

SERIE RESEARCH MEMORANDA

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The role of learning opportunities and learning behavior

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Research Memorandum 2000-41

December 2000



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Note: This research was financially supported by the Foundation for Corporate Education and the Netherlands Research Institute and Graduate School of Economics; the Tinbergen Institute.

AN INTERACTIVE APPROACH FOR NEW CAREERS: THE ROLE OF LEARNING OPPORTUNITIES AND LEARNING BEHAVIOR

This study examined the learning process at work from an individual perspective. Different kinds of learning opportunities and learning behavior were examined as (a) predictors of career development and (b) moderators of the development process on the job. Survey data from early-career MBAs were analyzed by performing hierarchical regressions and difference-of-means tests. Results indicated that the total amount of developmental job opportunities has a positive influence on individual perceptions of career development, with support as a learning component in particular. The data also suggested that individual's learning behavior affects career development, measured by both perceived and objective indicators. Furthermore, we found interaction effects on career success of several learning opportunities in combination with different kinds of learning behavior. The results of this study support the notion that developmental jobs enhance career development. However, individual's learning behavior should also be regarded as a way in which an individual can take own responsibility for their learning and development in today's boundaryless career context.

Today's boundaryless career environment indicates individuals' own responsibility for their learning and development. In this paper, we will focus on this notion both from an individual and an organizational perspective. To take this responsibility, individuals have to be aware of their learning opportunities in their jobs. Besides, current workers have a personal incentive to grow and develop. This enables them to be free agents of their careers, 'pack their own parachute', and to follow their 'path with a heart'. Enactment is the success factor in their careers (Weick, 1996).

Given these elements of the current career context, learning and development form the substance of today's employment contract. These elements imply a 'take away learning and development' concept: Individuals do their job in order to learn and develop their knowledge and skills. This is their baggage in their career. Organizations have to provide these 'goods' in order to recruit and commit employees. However, if these goods are no longer provided or, if another firm does a better job of providing them, employees will leave the company taking away the learned skills and knowledge they need for their career. In this context, an individual's company change will be a loss of learning and human potential for the organization. So, a healthy developmental environment will be a

benefit for both the organization and the individual.

Not only learning opportunities are worthwhile for an individual in current career environment. It is important to realize that any particular challenging job may not be developmental for everyone and therefore may be in different ways related to career outcomes and personal development. The same job may have different developmental competent for different persons for a variety of reasons. First, individuals may have different career histories, and the job may be more of a transition and thus more difficult for one individual than for another. Second, individuals with certain personality types may be more likely to clash with their boss or have difficulty getting into networks in the organization. Third, individuals play an important role in shaping their jobs; thus, one individual may look for more opportunities to create change than someone else would.

In other words, not everyone has the same capacity (Morrison and Brantner, 1992) or ability to learn from experience (Burke, 1989) or differ in their approach to learning (Van der Sluis, 1999; Dechant, 1990; Kelleher, Finestone and Lowy, 1986). The way in which an individual learns or the amount in which s/he is able to learn matter. An individual's way of learning, that is the learning behavior, will effect the kind and extent of learning from any particular situation.

Based on these notions, it is hardly surprising that research suggests that both the learning context and learning behavior influence occupational achievement (Spreitzer *et al.*, 1997; Colarelli *et al.*, 1987; Hoeksema, 1995; McCauley *et al.*, 1994). The theory behind this research arises from the cognitive learning theory and the social construction theory. The former implicitly conceptualizes learners, divorced from their social, historical and cultural context (Rogoff and Lave, 1984) and the latter views learners as social beings who construct their understanding and learn from social interaction within specific socio-cultural settings (Bruner and Hast, 1987). A combination of these two theories is called the interactive approach. The interactive perspective has been recently described as a perspective that gives a central role to interconnections and relations between an individual and the organizational context (Richter, 1998). In a similar vein, this approach suggests that the outcomes of the learning process are a result of the interaction of personal and organizational characteristics.

In our research, we examined the developmental process at work from this perspective. We therefore looked at both individual and contextual factors, e.g. learning behavior and learning opportunities. These two factors are explained below.

Learning opportunities

McCauley *et al.* (1994) looked at components or features of jobs that foster learning about managerial responsibilities. They examined which developmental opportunities of the learning environment of a variety of management jobs contribute to individual learning and personal development. They designed the Developmental Challenge Profile (DCP) to measure the extent in which an environment is developmental for a manager. An assumption made in this research was that managers indeed do develop over the course of their careers and that this development is driven by the manager's major experiences. The DCP seemed to be a highly recommended instrument to measure developmental characteristics (McCauley *et al.*, 1994).

McCauley *et al.* conceptually grouped developmental components of managerial jobs into four categories: Transitions, Task-related characteristics, Obstacles, and Support. Transitions are defined as changes in work role, such as a change in job content, status, or location. Task-related characteristics include creating change, high level of responsibility, and non-authority relationships. These characteristics are related to problems and dilemmas stemming from the task itself. Obstacles refer to a lack of support from a boss or colleagues and to adverse business conditions. And, support as a category of learning opportunities was defined by supervisory support.

Learning behavior

It is widely suggested that not all people learn equally well from the same kind of experiences at work (Spreitzer *et al.*, 1997). As such, the management development process would likely be enhanced by the way of learning by the individual.

Nevertheless, there is a lack of studies of learning behavior in organizational contexts (Sadler-Smith, 1998). Only two relevant studies exist, including Hoeksema *et al.* (1997) and Megginson (1996). In both studies learning behavior are considered within an

organizational context. From these studies, a learning behavior can be summarized as ‘a series of behaviors which enables one to structure and motivate their own work behavior by setting goals, practicing new and desired behaviors, keeping track of progress, and rewarding oneself for goal achievement’. In short, a learning behavior is ‘an approach of learning tasks’ (Van Parreren, 1989). The essence of this notion is that the learning behavior represents a distinctive and habitual manner of acquiring knowledge, skills or attitudes through experience.

Hoeksema *et al.* (1997) distinguished two different learning behaviors: meaning oriented learning behavior and instruction oriented learning behavior. The former was defined by a search for the deeper meaning of experiences on the job and the latter by a focus on instructions to meet one’s obligations and to answer expectations.

In another study, Megginson (1996) defined also two kinds of learning behavior based on exploration of this phenomenon among managers. He found that managers learn in a planned or an emergent way, the two relatively excluded. He defined planned learning as a deliberation/forethought approach and emergent learning as an unpremeditated exploration of work experiences.

HYPOTHESES

From the existing literature and based on our main research question, we build a research model from which we derived several hypotheses. This model is presented in figure 1. The focus was particularly on the relationships of the learning environment and learning behavior with individual career outcomes. In other words, we wanted to test whether the learning environment determines outcomes of the career development process -in short, career outcomes- or the individual learning behavior or both.

First, the effect of the learning environment on career outcomes is analyzed. Hereafter, we looked at relations between learning behavior and career outcomes. Finally, we examined combination and interaction effects of the learning environment and learning behavior on career outcomes.

Effect of learning environment on career outcomes (H1)

In a career context where continuous learning is the hallmark of managerial careers (Weick, 1996), developmental job opportunities will enhance the development of personal skills and knowledge. It is widely accepted that this will increase individual's employability and that this causes higher perceptions of career development and higher competitive advantage. The latter will increase levels of income.

The impact of learning opportunities on learning and development is evidenced in a study of over 600 managers by Wick (1989). He found job experiences to account for 70% of all developmental experiences. Similarly, Lowy et al. (1986) found that the majority of managerial learning occurs informally on the job, based on developmental opportunities on the job. From these theoretical and empirical findings follows that it is clear that learning will be intensified when managers are faced with challenging situations.

The relation between learning opportunities and career outcomes was already investigated in an early study of developmental processes of Berlew and Hall (1966). They found that the level of challenge of an initial job in an organization was predictive of effectiveness and success. Recently, a few studies show empirically evidence for relationships between learning opportunities and career outcomes (Hunt, 1991; Keys & Wolfe, 1988; Wexley & Baldwin, 1986).

Although the relative mix of learning sources can vary from company to company, in this study we were interested in the effects of the total mix of individual learning opportunities. We wanted to examine how learning opportunities of an individual are related to career outcomes, in particular to the level of income and the personal perception of one's own career development.

The relation between learning opportunities and income

Ineffective learning environments hinder continuous learning and, hence, individual effectiveness (Tannenbaum, 1997). Therefore, an environment with many learning opportunities is supposed to enhance individual learning and development. This

suggests that the amount of learning opportunities faced by an individual will influence employee's performance and therefore, probably, the level of income.

The link between performance ratings and pay is well documented by Gerhart & Milkovich (1992). The general finding is that there is a positive relationship between performance and income, although it is weak.

Besides, a working environment with learning opportunities includes more difficulties and complexities than an environment with less challenging situations. And, more difficulties and complexities are probably negotiated in rewards.

Based on these suggestions, we hypothesize:

Hypothesis 1a. More learning opportunities will result in higher income.

The relation between learning opportunities and perceived career development

On the current job market, individuals are agents of their own development (Weick, 1996). Therefore, they are interested in jobs or functions in which they can learn and develop their skills and knowledge. Such learning environment, where they are stretched and challenged, can help individuals work on their personal goals and enhance their development.

Therefore, employees are likely to be motivated most by work that permits the enhancement of occupationally valued skills. In such an environment, they feel comfortable because they think that they are doing right in order to work on their development and career. Recently, Tannenbaum (1997) evidenced these notions. He found that learning conditions, like situations wherein opportunities are provided or wherein supervisors support training and development, individuals reported greater satisfaction with development.

Based on this, we expect that perceived career development will be greater in an environment that provides learning opportunities. Therefore, we hypothesize:

Hypothesis 1b. A work environment with more learning opportunities will be followed by higher perceived career development.

Effect of learning behavior on career outcomes (H2)

Individual learning behavior will probably influence career development as a result of the relation between the way a person learns from the environment and a personal system of reference that gives them a platform for adding their knowledge. Each system of reference is different for each person that will influence the way a person learns from the environment and therefore the personal career development. However, the way people learn from a job is a noticeable omission from studies that examined a broad array of influences on the career outcomes of managers (Judge *et al.*, 1995). Nevertheless, there is some evidence that learning behavior influences career attainment and advancement (Dreher & Bretz, 1991; Howard & Bray, 1988).

The relation between learning behavior and income

Focussing on income as a career outcome, several previous studies have found that cognitive ability is predictive of income (see Gottfredson & Crouse, 1986; Siegel & Ghiselli, 1971). Recently, Hoeksema *et al.* (1997) found evidence for relations between specific learning strategies and income. Based on these findings, we expect that different kinds of learning behaviors have different impact on the level of income.

Therefore, we hypothesize:

Hypothesis 2a. Learning behavior affects income.

The relation between learning behavior and perceived career development

Research has clearly demonstrated that scores on a general learning ability test are most predictive for career development in complex jobs, such as those of MBAs and other executives (Hunter, 1986). Relative little research has linked learning behavior as such to perceived career development, although some evidence suggest that some kind of learning behavior positively affect job performance consistently throughout a career (Judge *et al.*, 1997), which will be linked with an individual's perception of the personal career development.

Recently, this argument was confirmed in the study of Tannenbaum (1997). He

found that individuals with a learning behavior featured by a greater awareness of the big picture and underlying relations reported higher levels of satisfaction with their development (Tannenbaum, 1997). And, people who learn self-directed had better ratings for their job performance and better competence development (Tannenbaum, 1997), which will be positively correlated with perceived career development.

Following this analysis, we hypothesize

Hypothesis 2b. Learning behavior affects the perception of career development.

Combination and interaction effects of the learning environment and learning behavior on career outcomes (H3)

After hypothesizing the direct main effects of both learning opportunities and learning behavior on career outcomes, we also wanted to investigate whether these two factors have a combined effect or an interaction effect on outcomes of the career development process. The difference between those two effects is that the former refers to the influence of the variables together on career outcomes while the later includes the impact of the interplay of the two, added to the combination effect on career outcomes.

Our interest to examine combination and interaction effects on career outcomes follows from two main suggestions in the literature. On the one hand, the suggestion that job experiences can be a stimulus for learning from experience (R.F. Morrison & Brantner, 1992; Howard & Bray, 1988; McCall & Lombardo, 1983). And, on the other hand, the suggestion that not all people learn the same amount and the same thing from the same kinds of experiences (Spreitzer *et al.*, 1997; Sadler-Smith, 1998). As such, the effectiveness of different learning environments and learning behaviors would likely be enhanced as a result of the interaction of learning behavior and the environment, the learning context. More knowledge about this interactive process could further explain variations in individual career outcomes.

We will explore the role of, respectively, learning opportunities and learning behavior by, first, reviewing relevant literature about the influence of the learning environment on the managerial career development process, and second, focussing on the influence of learning behavior on managerial career development.

Regarding the influence of the learning environment on managerial learning and career development given the individual learning behavior, there are some suggestions in the literature that are directly relevant for our research.

First, Tannenbaum (1997) suggested that support and feedback from supervisors, as part of the learning environment, improves performance and development on the long term. And, if supervisors coach and develop staff actively, this will have a positive effect on performance and job and career satisfaction.

Part of these suggestions were supported by Van der Sluis (1999) from which followed that new responsibilities supported by feedback, resulted in better perceived performance. On the other hand, both Arthur and Rousseau (1996) and Tannenbaum (1997) argued that a lack of learning opportunities hinders individual learning and, hence, individual effectiveness and development. And, a lack of managerial support and goals inhibited the application of new ideas and skills. This lowers the motivation to learn and reduces self-efficacy (Mathieu *et al.*, 1993; Mathieu *et al.*, 1992) and therefore career outcomes.

Regarding the influence of learning behavior on managerial learning from developmental opportunities, McCauley (1986) concluded in her review of developmental experiences in managerial work:

'Events provide a stimulus to learn; the actual response of learning itself is never a sure thing. More research is also needed on individual differences among managers in what they take away from a certain event' (p. 20).

This statement was echoed by Tung, who argued that the ability to learn from experience is likely to be a significant predictor of success (Tung, 1988). Both statements stress the important impact of learning behavior on the relation between the learning environment and career outcomes. Tung stressed also that the way an individual learns is even more important in a global context where the demands of job transitions are compounded by myriad cultural and contextual factors.

Though the research evidence has suggested that the ability to learn from experience coupled with appropriate developmental job experiences is likely to be important for the development and career of executives and professionals, we know much less about the impact of individual differences in learning behavior on career outcomes in a developmental job context. Nevertheless, some recent theoretical frameworks of the interaction between learning behavior and opportunity may provide important clues about the impact of different individual learning behavior on career outcomes.

First, Colarelli *et al.* (1987) investigated the relative and combined effects of personal (e.g., cognitive ability, career goals) and situational variables (e.g., job context, feedback, autonomy) on job outcomes of new professionals. The results showed that the personal variables, most probably linked with learning behavior, accounted for significant variance in turnover and promotability. The combined effect of personal and situational variables, indicating the learning environment, explained the most variance in organizational commitment and job satisfaction. These findings already suggested that personal factors like learning behavior strongly effect career outcomes, both solely and in combination with situational factors.

Second, Kuhnert and Russell (1990) suggested that one of the reasons people varied in learning from experience were individual differences in the learning behavior. Learning from experience by behavior as seeking and using feedback seemed to be related to job performance. As Colarelli *et al.* found, from this study follows that different learning behaviors will have different impact on career outcomes.

Third, in a related vein, Hoeksema (1995) argued that, in a managerial job, meaning oriented learning behavior is more likely to be followed by higher performance than instruction oriented learning. Again, this suggests that the kind of learning behavior have an impact on career outcomes in the circumstances of managerial work experience. However, not every managerial job has the same level of learning opportunities. Therefore, we have to explore whether this effectiveness of meaning oriented learning behavior holds in work environments with different levels of learning opportunities.

From this analysis follows that individual learning behavior is an important personal factor to take into account in the research of the interactive process of individual

learning and development in relation to career outcomes. Individual learning behavior seems to be an important factor in this process, in combination and interaction with the organizational learning environment.

Based on this analysis of research referring to combination and interaction effects of learning opportunities and learning behavior on career outcomes, we could conclude that individuals learn and develop through their experiences and the kind of learning behavior will effect the kind and extent of learning from experiences. Then, it is hardly surprising that research suggests that both learning behavior and learning experience determine career outcomes (Van der Sluis, 1999; Spreitzer *et al.*, 1997; Hoeksema, 1995; McCauley *et al.*, 1994; Colarelli *et al.*, 1987).

The question becomes which learning behavior will make the most of learning experiences and what combination of learning behavior and learning context will result in better career outcomes. For example, many learning opportunities in combination with meaning oriented learning behavior could be an effective combination. An individual who face a lot of learning components on the job and also focuses on the deeper meaning of organizational processes and goals will more benefit from this than those who has a desire for clear instructions and guidelines for his or her performance. Also, a person who receives a lot of support and feedback from his supervisor is more likely to make plans for his personal development and learning way in the organization than an individual who is less mentored and coached by others.

We explored these notions, based on the following hypothesis:

Hypothesis 3. The interaction between learning environments and learning behavior effects (a) income and (b) perceived career development.

METHOD

Sample and procedure

The study was conducted among MBA graduates from three classes of a two-year, full-time MBA program from an international business school. In 1998, we did a survey

that resulted in a sample of 82 MBAs, including 38 who had graduated in 1995, 24 in 1996, and 20 in 1997.

The response rates were acceptable enough (> 70 per cent) to generalize the results to the population of graduating MBAs from which the data were obtained. However, the three-panel nature of the data required that we test for differences between the three groups before aggregating the data. These tests indicated no differences between the three panels, which justified data aggregation.

The sample provides a relatively homogenous sample in terms of age group, educational attainment, intellectual ability, career stage, and choice of management as a career, in an era of new careers. In particular, this sample could illustrate the interactive nature of our concept of learning and development. One should, however, take into account a major treatment effect in the sample, since all survey participants had recently made a very large investment of time, effort, and money in obtaining an MBA degree.

Measures

Consistent with Judge *et al.* (1995, 1997) and Kotter (1995), we measured career outcomes as follows.

Career outcomes

Consistent with Judge *et al.* (1995, 1997), we defined career outcomes as the outcomes or achievements individuals have accumulated as a result of their work experiences. On the basis of prior research (Gattiker & Larwood, 1988; Judge *et al.* 1995, 1997), we consider career outcomes to be comprised of extrinsic and intrinsic components. Extrinsic career success is relatively objective and visible such as pay and ascendancy (Jaskolka, Beyer, & Trice, 1985), while intrinsic career success is defined by the individual, such as when an individual evaluates his or her career or job satisfaction (Gattiker & Larwood, 1988).

Judge *et al.* defined extrinsic career success in terms of salary and number of promotions, and intrinsic career success in terms of job and career satisfaction. These are relevant facets of career success. In our study, we included these facets in a similar way,

although we adjusted the measurement of career outcomes to apply this to our rather homogenous sample of managers. We will explain this in further detail.

Our sample consisted of managers in the same career stage because of their similar background. From this followed that we could measure extrinsic career success only by identification of *salary* and not consider the number of promotions because of the low variance of that indicator among our sample. Furthermore, we asked our respondents to indicate whether they were proud of their work, whether their superior was satisfied with their work, and whether they felt comfortable in their job. These three items were measured also on a 7-point Likert-type scale from (1) 'strongly disagree' to (7) 'strongly agree'. The reliability of this measure was $\alpha = .70$.

This measurement of perceived career development indicates intrinsic career success, although it is not titled as job and career satisfaction conform Judge *et al.* (1995, 1997). However, in our study we were willing to indicate individuals' perception of their career development more than a normative measure like their satisfaction with their career success. Moreover, in relation with the learning context and learning behavior, perceived career development a better indicator of subjective career outcomes than career and job satisfaction. This is a result of the intercorrelation of satisfaction and the perception of learning opportunities; more perceived learning opportunities is probably strongly linked with job and career satisfaction.

To measure learning opportunities of the work environment and learning behavior of an individual, we had to do some preparatory analyses. These are reported below.

Learning opportunities

McCauley *et al.* (1994) build validity evidence among US managers for 104 items measuring the four distinguished kinds of learning opportunities: Transitions, task-related characteristics, obstacles, and support. However, to apply the DCP to European managers, and to -practical desirable- reduce the number of items, we had to do another validation test. Therefore, we did a factor analysis on these 104 items, using our sample of 82 European managers (1998, see above). The quality of the learning environment was

measured by asking respondents how well each statement (item) described elements they faced in their current job. This was measured on a 5-point Likert scale from (1) 'not at all descriptive' to (5) 'extremely descriptive'.

We factor analyzed each category of learning opportunities. This means that we factor-analyzed the 15 items that measured Transitions, the 21 items measuring Obstacles, and the 4 items measuring Support. This structure could not be applied for the category Task-related characteristics. These characteristics were divided into three different groups: Creating change (31 items), High level of responsibility (27), and Non-authority relationships (6 items) (McCauley *et al.*, 1994). Each category was factor-analyzed separately to build a valid scale for these three kinds of task-related characteristics.

Based on the outcomes of the factor analyses, learning opportunities were measured by 42 items, relating to transitions (7 items, for example '*You have to manage something with which you are unfamiliar*'), obstacles (8 items, for example '*You manage a business or unit with financial difficulties*'), support (3 items, for example '*Your boss gives you useful advice and support*'), and task-related characteristics (24 items, for example '*You must deal with diverse clients, customers, or markets*').

The level of total learning opportunities was conducted by the sum of the scores on the four specific kinds of learning opportunity, divided by 4. Each four categories explained more than 60% of the variance and all reliabilities were Cronbach alpha > .60.

Learning behavior

To measure learning behavior of managers, we could make use of existing scales of Hoeksema and Megginson. The scale of Hoeksema was originally based on undergraduate students and after that, it was applied and validated among Dutch managers, undifferentiated for age and function. The scale of Megginson was based on an exploratory study among also managers in all categories of age and functions.

However, consistent with the interactive perspective, one of our major assumptions in our research was that we expected the individual learning process to be dynamic and that learning behavior would be effected by the learning context. Based on

this notion, we assumed that learning behavior was effected by the learning context. In general, we know that contingencies reduce the validity (e.g., Wood and Locke, 1990). Since we were measuring learning behavior among MBAs as opposed to students or mmanagers in general, we had to validate these two instruments for our study specifically in order to measure learning behavior of European managers in their early-career stage. From this, we could derive the items that indicate learning behavior of young European managers.

The scales we used to validate our learning behavior measurement included both the scale of Hoeksema and the scale of Megginson. This resulted in 17 items: 8 of Hoeksema's scale to be answered on a 5-point scale from 1 (never or only rarely true for me) to 5 (always or almost always true for me) and 9 items of Megginson's scale to be answered on a 7-point scale from 1 (never true) to 7 (always true).

To validate and construct a measurement of learning behavior, we factor analyzed these 17 items, using our survey sample (1998, see above) of 82 observations. Based on the 'eigen value > 1' criterion, six factors were found that explained 71.8 % of the variance. These six factors properly corresponded with the four kinds of learning behavior as defined by Hoeksema and Megginson, on the understanding that planned learning and meaning oriented learning are both split into two separate factors. That is, planned learning as distinguished by Megginson breaks up in, on the one hand, planned learning with a focus on tacit knowledge development and personal learning goals and, on the other hand, planned learning with an explicit use of learning plans and developmental contracts related to the organization. Likewise, meaning oriented learning as defined by Hoeksema is divided into meaning oriented learning with a focus on the big picture and into meaning oriented learning with attention to underlying processes.

This result is comprehensible with regard to the boundarylessness and complexity of the work environment of current young managers. Boundarylessness, globalization and related flexibility of the job market demand for making plans according to personal development both organization-based (explicit) and personal-based (tacit). And, complexity requires making a distinction between underlying processes and organizational processes in general.

After this factor analysis, we did reliability analyses for each factor. The results are showed below.

<i>Factor description</i>	<i>Reliability</i>	<i>Nr. of items</i>
Instruction Oriented Learning Behavior	.73	2
Big Picture Oriented Learning Behavior	.57	2
Underlying Process Oriented Learning Behavior	.56	2
Planned, Explicit Learning Behavior	.90	4
Planned, Tacit Learning Behavior”	.79	4
Emergent Learning Behavior	.49	2

Table I. Different learning behaviors based on factor analysis

“The reliability of this scale based on the 5 items following from the factor analyses was .44. After deletion of a negative contributing item, the reliability became .79. This improvement of the reliability of the scale served as a justification for deletion of that item from the scale measuring planned tacit learning behavior.

Each factor was named conform the loading items. Although the two factors measuring, respectively, big picture oriented learning behavior and underlying process oriented learning behavior were rather low (.57 and .56), we decided to do the main data analyses with the inclusion of these indicators. The underlying reason for this was the frequently suggested impact and relevance of these kinds of learning behavior for managerial learning and development, in the sense of sense making (Weick, 1996)

Because the factor emergent learning behavior was not reliable (Cronbach’s alpha = .49), we decided to do the further analyses without this kind of learning behavior. In fact, emergent learning seems to be obvious and is probably done by all individuals. It is closely linked with tacit learning as a result of the unconsciousness of this kind of learning (Bird, 1996). MBAs in particular are expected to engage in this learning behavior as a result of their own responsibility for their learning and development.

Based on the outcomes of the factor analysis, learning behavior was measured by 15 items. Instruction-oriented learning was measured by 2 items, for example ‘*I like to be told precisely what is expected from me*’. Meaning oriented learning with a focus on the big picture was measured by 2 items, like ‘*I try to find out how various aspects of the problems I come across link together*’. Meaning oriented learning with a focus on the underlying processes was also measured by 2 items, including ‘*When making a decision I*

continually take into account the relation between my activities and those of others'. Explicit planned learning was measured by 4 items, for example *'I use a learning contract, development agreement or continuous professional development statement regularly to focus on my progress in developing'*. Tacit planned learning was measured by 4 items, for example *'For me learning is a planned process of setting goals, achieving them and setting new goals'*.

Results

Means, standard deviations, and Pearson correlations among the main research variables are provided in Table 2.

Effect of learning opportunities on income (H1a)

From the correlation diagram follows that there is no significant correlation between the total amount of learning opportunities and income. However, there was a positive significant relationship between income and obstacles as a particular category of learning opportunities on the job ($r = .32$; $p < \bullet .5$).

To test hypothesis 1a, we did a regression analysis with income as dependent variable and obstacles as predictor. The results showed a significant relationship ($p = .017$). Furthermore, we did a difference-of-means test to investigate whether those who had more learning opportunities had higher levels of income or not. We found that those who had more learning opportunities in the category 'Task-related characteristics' had higher levels of income than those who had fewer learning opportunities characterized as such ($p = .024$). This could be a result of more compensation for more responsibilities and autonomy. The effects of learning opportunities from the two categories; obstacles and task-related characteristics, on income thus supported hypothesis 1a.

Effect of learning opportunities on perceived career development (H1b)

The correlations as already presented in Table 2 suggest a strong relation between the level of different kinds of learning opportunities and perceived career development. Levels of learning opportunities in general and support were positively related and the

amount of obstacles was negatively related to perceived career development (all $p < .05$). To investigate the influence of learning opportunities on this subjective career measure, we first computed a regression analysis for learning opportunities in general, and after that, we performed regression analyses for the specific categories of learning opportunities.

We found a significant relation between learning opportunities in general and perceived career development ($p = .030$; $\beta = .291$). Two different categories showed also significant relations with perceived career development: Obstacles ($p = .000$; $\beta = -.501$) and Support ($p = .000$; $\beta = .562$). Because of the opposite signs, we also performed a regression analysis on perceived career development including both support and obstacles. From this followed also a significant regression where perceived career development was dependent on Obstacles ($p = .026$; $\beta = -.283$) and Support ($p = .002$; $\beta = .411$). In other words, the levels of perceived career development will increase if an individual faces fewer obstacles and more support.

Next, we did also a difference-of-means test in order to test whether individuals who have more learning opportunities are more satisfied with their career development than those who have less developmental job characteristics. The results showed that this was indeed the case ($p = .024$). In particular, those who face fewer obstacles have higher levels of perception of one's career development ($p = .003$), and those who are more supported perceived better career development ($p = .000$) than those who have, respectively, more obstacles and less support. Hypothesis 1b was thus supported.

Effect of learning behavior on income (H2a)

The correlations showed that planned tacit learning behavior was correlated with levels of income ($p < .05$, $\beta = .275$). To test hypothesis 2a, we further explored relationships between the different kinds of learning behavior and levels of income. First, we performed regression analyses for each kind of learning behavior with income as dependent variable. After that, we performed a one-way ANOVA to find out whether differences in learning behavior have effects on the levels of income.

From the regression analyses results that planned tacit learning behavior is the

only kind of learning behavior that has a direct effect on income ($F = 4.43$, $p = .040$). The more an individual engages in setting goals for personal development and planning one's learning process, the higher the income.

The one-way ANOVA showed that differences in levels of income could be explained by differences in planned tacit learning behavior. There was a significant difference between levels of income between those who were more engaged in this kind of learning behavior ($p = .024$). Hypothesis 2a was thus supported.

Effect of learning behavior on perceived career development (H2b)

Hypothesis 2b was tested in a similar way as hypothesis 2a. First, we tested the hypothesized relation by regression analyses, and after that by one-way ANOVA. Before that, we looked at the relevant correlations from table 2. From this correlation diagram followed that only planned tacit learning behavior related to perceived career development ($p < .05$). The regression analyses showed the same result; only one significant relation between planned tacit learning behavior and perceived career development ($p = .047$; $\beta = .256$).

From one-way ANOVA and difference-of-means tests resulted no significant differences between perceptions of career development among individuals who had different usage of learning behaviors. However, H2b was supported by differences of income as a consequence of the founded effect of planned tacit learning behavior.

The direct main effects of learning opportunities and learning behavior are schematically summarized in Table 3.

Direct main effect of Learning Opportunities (LO)			Direct main effect of Learning Behavior (LB)		
	On Income	on perc. career development		on income	on perc. career development
Total Learning Opportunities		[+] [*]	Instruction oriented LB		
Obstacles support	[+] [*]	[•] ^{**}	Mean. or. LB – Big Picture		
Transitions		[–] ^{**}	Mean. or. LB – Underlying Pr.		
Task-related characteristics			Planned explicit LB		
			Planned tacit LB	[–] [*]	[+] [*]

Table 3. Direct main effects on income and perceived career development

Note: *: $p < .05$; **: $p < .01$; [+]: positive effect; [-]: negative effect.

Regarding the next step in our analyses, a summary of combination and interaction effects of learning opportunities and learning behavior on income and perceived career development is presented in Table 4.

Combined and interaction effects of LO and LB	Instruction oriented LB		Mean. or. LB – Big Picture		Mean. or. LB – Underlying Process		Planned explicit LB		Planned tacit LB	
	on income	on per. Car.Dt.	on income	on per. Car.Dt.	on income	on per. Car.Dt.	on income	on per. Car Dt.	on income	on per. Car.Dt.
Total Learn. Opp.					I: *					
Obstacles support		c: *		C: **		c: *		I: *	c: *	c: **
Task-related char. Transitions		C: **		C: **		C: **		C: **	C: **	C: **
								I: *	I: **	
									c: *	c: *

Table 4. Combined (C) and interaction (I) effects on income and perceived career development

Note: *: $p < .05$; **: $p < .01$; C: combination effect; I: interaction effect.

Effect of the interaction of learning opportunities and learning behavior on income (H3a)

Interaction effects of, organizational variables, e.g. learning opportunities, and personal variables, e.g. learning behavior, on income were investigated by a hierarchical

factorial ANOVA nested in a general linear model (GLM).

From ANOVA followed that there were several interaction effects between learning opportunities and learning behavior on income. First, we found a two-way interaction effect of learning opportunities in general and meaning oriented learning behavior with a focus on underlying processes ($p = .047$). From the multiple classification analysis (MCA) table followed that this meant that the level of income is positively effected if an individual faces many learning opportunities in general and in this situation focuses on underlying processes. Although planned tacit learning and obstacles have a combined positive main effect ($p = .026$), their interaction explained no added variance ($p = .797$). Another model including both support and planned tacit learning as predictors of income was strongly significant ($p = .000$). The two main effects were significant, respectively $p = .013$; $\beta = .320$, and $p = .000$; $\beta = .562$, and the interaction effect was also very significant ($p = .000$). Furthermore, we found evidence for a combined effect of Task-related characteristics and planned tacit learning on income ($p = .045$, $\beta = .183$; $\beta = .536$). And, the results showed evidence for a combined effect of transitions and planned tacit learning ($p = .043$, $\beta = .037$; $\beta = .535$).

Effect of the interaction of learning opportunities and learning behavior on perceived career development (H3b)

The suggested interaction effects of learning behavior and learning opportunities in hypothesis 3b were tested by a hierarchical method based on a simple factorial general linear model. From ANOVAs and MCA's, the following results were derived.

There is a combined effect of obstacles and instruction oriented learning ($p = .040$; $\beta = .433$, $\beta = .143$). This means that instruction oriented learning for an individual helps to increase the perception of career development in a situation with many obstacles. Second, there was also a combined effect of obstacles and meaning oriented learning with a focus on the big picture ($p = .002$, $\beta = .385$, $\beta = .369$). In other words, individuals who focus on the big picture in their work have higher perceptions of their own career development in a job context with obstacles than those who are not aware of the big picture and who are in an environment with less obstacles. The same effect was found for

obstacles in combination with meaning oriented learning behavior with a focus on the underlying processes ($p = .030$, $\beta = .409$, $\beta = .178$). However, this was a less good combination with respect to the effect on career development perception.

The GLM including obstacles and planned explicit learning as predictors of perceived career development resulted to be highly significant ($p = .015$). However, only the main effect of Obstacles was significant ($p = .002$). But, the 2-way interaction effect of the two variables had a sum of squares of 13.4 with $F = 2.59$ ($p = .026$). On the other hand, the interaction effect of obstacles and planned tacit learning had no effect. Nevertheless, there was a combined effect of these two predictors ($p = .010$, $\beta = .446$, $\beta = .400$).

Support and instruction oriented learning have a combined effect on the individual's perception of career development ($p = .002$). Although the main effect of instruction oriented learning on the perception is not significant as well as the interaction of the two variables, the model was significant ($F = 1.97$, $p = .039$). These results show that instruction oriented learning increases the perception of one's career development in combination with support on the job. The same was true for meaning oriented learning focused on, respectively, underlying processes and big picture, with support ($F = 2.11$, $p = .026$, respectively $F = 2.72$, $p = .005$) and for planned tacit learning in combination with support ($F = 2.12$, $p = .021$).

We found slightly different results for support and planned explicit and tacit learning as predictors of perceived career development. For planned explicit learning in the circumstances of support, the combined main effect of these two is significant ($p = .002$), but also the interaction effect ($p = .017$). This indicates that support has a stronger effect on perceived career development when an individual engages in planned explicit learning behavior.

Furthermore, we tested interaction effects of learning behavior and transitions on the perception of individual's career development. The results showed an effect of the combination of the main effects of meaning oriented learning behavior, big picture focused, and transitions on that perception ($p = .041$) as well as the significance of this model ($p = .040$, $\beta = .171$, $\beta = .363$). This means that the perception of an individual of

one's career development is positive influenced by the experience of transitions and the use of meaning oriented learning behavior whereby the individual focuses on the big picture.

Interaction effects of learning behavior and task-related characteristics on perceived career development were not found.

CONCLUSION

Learning opportunities and learning behavior as career stimuli

Current concepts of careers suggest that individuals are agents of their own development. Individuals have to take their own responsibility for their careers. Implicitly, continuous learning is the hallmark of today's careers. Based on these general elements of managerial learning and development, it is suggested that the interaction between the organization and the individual offers an important frontier for exploration of this concept in the context of boundarylessness.

This suggestion was followed in this study. Both organizational and individual factors were considered and investigated as determinants of career outcomes. First, we examined whether learning opportunities as an organizational factor influence career outcomes. Second, the effect of learning behavior as an individual factor was investigated. Finally, we looked at interaction and combination effects of learning opportunities and learning behavior on career outcomes.

Our findings showed that the amount of learning opportunities on the job has a positive effect of an individual's perception of career development. This illustrates the link between a stimulating and challenging job environment and an individual's job satisfaction. Apparently, current professionals have a desire for continuous learning on the job more or less related to their awareness of their own responsibility for their learning and development. If they are in a work environment with motivating and challenging learning situations, they will enhance their employability. Then, as a result of learning opportunities, they will have a higher perception of their career development.

Related to these general findings, two specific kinds of learning opportunities have to be taken into account. First, we found that more obstacles - that is more lack of

managerial and collegial support, hinders the opportunity to learn. And second, more support from your boss stimulates learning and development. However, facing more obstacles is compensated by higher income. This could mean that current professionals, who are expected to take responsibility for their own continuous learning, pay for their support and feedback. In other words, those individuals who are indeed own agents of their career as demanded by today's flexible and downsized companies, pay for support and other learning opportunities. This interesting issue requires further investigation in future research in the field of organizational learning.

An other relation that was suggested by the data was the direct effect of learning behavior on career outcomes. If an individual engages in planned learning behavior with a deliberated focus on learning goals and developmental targets, he or she has a higher perception of personal career development. In other words, a person is more satisfied with his or her own career development if goals and targets are set beforehand. This could be a result of creating a more realistic view of their learning and development.

Analyses of interaction and combined effects of the defined organizational and personal variables on career outcomes showed clear evidence of interdependence of learning opportunities and learning behavior. The positive effect of planned tacit learning behavior on income hold out in combination with all the four categories of learning opportunities. Nevertheless, the positive effect of this learning behavior on the perception of one's career development was only found in combination with obstacles and support. From these results follows that planning your learning and development is beneficial in both an environment where an individual faces a lack of support and in situations wherein the boss gives support and feedback to the employee. In the former situation, learning goals are something to go by in doing the job without any other help. In the later context, learning goals are probably developed and planned in consultation with a supervisor and will function as guidelines for personal development and performance.

Furthermore, the positive effect of support on the perception of career development is enhanced by planned explicit learning behavior of an individual. Apparently, using a learning contract or a development statement outlining learning plans in combination with support from a boss consolidates one's perception of personal career development.

Support will probably improve an individual's self-confidence and clarifies that he or she is doing well according to learning and development.

DISCUSSION

Given the elements of the current career context, learning opportunities are the substance of today's employee-employer relationships. These job aspects provide individuals possibilities to learn and develop their skills and knowledge. Nowadays, individuals use their jobs to learn and develop their skills and knowledge in order to maintain or improve their labor market position or employability.

If organizations do not offer these opportunities (anymore), individuals will leave the company in order to search for another organization that does provide learning opportunities. These related elements of the boundaryless career imply a 'take away learning and development' concept. As soon as organizations do not offer further and enough learning opportunities, employees will leave the company with the learning and development following from previous jobs taking with them. Further research could investigate whether the learning opportunities as distinguished in this study indeed influence job change and organizational turnover.

This research examined the influence of both learning opportunities and learning behavior on income and perceived career development. The results indicated that both opportunities and behavior predict these career outcomes, but their relative influence depends on the outcome measure, like in the study of Colarelli *et al.* (1987). Situational variables, e.g. support and learning opportunities, accounted for the most variance in perceived career development. Personal variables, like planned tacit learning behavior, accounted for the most variance in income. Combined sets of variables explained also variance in career outcomes; Obstacles and support in combination with all kinds of learning behavior explained the most variance in perceived career development, and planned tacit learning behavior in combination with all kinds of learning opportunities explained the most variance in income.

These findings could be further examined in further research based on longitudinal data. It could be argued that, on the one hand, situational variables like learning

opportunities predict career success on the short term and that, on the other hand, personal variables like learning behavior, although dependent on the context, influence career success on the long term. This was already argued by Colarelli *et al.* (1987).

Both individuals and organizations could make use of the findings of this study.

Individuals could benefit from the knowledge about situations in the work environment that will provide learning opportunities. Furthermore, they could be more aware of their learning behavior and maybe adjust it whenever it is possible.

In the context of boundarylessness, organizations could also make use of the knowledge about organizational situations that consist of learning characteristics. By making these features explicit and recognizing learning opportunities, they could firstly use these job components as a tool for recruiting qualified people. Secondly, organizations could use these work aspects as a tool for motivating and committing people to their work. This will lower the turnover rate and therefore keep knowledge and learning capital into the company. Thirdly, learning opportunities will contribute to management development that will have a positive effect on job and organizational performance. And finally, developmental characteristics could stimulate the learning of the company as a whole. Then being a learning organization will be a result of the availability of learning opportunities for individuals on the job. All these relationships and effects of learning opportunities on organizational level should be explored in further research.

Moreover, learning processes of employees on the job are increasingly influenced by technological innovations of communication technology. A lot is expected from the systematic use of modern information technology to provide all organizational members with the relevant information to make the appropriate decisions in their work which is also thought to encourage learning at all levels (Wijnhoven, 1995; Roth & Niemi, 1996). Clearly multiple ways of learning have come to existence over the last decade. The impact of these technological developments should be taken into account in further research of learning and development of individuals.

Finally, it should be noted that this study refers to individual learning and development on the job from an individual perspective. The research questions were

focused on mental and physical aspects of the learning process rather than on social-organizational operations. This is not to say those social relations and interactions of employees are irrelevant in work-related learning. Pedagogical and adult education scientists and researchers of organizational behavior have already enhanced our knowledge about social and interpersonal relationships. While the interaction approach follows from a perspective of individual learning with a focus on individual behavior and interactions with the work context, further research from a network perspective offers an important frontier for further exploration. This will shed light on what happens between people as they interact socially in terms of learning experiences.

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TABLE 1
Descriptive Statistics of the Core Variables

	Mean	S.D.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Instruction oriented LB	2.73	.83												
2. Meaning or. LB (Big Picture)	3.71	.81	.12											
3. Meaning or. LB (Und Process)	4.10	.70	.33**	.21	—									
4. Planned LB (Explicit)	2.44	1.58	.08	-.09	-.12									
5. Planned LB (Tacit)	4.43	1.22	.21	.00	-.13	.47**	—							
6. Total Learn. Opportunities	2.33	.41	-.00	.29*	-.16	.33*	.05	—						
7. Obstacles	2.07	.68	-.02	.25	.18	-.05	-.05	.26	—					
8. Support	2.98	1.18	.13	.12	-.19	.24	.05	.54**	-.53**	—				
9. Task-related characteristics	2.51	.57	-.14	.10	-.08	.28*	.01	.74**	.38**	.06	—			
10. Transitions	1.86	.58	-.15	.23	-.20	.29*	.04	.69**	.26*	.10	.56**	—		
11. Income (\$000)	79.7	52.5	-.03	.06	.09	.06	.28*	.11	.32*	-.26	.25	.23	—	
12. Perc. career development	5.53	.98	-.03	.08	-.21	.16	.26*	.29*	-.50**	.56**	.19	.08	.06	—

*: $p < .05$; **: $p < .01$; LB: Learning Behavior

FIGURE 1
Research Model

