgens werd hun werkprestatie gemonitord wanneer zij werkten aan de taak. Nadat de proefpersonen de taak hadden afgerond, werd hen gevraagd hoe goed zij dachten te hebben gepresteerd en hoe gemotiveerd zij waren om een goed resultaat te behalen (de subjectieve prestatie maten).

De resultaten van deze studies laten significante effecten zien van beide interventies, maar alleen op de preventietaken. Proefpersonen waren accurater in het selecteren van bedorven productenwanneer voorafgaand aan de taak werd benadrukt wat er in de taak vermeden moest worden, of wanneer zij een preventie werkstrategie hanteerden. Met behulp van deze interventies presteerden proefpersonen met een voorkeur voor de promotie oriëntatie goed op deze (non-fit) preventietaak. Ook proefpersonen met een voorkeur voor de preventie oriëntatie gingen beter presteren wanneer de interventies werden toegepast.

Deze resultaten zijn een eerste stap in het begrijpen dat 'fit' tussen mensen en hun taken ook kan worden bewerkstelligt, wanneer de taak als referentiepunt wordt genomen, en de mensen zich daaraan aanpassen.

Ondanks dat proefpersonen een verbeterde werkprestatie lieten zien wanneer zij de werkwijzen uit de interventies opvolgden, zagen we dit niet terug in de subjectieve prestatie evaluaties. Proefpersonen bleken niet in de gaten te hebben dat zij beter presteerden. Ook de motivatie om goed te presteren was niet hoger in de condities waarin proefpersonen tot betere resultaten kwamen. Deze uitkomst suggereert dat de geteste interventies effectief kunnen zijn, los van wat mensen motiveert.

Conclusie

In organisaties ligt de nadruk al snel op het gebruik van de promotie oriëntatie, met name voor leidinggevenden. De resultaten van een reeks studies in dit proefschrift laten echter zien dat het gebruik van de preventie oriëntatie wezenlijk bijdraagt aan de prestatie van medewerkers en de organisatie als geheel.

De resultaten van Studie 1 tonen aan dat in veel banen zowel promotietaken als preventietaken voorkomen. Hieruit kan worden afgeleid dat voor een goede werkprestatie ook beide oriëntaties nodig zijn. De resultaten van Studie 2 en 3 bevestigen dit. Hieruit blijkt dat wanneer leidinggevenden aansturen vanuit promotie oriëntatie, dit een positieve relatie heeft met het ontplooien van nieuwe initiatieven door medewerkers (Studie 2). Aansturing vanuit een preventie oriëntatie is positief gerelateerd aan de individuele werkprestatie van medewerkers (Studie 2) en de prestatie van de organisatie als geheel (Studie 3). Tot slot blijkt uit een reeks experimenten dat het met name op preventietaken nodig is om bij te sturen als medewerkers een promotie oriëntatie hebben. Door middel van interventies die erop zijn gericht om het individu zich aan te laten passen bij de taak, kan de werkprestatie op preventietaken verhoogd worden.

Dankwoord

Op de voorkant van dit proefschrift staat iemand die balanceert. 'Balans' is voor mij het woord dat steeds terugkeerde gedurende het werk aan dit proefschrift. Ten eerste lieten mijn resultaten zien dat een balans tussen de promotie oriëntatie en de preventie oriëntatie binnen organisaties aan te bevelen is om prestaties te verbeteren. Daar dit proefschrift ontstaan is uit een samenwerking tussen universiteiten en TNO, was het tevens een voortdurende uitdaging om balans te vinden tussen het wetenschappelijk belang (kennis ontwikkelen die theoretisch iets toevoegt) en het commerciële belang (kennis ontwikkelen die direct toepasbaar is). Tot slot is ook de balans tussen werk en privé een leerpunt geweest tijdens het werk aan dit proefschrift.

Ik had deze 'koorddans act' nooit tot een goed einde kunnen brengen zonder de hulp van een heleboel mensen. Om te beginnen wil ik mijn (co) promotores bedanken. Naomi, ik prijs me gelukkig dat ik de afgelopen jaren van jou heb mogen leren. Jouw visie en inzicht (zowel op theoretisch als op uitvoerend vlak) zijn bepalend geweest voor de totstandkoming van dit proefschrift. Jouw advies, ook op het gebied van carrière en privéleven heeft in belangrijke mate bijgedragen aan mijn ontwikkeling in de afgelopen jaren. Floor, je stond altijd voor me klaar met advies en oppeppende woorden. Ondanks dat jij zelf een moeilijke tijd heb doorgemaakt gedurende de tijd dat wij samenwerkten. Ik ken niemand die zo hard werkt als jij! Roland, zonder jouw 'promotiefocus' en niet aflatende steun voor dit project bij TNO, was het niet gelukt om dit proefschrift af te maken. Hartelijk dank voor de kans die je me hebt gegeven om dit project te starten en je vertrouwen gedurende de uitvoering ervan.

Ik wil ook mijn collega's (bij de universiteit Leiden, TNO en het KLI) bedanken. Veel dank voor jullie hulp, kritische blik en gezelligheid gedurende de afgelopen jaren. Veel van jullie ideeën liggen op de één of andere manier beklonken in dit proefschrift.

Tevens wil ik mijn familie en schoonfamilie bedanken. Bedankt voor jullie belangstelling voor mijn project en de wijze raad die ik soms nodig had. Pap en mam, jullie hebben de kiem gelegd voor mijn interesse in onderzoek. Pap, jouw carrière (incl. PhD!) is een voorbeeld voor mij. Mam, jij bent een onderzoeker pur sang en inspireert derhalve als docent al jaren jonge mensen om een pad in de bètawetenschappen te kiezen.

Dan rest er nog één iemand, die ik ontzettend wil bedanken. Milan, gedurende de tijd dat ik aan dit proefschrift werkte, verhuisden wij achtereenvolgens naar het eind van de wereld, trouwden we, en werden we ouders van onze prachtige zoon Manne. Ik ervoer het werk aan dit project soms als zo overdonderend, dat het jou en ons leven samen ook beïnvloedde. Ik bedank je voor je steun, je geduld en je humor. Zonder jou had ik minder in mezelf geloofd en was dit proefschrift er misschien wel niet gekomen.

Curriculum Vitae

Dagmar Beudeker was born on the 9th of December 1981 in Groningen, the Netherlands. In 1999 she graduated from the Stanislas College in Delft having attended pre university education (VWO). After travelling the world for seven months, Dagmar decided to follow her interest in performing arts, and consecutively attended the Vrije Hoge School (2000-2001) and the HKU University of the Arts in Utrecht (2001-2003) to study theatre. A growing interest in the human psyche and a desire for a more knowledge based education led Dagmar to quit HKU and switch to Utrecht University to study Psychology in 2004. Dagmar obtained a bachelor's degree in Social Psychology, with a minor in Organizational Psychology in 2007. Her interest in research was fuelled by the fun and excitement that she experienced during her honors track bachelor project under supervision of Prof. Dr. Kees van den Bos. Hence, Dagmar progressed her education at the Research Master Social and Organizational Psychology at Leiden University, from which she graduated cum laude in 2009. Dagmar started the PhD project leading to this dissertation in 2010. A strong preference to do research that would be directly applicable in organizations, led Dagmar to contact TNO (the Dutch organization for Applied Scientific Research). A PhD project was created that was jointly supervised and funded by Leiden University (Prof. Dr. N. Ellemers), TNO (Prof. Dr. R. Blonk) and Groningen University (Dr. F. Rink). The research conducted in this project has resulted in several publications and national as well as international presentations. Currently, Dagmar is appointed at TNO as HR Business Partner. She advises management on a wide range of HR related topics.

The "Kurt Lewin Institute Dissertation Series" started in 1997. Since 2013 the following dissertations have been published in this series:

2013-1: Annemarie Hiemstra: *Fairness in Paper and Video Resume Screening*

2013-2: Gert-Jan Lelieveld: *Emotions in Negotiations: The Role of Communicated Anger and Disappointment*

2013-3 Saar Mollen: *Fitting in or Breaking Free? On Health Behavior, Social Norms and Conformity*

2013-4: Karin Menninga: *Exploring Learning Abstinence Theory: A new theoretical perspective on continued abstinence in smoking cessation*

2013-5: Jessie Koen: *Prepare and Pursue: Routes to suitable (re-)employment*

2013-6: Marieke Roskes: *Motivated creativity: A conservation of energy approach*

2013-7: Claire Marie Zedelius: *Investigating Consciousness in Reward Pursuit*

2013-8: Anouk van der Weiden: *When You Think You Know What You're Doing: Experiencing Self-Agency Over Intended and Unintended Outcomes*

2013-9: Gert Stulp: *Sex, Stature and Status: Natural Selection on Height in Contemporary Human Populations*

2013-10: Evert-Jan van Doorn: *Emotion Affords Social Influence: Responding to Others' Emotions In Context*

2013-11: Frank de Wit: *The paradox of intragroup conflict*

2013-12: Iris Schneider: *The dynamics of ambivalence: Cognitive, affective and physical consequences of evaluative conflict*

2013-13: Jana Niemann: *Feedback Is the Breakfast of Champions, but It Can Be Hard to Digest: A Psychological Perspective on Feedback Seeking and Receiving*

2013-14: Serena Does: *At the heart of egalitarianism: How morality framing shapes Whites' responses to social inequality*

2013-15: Romy van der Lee: *Moral Motivation Within Groups*

2013-16: Melvyn Hamstra: *Self-Regulation in a Social Environment*

2013-17: Chantal den Daas: *In the heat of the moment: The effect of impulsive and reflective states on sexual risk decisions*

2013-18: Kelly Cobey: *Female Physiology Meets Psychology: Menstrual Cycle and Contraceptive Pill Effects*

2013-19: Ellen van der Werff: *Growing environmental self-identity*

2013-20: Lise Jans: *Reconciling individuality with social solidarity: Forming social identity from the bottom up*

2013-21: Ruth van Veelen: *Integrating I and We: Cognitive Routes to Social Identification*

2013-22: Lottie Bullens: *Having second thoughts: consequences of decision reversibility*

2013-23: Daniel Sligte: *The functionality of creativity*

2014-01: Marijn Stok: *Eating by the Norm: The Influence of Social Norms on Young People's Eating Behavior*

2014-02: Michèlle Bal: *Making Sense of Injustice: Benign and Derogatory Reactions to Innocent Victims*

2014-03: Nicoletta Dimitrova: *Rethinking errors: How error-handling strategy affects our thoughts and others' thoughts about us*

2014-04: Namkje Koudenburg: *Conversational Flow: The Emergence and Regulation of Solidarity through social interaction*

2014-05: Thomas Sitser: *Predicting sales performance: Strengthening the personality – job performance linkage*

2014-06: Goda Perlaviciute: *Goal-driven evaluations of sustainable products*

2014-07: Said Shafa: In the eyes of others: *The role of honor concerns in explaining and preventing insult-elicited aggression*

2014-08: Felice van Nunspeet: *Neural correlates of the motivation to be moral*

2014-09: Anne Fetsje Sluis: *Towards a virtuous society: Virtues as potential instruments to enhance*

2014-10: Gerdien de Vries: *Pitfalls in the Communication about CO2 Capture and Storage*

2014-11: Thecla Brakel: *The effects of social comparison information on cancer survivors' quality of life: A field-experimental intervention approach*

2014-12: Hans Marien: *Understanding and Motivating Human Control: Outcome and Reward Information in Action*

2014-13: Daniel Alink: *Public Trust: Expectancies, Beliefs, and Behavior*

2014-14: Linda Daphne Muusses: *How Internet use may affect our relationships: Characteristics of Internet use and personal and relational wellbeing*

2014-15: Hillie Aaldering: *Parochial and universal cooperation in intergroup conflicts*

2014-16: Martijn Keizer: *Do norms matter? The role of normative considerations as predictors of pro-environmental behavior*

2015-01: Maartje Elshout: *Vengeance*

2015-02: Seval Gündemir: *The Minority Glass Ceiling Hypothesis: Exploring Reasons and Remedies for the Underrepresentation of Racial-ethnic Minorities in Leadership Positions*

2015-03: Dagmar Beudeker: *On regulatory focus and performance in organizational environments*