Challenge at work: a matter of give and take

Preenen, P.T.Y.

Citation for published version (APA):
CHAPTER SEVEN
GENERAL DISCUSSION

Job challenge is an interesting and important subject to study. It is popular among today’s employees and employers, whereas there is relatively little research on this subject. The present dissertation aimed to provide a better understanding of job challenge by examining its conceptualization, determinants, processes, and outcomes.

In this final chapter, I will first summarize the main findings as reported in the empirical chapters. Then, I will discuss the theoretical and practical implications of the study findings and I will address some limitations of the studies in this dissertation. Finally, I will conclude with a discussion of avenues for future research.

Summary of Main Findings

Chapter Two

Chapter 2 examined relationships between employees’ challenging assignments, on-the-job learning, turnover intentions, and job-search behaviors. Moreover, with a two-wave design, we investigated the impact of changes in challenging assignments and on-the-job learning on actual voluntary turnover. Based on research about the attractiveness and positive outcomes of challenging jobs (Boswell, Roehling, LePine, & Moynihan, 2003; Carmeli, Cohen-Meitar, & Elizur, 2007; Judge, Bono, & Locke, 2000; Slaughter, Richard, & Martin, 2006) and extant theories about learning, we hypothesized that challenging assignments would be related to lower withdrawal intentions and behaviors, and that on-the-job learning would mediate this relationship. However, people’s job experiences, such as their challenging assignments and on-the-job learning, likely change over time (McDaniel, Schmidt, & Hunter, 1988). We, therefore, also examined the impact of changes in challenging assignments and on-the-job learning on actual voluntary turnover. We expected that an increase in challenging assignments and learning would result in lower voluntary turnover whereas a decrease in challenging assignments and learning would lead to higher voluntary turnover.

The results confirmed our propositions. Challenging assignments were negatively related to turnover intentions and job-search behaviors, which was due to the mediating role of on-the-job learning. In addition, a change in challenging assignments was negatively related to voluntary turnover above and beyond Time 1 turnover intentions and behaviors. This implies that an increase in challenging assignments resulted in lower voluntary turnover even when employees had initial turnover intentions. In a similar vein, a decrease in challenging assignments resulted in higher voluntary turnover even when employees initially did not have the intention to leave the organization. Changes in on-the-job learning could largely explain these findings. All in all, challenging assignments enhance on-the-job learning which, in turn, reduces voluntary turnover.
Chapter Three

Chapter 3 examined the joint impact of task challenge and goal orientation (as experimentally induced) on individuals’ positive and negative activating mood, and motivation. We hypothesized that mastery-approach and performance-approach orientations would affect individual’s mood and motivational responses to high and low challenging tasks, respectively. Low challenging tasks are routine and easy, and there is relatively little to learn during task performance. Yet, a performance-approach orientation motivates individuals to outperform others. Therefore, we expected that people’s activating moods (positive as well as negative ones) and motivation would be higher when performing a low challenging task with a performance-approach orientation instead of a mastery-approach orientation.

With regard to the performance of a challenging task, we proposed that a mastery-approach orientation would positively activate and motivate people, while not causing high negative affect. A performance-approach orientation was expected to negatively affect people’s mood states and motivation. People are more likely to experience higher levels of tension and lower levels of positive activating mood when their performances are compared to those of others, particularly when they have to perform well on a task that they have not fully mastered yet. Moreover, people with a performance-approach orientation may lose attentional resources as caused by their focus on external cues (Kanfer & Ackerman, 1989), which in turn, may mentally block them to put effort in the challenging task. In sum, we expected that a performance-approach orientation as compared to a mastery-approach orientation would lead to higher positive activating mood and motivation, and higher negative activating mood when performing a low challenging task. In contrast, we expected that a mastery-approach orientation as compared to a performance-approach orientation would lead to higher positive activating mood and motivation, and lower negative activating mood when performing a high challenging assignment.

We tested our propositions with an experimental design in which participants were assigned a low or high challenging task and were provided with a general or goal-oriented (performance-approach or mastery-approach) task instruction. This enabled us to test for causalities and to examine the precise effects of goal-oriented as compared to general (no goal-oriented) task instructions.

The study findings largely supported our expectations. We found that a performance-approach orientation resulted in higher positive activating mood and motivation than a mastery-approach orientation, or no goal orientation in the low challenging task condition. In contrast, a mastery-approach orientation led to higher positive activating mood and motivation than a performance-approach orientation, or no goal orientation in the high challenging task condition. We should note that individuals who had worked on the high challenging task reported higher levels of mastery-approach and performance-approach orientations than those who had worked on the low challenging task. This finding suggests that individuals tend to become more goal oriented when performing a high challenging task.
Finally, individuals performing a high challenging task reported more nervousness and fear than individuals performing a low challenging task. Hence, higher negative activating mood seems a natural response to challenging tasks and cannot be precluded by specific goal instructions. Interestingly, we found no combined effects of task challenge and goal orientation on negative activating mood.

Chapter Four

Chapter 4 examined the extent to which the performance of challenging tasks is related to employees’ and supervisors’ goal orientations.

Study 4.1. In the first study, we investigated the relationships between people’s goal orientations and the performance of challenging tasks. Individuals with a mastery-approach goal orientation aim to develop competence through task mastery and the learning of new skills. These individuals were expected to involve themselves in challenging activities because these activities facilitate their goal to develop their competence. In contrast, individuals with a performance-avoidance orientation are particularly motivated to avoid demonstrating inferior competence toward others. We expected that they would avoid challenging activities because of a higher risk of visible failure.

The findings showed a significant relationship between individuals’ mastery-approach orientation and the performance of challenging tasks. However, no relationship was found between a performance-avoidance orientation and the performance of challenging tasks.

Study 4.2. In this study, we proposed that supervisors’ goal orientations would be related to employees’ performance of challenging tasks, but that the strength of this relationship would depend on the extent to which supervisors influenced the tasks of their employees (supervisors’ task impact). Based on goal orientation theory, we reasoned that employees’ performance of challenging tasks would relate to supervisors’ mastery-approach, performance-approach, and performance-avoidance orientations. We argued that supervisors with a mastery-approach orientation may find the development of new competencies as important for their subordinates as for themselves. These supervisors may provide their employees with actual learning experiences through the assignment of challenging tasks. In contrast, performance-approach oriented supervisors want to look more competent than others. These supervisors may be less likely to stimulate their employees to take on challenging tasks. Performance-avoidant supervisors, on the other hand, are motivated to avoid demonstrating inferior competence relative to others and receiving negative judgments about their achievements (Elliot & McGregor, 2001). These supervisors may pass on challenging and risky activities to their employees.

As in Study 4.1, we found that employees’ mastery-approach orientation was positively related to performing challenging tasks. Although not proposed, we found that supervisors’ task impact was negatively related to employees’ performance of challenging tasks. This finding may suggest that supervisors tend to allocate rather non-challenging tasks
to their subordinates. As expected, we found that supervisors’ goal orientations were related to employees’ performance of challenging tasks. Employees who were dependent on their supervisors’ task assignments performed less challenging tasks when their supervisor had a higher performance-approach orientation, and they performed more challenging assignments when their supervisor had a higher performance-avoidance orientation. Our proposition that supervisors’ mastery-approach goal orientation would be positively related to employees’ performance of challenging tasks was not confirmed.

Chapter Five

The aim of Chapter 5 was to reach a grounded, bottom-up understanding and conceptualization of job challenge. We asked one hundred and thirty-two respondents to describe a recently performed task they considered to be challenging and to explain why they found this task challenging. We used concept mapping to analyze and categorize participants’ responses.

Our analyses showed that job challenge is a multi-faceted construct. Thirty-seven aspects of job challenge were distinguished and categorized as task characteristic, contextual characteristic, cognitive appraisal, and mood state. These four conceptualizations were integrated into a comprehensive model of job challenge in which task and contextual characteristics are antecedents of cognitive appraisals and mood states.

Chapter Six

Chapter 6 describes the development and validation of a reliable, theoretically well-grounded measure of perceived job challenge, the Perceived Job Challenge Measure (PJCM). We generated the cognitive appraisal and mood state items from the concept mapping analysis as described in Chapter 5. The PJCM was examined in two studies among employees working for a variety of organizations.

Study 6.1. A first set of items was tested in Study 6.1. Based on our earlier analysis in Chapter 5, we expected that perceived job challenge would be a two-dimensional concept including cognitive appraisals and mood states. An exploratory factor analysis showed three instead of two factors: positive stimulation, competence testing, and uncertainty. The positive stimulation factor includes items that refer to positive mood states and attitudes associated with job challenge. The competence testing factor includes items about being tested and having to stretch and prove oneself. The uncertainty factor includes items about work tasks being risky, new, and feeling insecure about accomplishing them. Apparently, the expected mood states dimension is to some extent separated in a positive (positive stimulation) and negative component (uncertainty). The three PJCM subscales were found to be reliable.

Study 6.2. The PJCM was further tested in a second study. Its three-factor structure was confirmed. Of note is the relatively high correlation between competence testing and uncertainty ($r$’s range from .60 to .72), which suggests that employees who feel that their
competencies are tested in their jobs are also uncertain about their ability to accomplish their tasks. The reliabilities (internal consistencies) of the three subscales were good. The test-retest reliabilities of the PJCM subscales as measured over a six-month time interval were moderate. We also tested the convergent, discriminant, and concurrent validities of the PJCM. The convergent validity was examined by relating the PJCM to extant measures that are closely related to job challenge, such as measures from Ettington (1998) and Ragins and McFarlin (1990). In addition, we examined whether the PJCM was related to autonomy and skill variety (e.g., Evans & Kersh, 2004; Hackman & Oldham, 1980). The results supported the convergent validity of the PJCM, because it correlated moderately high to high with other job challenge measures, job autonomy, and skill variety.

The discriminant validity of the PJCM was examined by correlating the PJCM subscales with neuroticism and agreeableness (McCrae & Costa, 1987; Costa & McCrae, 1992) as these Big Five traits were expected to be unrelated to perceived job challenge. The relationships between the subscales of the PJCM and these traits were indeed mainly not significant, showing adequate discriminant validity.

The concurrent validity of the PJCM was tested by examining relationships between the PJCM and job satisfaction, affective commitment, turnover intentions, and job performance. The concurrent validity of the PJCM was supported. Moderate to high correlations between its three subscales and job attitudes were found. In addition, the positive stimulation scale correlated positively with supervisor-rated job satisfaction and affective commitment. Finally, we found a marginally negative relationship between the competence testing scale and supervisor-rated performance, which shows that supervisors rated employee performance lower when employees experienced their tasks as a test of their competencies.

Altogether, the results of these two studies suggest that the PJCM is reliable and valid.

Theoretical and Practical Implications

The studies as presented in the previous chapters addressed the concept, consequences, and antecedents of job challenge as well as moderators that influenced the relationship between job challenge and its consequences. The remainder of this dissertation will discuss the theoretical and practical implications of these studies.

Theoretical Implications

Consequences of job challenge. Some literatures have proposed, but never examined empirically, that job challenge could lower voluntary turnover (e.g., Carmeli, 2005; Conklin & Desselle, 2007; Loquercio, 2006; Salopek, 2000). Empirical studies were mostly focused on the positive consequences of job challenge for employees and less explicitly on its benefits for organizations. The study presented in Chapter 2 shows a negative relationship between job challenge and employees’ turnover intentions and behaviors. This study furthermore revealed that changes over time in challenging assignments affect employees’ actual turnover
behaviors. The link between job challenge and turnover intentions and behaviors can be explained by employees’ learning experiences. Job challenge positively influences on-the-job learning, which, in turn, lowers turnover. It is this on-the-job learning that employees seem to value and the performance of challenging tasks is an excellent opportunity to learn (Lyness & Thompson, 1997, 2000; McCauley et al., 1994). The desire to acquire and exercise competence is a basic human need (e.g., Elliot & Dweck, 2005; Skinner, 1995) that can be fulfilled by performing challenging activities. In addition, employees may consider learning (through the performance of challenging tasks) important for their employability and future career opportunities. For this reason, it has been argued that organizations may lose rather than retain their valuable employees when offering them opportunities for learning (Benson, Finegold, & Mohrman, 2004; Campbell & Campbell, 2003; Ito & Brotheridge, 2005). The findings in Chapter 2 oppose this view: challenging work activities and learning seem to increase employees’ commitment to the organization and make them stay. As such, job challenge can be conceived of as a vital job characteristic that affect people's work attitudes and behaviors.

**Moderators.** Chapter 3 introduced moderators that could impact the consequences of challenging and non-challenging tasks. Whether people experience positive outcomes of job challenge may depend on their goals. The study described in Chapter 3 is one of the first studies testing this proposition by using an experimental design that mirrors realistic task assignments as found in field-settings. This study shows that the consequences of job challenge for one’s mood and motivation are most positive when individuals have a mastery-approach rather than performance-approach orientation. In contrast, a performance-approach orientation is most beneficial for the performance of non-challenging tasks.

The results of this study corroborate prior goal orientation research that suggested that the advantageous effects of an individual’s mastery-approach orientation may be limited to tasks that are of higher complexity (Utman, 1997). They also resonate with studies that noted that mastery-approach oriented employees tend to put more effort into their jobs when they are faced with obstacles (e.g., Dweck, 1999; Farr, Hofmann, & Ringenbach, 1993). Finally, this study has shown that a mastery-approach orientation does not necessarily lead to better outcomes than a performance-approach orientation, as has often been suggested (e.g., Heyman & Dweck, 1992; Miller, Behrens, & Greene, 1993; Utman, 1993). A performance-approach orientation lowers outcomes in high challenging conditions only.

**Antecedents of job challenge.** The study in Chapter 3 has shown that individuals’ goal orientations can be manipulated. However, goal orientations are also conceived of as a relatively stable trait (e.g., Button, Mathieu, Zajac, 1996; Dweck, 1989; Farr et al. 1993). The studies in Chapter 4 examined individuals’ goal orientation as an antecedent of job challenge. The findings show that only mastery-approach goal orientations are related to the performance of challenging tasks. This result further substantiates the idea that individuals appreciate challenging tasks because of the learning that is involved in these tasks (see
Chapter 2).

The types of tasks that people perform do not only depend on people’s own goal orientations but also on the goal orientations and behaviors of others upon whom they depend. Chapter 4 has shown that supervisors’ performance-approach and performance-avoidance orientations relate to the tasks that employees perform, particularly when supervisors have a greater say in what employees do in their job. To date, this was the first study that linked supervisors’ goal orientations to the activities of their employees. Hence, this study extends goal orientation research that associated people’s goal orientations to their own outcomes only (see Elliot & Dweck, 2005; Payne et al., 2007). This study has shown that the consequences of goal orientations may differ for people themselves and for others.

**The job challenge construct.** The study presented in Chapter 5 aimed to empirically ground the concept of job challenge from the discourse of “ordinary” people. Laypersons associate challenge with specific task and contextual characteristics, cognitions, and mood states. Interestingly, the task characteristics show some overlap with those of Hackman & Oldham’s (1980) job characteristics model (JCM: skill variety, task identity, task significance, autonomy and feedback), but they also expand the JCM with characteristics such as time pressure, high stakes and goals, creativity and improvisation, and task ambiguity. These characteristics should be included in a more comprehensive task characteristics model predicting employees’ cognitions, affective states, and work attitudes.

Chapter 6 reported about the development and test of the Perceived Job Challenge Measure. The PJCM comprises three subscales: stimulation, competence testing, and uncertainty. The positive stimulation subscale of the PJCM is consistent with operationalizations used in the literature that associates (job) challenge with pleasurable activated emotions such as eagerness, excitement, stimulation, and exhilaration (e.g., Lazarus & Folkman, 1984; Meyer & Allen, 1988). The competence testing subscale is consistent with operationalizations of job challenge in the literature on work (re-)design that defines job challenge in terms of the use and development of skills, talents, or capacities (e.g., Hackman & Oldham, 1976; Jones & James, 1979; Walsch et al., 1980). The uncertainty subscale resonates with operationalizations used in the career literature that refer to risks and uncertainty (McCauley et al., 1999).

Altogether, the PJCM seems to integrate the different approaches in the literature. The PJCM may help to clarify incompatible research findings and may lead to the consistent use of definitions and measurements of perceived job challenge in future research. Moreover, the three-factor structure of this measure provides better options for explaining specific outcomes of job challenge. Most optimal outcomes are to be expected if the positive cognitions and mood states outweigh the negative ones.

**Practical Implications**

The findings in this dissertation have several practical implications. First, in today’s highly competitive and dynamic labor market, it is of great importance for organizations to
understand how to retain their valuable employees. In view of our findings that challenging assignments enhance on-the-job learning and reduce turnover intentions and behaviors, organizations should provide their employees with challenging tasks. Moreover, because challenging tasks enhance on-the-job learning, organizations could consider challenging tasks as a good alternative for the often expensive formal training programs (Frazis, Herz, & Horrigan, 1995) they offer to their employees. In addition, on-the-job experiences contribute more to employee learning and development than formal classroom training programs (e.g., Davies & Easterby-Smith, 1984; Lowy, Kelleher, & Finestone, 1986).

Organizational leaders should play an active role in providing their employees with challenging tasks in order to facilitate their development (Cianni & Romberger, 1995). In Chapter 3, we have shown that challenging tasks should be explicitly communicated as an opportunity to learn rather than as an opportunity to excel. Accordingly, supervisors can stimulate and motivate employees to perform a challenging task when they convey it as a fortunate option for learning. Conversely, if supervisors have to assign non-challenging tasks they can nevertheless stimulate and motivate their employees by emphasizing that they should show their superiority on this task.

Although we believe that many supervisors want to support their employees’ development, our research from Chapter 4 indicates that performance-approach oriented supervisors may do so to a lesser extent. These supervisors seem hesitant to delegate challenging tasks to others, which ultimately may result in lower supervisor effectiveness due to the poor development and turnover of their employees. Performance-approach oriented managers are likely desired by organizations because of their competitive and high-performance attitudes. Yet, organizations could monitor these managers’ effectiveness by not only valuing their task outputs but also other outputs such as the career behaviors of their employees.

An organization’s flexibility and adaptability is highly dependent on employees’ willingness to learn (Allen & Poteet, 1999). In this dissertation, it was shown that mastery-approach oriented individuals tend to perform challenging tasks and, thus, will develop themselves. Accordingly, organizations may enhance organizational flexibility by attracting and selecting mastery-approach oriented individuals. Nowadays, organizations select employees based on their knowledge, skills, abilities, personalities, and personal fit with the organization (Van Vianen, 2005). Additionally, they could include instruments in their selection procedure that assess applicants’ goal orientations, because goal orientations are – although malleable – relatively stable attributes (e.g., Ames, 1992; Dweck, 1999; Elliot, 1999; Pintrich, 2000). Moreover, as organizations have become increasingly interested in developing their human resources (Wanberg, Welsh, & Hezlett, 2003), organizations should create a culture that promotes mastery-approach orientations in employees (Nauta, Van Vianen, Van Der Heijden, Van Dam, & Willemsen, 2009). This could be realized with an HR
system that emphasizes effort rather than superiority, personal improvement rather than competitiveness, and risk-taking rather than risk-avoidance.

Our study in Chapter 5 has provided a list with specific task and contextual characteristics that individuals appreciate as challenging. This list may help organizations to better (re-)design challenging jobs. Although some jobs seem to lend themselves more for development and learning, I am convinced that all jobs, also the seemingly routine ones, can be enriched with challenging task components. Employees themselves are best able to report about the challenging nature of their job. Fortunately, this dissertation has developed an instrument by which perceived job challenge can be measured. Organizations could use the PJCM to examine its attractiveness as an employer but also as an overall index of its potential flexibility.

**Limitations**

Like with all research, we should acknowledge some limitations associated with the studies in the present dissertation. In the following sections, I will summarize the most important ones.

**Cross-Sectional Design**

Although several studies in this dissertation employed a two-wave design, which can be considered as a strength, several others were mainly based on a cross-sectional design, which limits the inference of causalities. In some occasions, we used statistical techniques to argue for the direction of the relationships, such as when we controlled for the Time 1 measurements (see Chapter 2). In other studies (see Chapter 4, Study 4.2), we used good theory to convincingly argue for the specific direction of relationships between variables. All in all, we believe that the assumed causalities in this dissertation are solid.

**Self-Reports**

Second, as with most field research the findings of this dissertation are largely derived from employees’ self-reports. For example, all variables in Chapter 2 and Chapter 4 were based on self-reports. This might have led to inflated relationships between variables due to common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, several authors have noted that this methodological problem is often overstated, especially with regard to self-report survey studies (Lindell & Whitney, 2001; Spector, 2006). Moreover, we carefully developed our surveys and found correlations among the variables that varied from low to high, which decrease the chance of common method variance (Spector, 2006). We, therefore, believe that common method bias is not a serious problem in our studies.

Also, it has been noted that the use of self-reports as indicators of the objective environment may decrease measurement accuracy (Spector & Jex, 1991). However, the studies in this dissertation were mostly concerned with people’s own perceptions, attitudes,
and behaviors. People’s perceptions rather than objective environments influence their attitudes and behaviors (Ferris & Judge, 1991). Therefore, the use of self-reports in our studies may not have limited the reliability of the measures and the validity of the findings as much as sometimes is assumed. Nevertheless, we want to encourage other researchers to include objective measures of task challenge in their future research, such as instruments for job and task analyses (e.g., Dierdorff, 2003).

**Specific Samples**

A third potential limitation relates to the samples that we used in our studies. For instance, in Chapter 2, our sample consisted of employees working in health care and welfare organizations. This may have restricted the generalizability of our findings to other occupations and industries. Yet, the professionals in our sample worked in a wide variety of health care and welfare institutions and jobs all over the Netherlands. Furthermore, an advantage of the use of a one-occupation sample is that there is only little variance in socio-economic status, which precludes confounding effects (de Jonge et al., 2001).

In Chapter 3 and 5, most of our participants were students, which also may raise concerns regarding the generalizability of our results to employees. However, the majority of the students in our sample reported to have a (part-time) job, volunteer job, or internship experience, and these participants were thus also part of the working population. Furthermore, we believe that the affective and motivational reactions to challenging assignments as examined in Chapter 3 are fundamental and will be applicable to other samples as well. Yet, differences between students and employees may still exist with regard to specific task and contextual characteristics. Future research could focus on this matter. The use of university students for our concept mapping study (Chapter 5) was nevertheless reasonable given the fact that these students were well able to express why they found certain tasks challenging. The resulting PJCM was further tested with employees in organizations.

**External Validity**

Finally, we consciously opted for an experimental rather than field design in Chapter 3 in order to be able to test for causality and direction. This may have limited the generalizability of our findings to realistic organizational settings. The distinction between laboratory and field research becomes smaller to the extent that the content of an experiment reflects reality (Kanfer, 1994). This was the case in our study because we provided the participants with realistic, pilot-tested work assignments. We are, therefore, confident that the results are applicable to actual work-settings. Yet, we encourage researchers to replicate our findings with (controlled) field research in which different challenging tasks are assigned to employees while influencing their goal orientations.
Directions for Future Research

The findings in this dissertation suggest several interesting avenues for future research. Considering our findings and those of earlier research showing beneficial outcomes of job challenge for work attitudes and behaviors (e.g., Carmeli et al., Judge et al., 2000; Kirk-Brown & Wallace, 2004), job challenge may be beneficial for other individual outcomes as well. For instance, challenging assignments at work may be related to employees’ work engagement, a positive, fulfilling, affective motivational state of work related well-being (Bakker, Schaufeli, Leiter, & Taris, 2008). Work engagement is characterized by vigor, dedication, and absorption (Bakker et al., 2008) and employees who are engaged in their work have high levels of energy, are enthusiastic about their work, and often are fully immersed in their job. Thereby, engaged employees are believed to offer competitive advantage to their employing organization. As work environments that emphasize growth and development are likely to foster work engagement (Bakker et al., 2008), it would be interesting to examine how challenging assignments impact employees’ work engagement.

Also, it has been suggested, but never investigated, that performing challenging work assignments may result in higher inner work standards (Berlew & Hall, 1966) and ambition for higher-level positions (Van Vianen, 1999). Furthermore, receiving challenging assignments from one’s supervisor may be conceived of as a reward, or as a signal of supervisor’s, trust and appreciation, or as a form of supervisory support (Kottke & Sharafinski, 1988). Future research could examine these topics.

An important finding of this dissertation stems from Chapter 3 in which we have shown that inducing goal orientations can moderate motivational and affective outcomes of performing challenging assignments. However, much remains to be known about other factors that may influence individual outcomes of challenging assignments. For example, in our research we focused on challenging tasks that were assigned to individuals. Future research could compare the mood and motivational effects of assigned versus self-initiated tasks.

In addition, it would be interesting to examine people’s emotional responses to success or failure on high challenging tasks because research and theory suggests that personal success experiences tend to raise efficacy estimates, while repeated failures lower them (Bandura, 1986; 1997). However, research suggests that individuals’ reactions to failure on a challenging task are likely to depend on their attribution style (e.g., Mikulincer, 1988; Simon, 1973), and failure on a challenging task may be easily attributed to the difficulty of the task. In a similar vein, individuals’ goal orientations while performing a challenging task may moderate their responses to failure experiences. Specifically, individuals with a performance orientation might withdraw in the face of failure, whereas individuals with a mastery orientation are likely to persist in the face of task failure (Elliot, 1999). An interesting avenue for future research would be to examine consequences of failing on challenging
assignments and factors that may buffer against negative consequences of such failure experiences.

Our findings in Chapter 4 suggest that performance-approach oriented supervisors may provide their employees with non-challenging rather than challenging assignments. However, we did not directly assess the extent to which supervisors provided their employees with challenging assignments. Therefore, future research should examine the actual delegating behaviors of supervisors. Secondly, the specific processes that lead to the task allocation behaviors of supervisors could be further explored. For example, performance-approach oriented supervisors may develop lower quality relationships with their employees, involving lower trust and support (e.g., Bauer & Green, 1996), which is why challenging tasks may not be shared. Thirdly, because a performance-approach orientation may yield other beneficial outcomes (see for an overview Payne et al., 2007), it would be worthwhile to investigate how the task allocation behaviors of performance-approach oriented supervisors can be changed. It would, for example, be worthwhile to examine whether these supervisors would use different task delegating strategies if they would be held accountable for the development of their employees.

In Chapter 6, we developed and validated a measure to assess perceived job challenge. Although the results of our studies provided initial evidence for the reliability and validity of this measure, more validation research is needed to investigate its relationship with other relevant variables, such as employee development and learning (e.g., De Rue & Wellman, 2009; Dragońi et al., 2009; McCauley et al., 1999), and employability (Fugate, Kinicki, & Ashforth, 2004). It is particularly important to examine how the three separate subscales of the PJCM (positive stimulation, competence testing, and uncertainty) interplay and affect these criterion variables. Perceived job challenge may have negative consequences if competence testing and uncertainty get the upper hand. This will particularly be the case when an individual’s task self-efficacy is low (Bandura, 1997) and the challenging assignment is seen as a threat.

In this dissertation, we have identified four aspects that can be integrated into a comprehensive model of job challenge: task characteristics, context characteristics, cognitive appraisals, and mood states. We have proposed that the task and contextual characteristics induce the cognitive appraisals and mood states. Future research could examine how these characteristics relate to perceived job challenge. To date, supportive contextual job characteristics, such as facilities and guidance, responses from others, and inspiring colleagues, and how these contribute to people’s (challenging) job experiences have received relatively little research attention.

**Concluding Remarks**

The studies as described in the five empirical chapters of this dissertation examined the conceptualization, determinants, processes, and outcomes of job challenge. This
dissertation has increased our understanding of job challenge and has contributed to the job challenge literature because it addressed some new and important issues. Certainly, many questions remain to be answered and the studies in this dissertation have raised several new, interesting, and important questions. This hopefully stimulates and challenges other researchers to continue scrutinizing the concept of job challenge, its antecedents, and consequences, to further our knowledge on the issues examined in this dissertation.

As often argued in this thesis, investigating job challenge is of theoretical as well as practical importance. I would like to add that the topic of this dissertation was of great importance for me as well. Now that I have finished this dissertation, my biggest work challenge so far, I can truly say that I understand the meaning of job challenge. I’m very happy with that.