

# How to retain employees?

The impact of job satisfaction, locus of control, and organizational training.

Carolin Gilcher



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# How to retain employees?

The impact of job satisfaction,  
locus of control, and  
organizational training.

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Carolin Gilcher, i6114076  
Thesis Supervisor: Dr. Raymond Montizaan

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## Abstract

>> **How to retain employees? The impact of job satisfaction, locus of control, and organizational training.** <<

**Purpose** - The purpose of this thesis is to examine the relationship between turnover intentions and job satisfaction and the moderating role of locus of control in this relationship. Furthermore, I investigate the impact of training as an organizational policy instrument to prevent turnover.

**Design/methodology/approach** - Unique employee survey data for the Dutch public and privatized sectors is used and matched to administrative data from the Dutch pension fund for public sector employees (ABP). The final estimation sample consists of 16,684 observations. Moderating and mediating analyses are estimated using OLS, random and fixed effects regressions when possible.

**Findings** - I find evidence for a significantly negative relationship between job satisfaction and turnover intentions. This relationship is moderated by locus of control, being stronger for internals. The thesis also shows that training participation is positively related to job satisfaction. OLS estimates show a mediation effect of job satisfaction on the relationship between training and turnover intentions. This result is, however, not robust to the inclusion of individual fixed effects. I further find that the relationship between training participation and turnover intentions differs with the type of training provided: besides the negative impact on turnover intentions due to an increase in job satisfaction, general training directly increases turnover intentions.

**Practical implications** - This thesis shows the economic significance of locus of control for HR practices. It is therefore in the interest of organizations to gather information about employees' job satisfaction as well as their locus of control, to prevent future turnover. Moreover, organizational training courses can be provided to improve job satisfaction which in turn may lower turnover intentions. HR professionals are recommended to provide predominantly firm-specific training when lowering turnover intentions is their policy aim.

**Contribution** - This thesis examines the relationship of job satisfaction on turnover intentions by focusing on the moderation impact of locus of control. This contributes to the small literature that has empirically documented the importance of locus control for voluntary turnover. Moreover, by providing an organizational strategy to overcome turnover intentions, this thesis contributes to the human capital literature. I add to the literature by specifically analyzing the impact of training participation on turnover intentions and establishing whether it differs with the degree to which training is general.

**Keywords** - turnover intentions, job satisfaction, locus of control, (general) training

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*Unless people believe that they can produce desired effects and forestall undesired ones by their actions, they have little incentive to act. Whatever other factors may operate as motivators, they are rooted in the core belief that one has the power to produce the desired results (Bandura 2000, p. 179).*

## **I. Introduction**

### **Problem Statement**

High incidents of turnover in organizations can lead to substantial direct costs for organizations, which arise due to separation, replacement, new-hire training, and general administration costs. Turnover can also involve indirect costs as it stands for the loss of firm-specific capital. This plays especially an important role for firms with highly skilled employees as they represent organizations' human capital, carry important knowledge and skills, which are an important resource for organizations' productivity and a currency for competitive success (Egan et al. 2004). As recruitment is daily part of the organization's human resource (HR) department, it might be easy to replace employees, but it can take months before a new employee is able to perform at the same level as a departed one (Staw 1980). Turnover may furthermore have long-term consequences for organizations; it can restrain the build-up of human capital as it may reduce firm investments in firm-specific and more general skills and abilities (Koster et al. 2011). Voluntary turnover may therefore has a significant adverse impact on organizational performance (Dess and Shaw 2001), implying that organizations will have strong incentives to reduce their turnover level.

### **Predictor for Turnover Intentions**

Voluntary turnover denotes the decision of an employee to quit the job. To reduce this voluntary withdrawal process, it is of interest for an organization to understand why the employee decided to quit. Clark (2001, p. 255) explains quits to occur "when the appropriately discounted expected utility stream at another job is higher than that in their current position, net of moving costs". As a consequence, it is important for organizations to understand the employees' feeling about the job, and the different aspects that affect these feelings (Chiu and Francesco 2003), to prevent possible turnover intentions. Several empirical studies (see e.g. Clark 2001; Lévy-Garboua et al. 2007; Singh and Loncar 2010; Clark 2015) found that job satisfaction is a major determinant of labor market mobility and therefore may be a good predictor for turnover intentions (Freeman 1978). An explanation why job

satisfaction might be a good predictor is given by Chiu and Francesco (2003), stating that employees develop a behavioral intention to quit the job and find alternative employment if the overall job satisfaction level is sufficiently low. Mobley (1977) visualized and examined the withdrawal decision process and suggests that thinking of quitting is the next logical step after experienced dissatisfaction.<sup>1</sup> Quitting can therefore be described as a psychological reaction to organizational conditions which then fall along a continuum of organizational withdrawal behaviors ranging from day-dreaming to the actual act of quitting (Susskind et al. 2000).

### The Impact of Locus of Control

Psychological reactions to organizational conditions can, however, depend on the personality traits of employees. It is likely that employees with different personality traits will not react in the same way when they are dissatisfied in their job. This thesis therefore focuses on the moderating impact of locus of control on the relationship between job satisfaction and turnover intentions. The concept of internal-external locus of control, first introduced by Rotter (1966), tries to determine whether individuals relate the cause or control of events either to themselves (internal) or to their environment (external). The tendency for internals to believe that they can control events and externals to believe that they cannot contains implications for employees' attitudes and behaviors in work settings (Blau 1987). I conjecture that individuals with an internal locus of control will actively try to change their situation of dissatisfaction. As a consequence, they are more likely to change their situation by restructuring their actual work setting together with the employer or by turning over to a new employer. On the contrary, individuals with an external locus of control are more likely to stay in their jobs even when they are not satisfied with it, believing that they cannot change this circumstance. This leads to the first two research questions of this study:

- 1. Does job satisfaction negatively impact turnover intentions?*
- 2. Does the effect of job satisfaction on turnover intentions differ with the locus of control of employees?*

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<sup>1</sup> Mobley (1977) presents a heuristic schematic of the withdrawal decision process in ten blocks (A – J). He frames the withdrawal process with several possible intermediate steps. For example block A represents the process of evaluating one's existing job, while Block B represents the resultant emotional state of some degree of satisfaction-dissatisfaction. Mobley suggests a number of possible mediating steps between dissatisfaction and actual quitting. The author highlights that one value of this heuristic model is to guide further thinking and empirical research towards a valid descriptive model.

## Organizational Policy Instrument

If job satisfaction indeed negatively impacts turnover intentions, it may be in organizations' interest to try to seek ways to increase job satisfaction within the work setting. There are several possible ways of influencing job satisfaction. The focus of this thesis will be on the motivating role of the provision of training courses. As already highlighted, investments in the human capital of organizations are important to keep up skills and knowledge of the workforce. Providing and investing in training may also, however, be a useful tool to increase employee's job satisfaction (Lee and Bruvold 2003). Several studies showed that as a consequence of training, employees feel more important and valuable to the organization (see e.g. Bartlett 2001; Egan et al. 2004; Sieben 2007; Koster et al. 2011) and see continued education as an expression of esteem of the employer. Moreover, Egan et al. (2004) found that an organizational learning culture is a valid predictor for employees' turnover intentions and that this effect of learning culture is due to an increase in job satisfaction.

Becker (1962) distinguished between general and firm-specific training. The skills, which are generated by general training, are equally valuable to many organizations and raise the employee's potential productivity for other employers as well as for the employer that provides the training. On the other hand, firm-specific training increases employees' productivity only in the organization which provided the training. General and firm-specific training are therefore likely to have different impacts on turnover intentions. Both types of training may positively impact the job satisfaction of employees, but since general training investments can increase the number of outside options of employees, while firm-specific training will increase the value to employees only in the organization which provided the training, firm-specific training is expected to be more effective in reducing turnover intentions. This thesis will therefore also answer the following two research questions:

3. *Does training increases employees' job satisfaction and as a consequence reduces turnover intentions?*
4. *Does general training impacts turnover intentions in a different way than firm-specific training?*

## Data & Findings

I use unique employee survey data for the Dutch public and privatized sectors to examine the relationships between turnover intentions, job satisfaction, and training, as well as how these

relationships are moderated by locus of control. The panel survey data are matched to administrative data from the Dutch pension fund for public sector employees (ABP). The survey data are available for three years and were collected by the Research Centre of Education and the Labour market (ROA). The personality trait locus of control was only measured in 2012.

I find strong evidence that job satisfaction have a significant negative impact on turnover intentions. The more satisfied an employee is, the less he / she develops intentions to quit. Locus of control moderates the negative relationship between job satisfaction and turnover intentions. The relationship is significantly stronger for internals. The results further show a strongly positive effect of participating in training as well as participating in general training on job satisfaction. OLS estimates show a mediation effect of job satisfaction on the relationship between training and turnover intentions. This result is, however, not robust to the inclusion of individual fixed effects. I further find that the relationship between training participation and turnover intentions differs with the type of training provided: besides the negative impact on turnover intentions due to an increase in job satisfaction, general training directly increases turnover intentions.

### Scientific Relevance

I contribute to existing literature in two ways. First, this thesis contributes to the literature that has empirically analyzed personality traits on organizational outcome variables by focusing on the impact locus of control on turnover intentions. Locus of control as a personality trait variable is not a new object of research. Many studies find that locus of control affects multiple organizational outcome variables, for example job performance or human capital investments (see e.g. Judge and Bono 2001; Coleman and DeLeire 2003; Cobb-Clark 2015). Only few studies, however, looked into the potential moderating role of locus of control in the relationship between satisfaction and turnover intentions. The present thesis builds on the research by Chiu et al. (2005), which previously analyzed the impact of locus of control on the relationship between turnover intentions and job satisfaction. Similar to the underlying theoretical framework in this thesis, the authors used locus of control as a moderator, turnover as a dependent variable and (global) job satisfaction as an independent variable. Additionally, they examined organizational commitment as mediating constructs between job satisfaction and turnover intentions, being aware that job satisfaction is identified as an antecedent of organizational commitment. Their results indicated a stronger influence of job satisfaction on

turnover intentions and organizational commitment among those with an internal locus of control than those with an external locus of control. Chiu et al. (2005) did not, however, look into the potential mediating impact of job satisfaction itself. Furthermore, their study focused on the Taiwanese workforce only, limiting the external validity of their results. Moreover, Chiu et al. (2005) did not consider strategies to overcome turnover. By adding training as intervention variable to increase the degree of job satisfaction in the analysis, this thesis contributes by providing more insights on how employers can apply HR instruments to raise employees' job satisfaction and subsequently prevent turnover.

Second, this thesis contributes to the human capital literature by not only looking at the impact of training participation on job satisfaction and turnover intentions, but also by analyzing whether this impact differs with the degree to which training is general: (1) general training useable within the sector and (2) general training useable outside the sector.

### Policy Relevance

The most important aim of this thesis is to gain a more detailed understanding of the impact of locus of control on the underlying relationship of job satisfaction and turnover intentions. The results underpin the importance of high levels of job satisfaction of employees to prevent voluntary turnover. The results of my thesis emphasize the need for analyzing employees' level of job satisfaction and additionally locus of control at an individual level in order to reduce turnover intentions. Monitoring both job satisfaction and locus of control allows employers to identify which workers are most likely to leave the firm.

Admittedly, externals are less likely either to think about leaving or actually leave, even when they are dissatisfied. They will more likely wait until environmental factors force them to leave or until the environment improves. During this period, they will remain, however, unsatisfied which leads to low levels of performance (Spector 1982). Employer should be aware that the quality of their existing employees may be reduced, when the level of job satisfaction is low.

Another implication which can be drawn based on the findings of this thesis is the importance of training courses as an instrument to improve job satisfaction and consequently lower turnover intentions. The results indicate that HR professionals should in particular invest in firm-specific training when turnover intentions are their main aim. In case they provide general training, the results show that HR managers need to embed this training in

further regulations or contracts, as besides the indirect negative effect through job satisfaction, there is also a direct positive effect of general training on turnover intentions. For example, contracts which regulate, that employees have to pay back costs associated to the training investment in case they quite in a certain time period after the training participation.

### Outline

This thesis is organized as follows: Section II discusses the extant literature on the relations between turnover intentions, job satisfaction, training and locus of control. It also outlines the hypotheses. Section III describes the data and the research methodology. Section IV discusses the main results of the empirical analyses. The last section presents the conclusions and discusses the limitations of the analysis as well as suggestions for further research.

## **II. Theoretical Background and Hypotheses**

### **Job Satisfaction as a Predictor for Turnover Intentions**

"The most important corporate resource over the next 20 years will be talent: smart, sophisticated business people who are technologically globally astute and operationally agile" (McKinsey & Co. in Fishman 1998, p. 104). High incidents of turnover can affect this important resource of organizations when highly skilled employees are leaving the organization and have to be replaced. Within voluntary turnover, the employee decides to quit the job (Clark 2001), and not the employer. Delfgaauw (2007, p. 299) highlights, that at an aggregate level, "labor mobility is needed to accommodate differences in growth between firms, industries, or nations". He further adds that recruitment and selection processes can make voluntary turnover a costly affair for organizations. The most obvious direct costs of voluntary turnover are related to the energy and expense of finding replacement personnel (Staw 1980; Dess and Shaw 2001; Delfgaauw 2007). Besides the occurrence of direct costs, also hidden costs or indirect costs might emerge. These indirect costs are mostly linked to decreased performance due to the loss of firm-specific capital. This plays especially an important role for organizations with highly skilled employees as they represent the human capital, carry important knowledge and skills, which are an important resource for organizations' productivity and a key factor for competitive success (Egan et al. 2004). As turnover then is equated with loss of firm-specific capital, higher incidents of turnover increase costs monotonically and financial performance is thereby lowered (Dess and Shaw 2001).

Since turnover is costly, it is in employers' interest to get more insight in why voluntary turnover arises. Chiu and Francesco (2003) argue that an employee will develop a behavioral intention either to stop taking part in the work life or to quit and find alternative employment when his or her overall feeling about the job is sufficiently low (Chiu and Francesco 2003). The intention to quit and to change the employer occurs when a new job opportunity yields higher expected value than the current job, net of mobility costs (Clark 2001). Equally, employees may start looking for another job when they feel that some aspects of their current job can be improved upon (Delfgaauw 2007). Of course, actual quitting is the last step of the withdrawal decision process, as Mobley (1977) already showed in his

theoretical framework.<sup>2</sup> Gaining knowledge about employees' reasons to intend to leave the organization can help to improve retention and avoid actual quitting (Delfgaauw 2007). Therefore, to prevent a possible voluntary turnover intention, it is important for organizations to look at how employees feel about their jobs and different aspects of it, like the physical environment or the organizational culture (Chiu and Francesco 2003).

Job satisfaction is defined as a positive, emotional state resulting from the appraisal of one's job (Freeman 1978). Furthermore, it is an "attitudinal measure which relates perceptions of past events and rewards to current impressions of a job" (Susskind et al. 2000, p. 56). The seminal paper by Freeman (1978) shows the probability of voluntary leave of an employee to decrease with the level of job satisfaction. The robustness of this negative relationship between job satisfaction and turnover has been buttressed by other studies of Akerlof et al. (1988), George and Jones (1996) and Clark (2001), as job satisfaction was found to be a major determinant of labor market mobility.<sup>3</sup> Moreover, further studies proved that job satisfaction plays an important role in conceptual models of labor turnover and is often included as a key psychological predictor (see e.g. Susskind et al. 2000; Clark 2001; Chiu and Francesco 2003; Delfgaauw 2007; Pajo et al. 2010; Koster et al. 2011). Lévy-Garboua et al. (2007, p. 267) concluded, however, that the "propensity to quit only exerts a dampened effect on the decision to quit in the near future" and that this intention is not always followed by action. Employee's intent to quit can be described as a psychological response to dissatisfying job conditions which fall along a continuum of organizational withdrawal behaviors ranging from day-dreaming to the physical act of quitting (Susskind et al. 2000). When it comes to thinking of quitting and then predicting quit behavior, a job satisfaction indicator has the edge because it implicitly incorporates a comparative evaluation with alternatives and indicates a reflective character (Green 2010). Referring back to the withdrawal framework by Mobley (1977), the author suggests that thinking of quitting is the first and next logical step after the experience of dissatisfaction, which in the end may lead to actual labor market mobility. I will test whether this expected outcomes hold:

*Hypothesis 1 (H1):* Job satisfaction has a negative impact on turnover intentions.

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<sup>2</sup> Mobley's (1977) findings are supported by several studies, for instance by Susskind et al. (2000) who state that an individual's intention to quit can also be a continuum of organizational withdrawal behaviors ranging from day-dreaming to the physical act of quitting, described as a psychological response to specific organizational conditions.

<sup>3</sup> The degree of employee's job-related well-being predicted by their job satisfaction appears to be largely associated with specific and tangible aspects of the work environment (Porter et al. 1974; Green 2010).

## Locus of Control as an Influencing Factor

It is likely, that the individual employee may not react in the same way when he or she is not satisfied with the job situation. Individuals behave differently, depending on the degree of perceived ability to control circumstances in their lives (Rotter 1966). In his seminal work, Rotter (1954) proposed a theory of learning in which the reinforcement of a behavior, like getting rewarded or punished, strengthens individuals' expectancy, that this particular behavior will be reinforced in the future.<sup>4</sup> Based on this social learning theory, the concept of locus of control emerged more than 60 years ago.

In the intervening years, locus of control has become one of the most frequently studied concepts in psychology (see e.g. Spector 1982; Judge et al. 2000; Caliendo et al. 2015).<sup>5,6</sup> The concept of locus of control, first introduced by Rotter (1966), refers to individuals' beliefs about being able to control events in their lives. Locus of control, or *internal-external* attitudes, is a psychological concept measuring "a generalized attitude, belief, or expectancy regarding the nature of the causal relationship between one's own behavior and its consequences", which as a consequence then influences a variety of behavioral decisions in everyday situations (Rotter 1966, p. 2). Rotter's (1966) concept seeks to categorize whether individuals attribute the cause or control of events either to themselves (termed as *internals*), or to their environment (*externals*). Coleman and DeLeire (2003) explain that individuals hold beliefs regarding the outcome of certain events, whether they are due to their own efforts or the result of luck, chance, fate, or the intervention of others. As a consequence, individuals believing that outcomes are due to their own efforts have an *internal* locus of control, while on the other hand, individuals who believe that outcomes are due to luck have an *external* locus of control. The tendency for internals to believe that they can

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4 The anticipation of future reinforcement is increased more, however, when individuals believe that the current reinforcement is contingent upon their own behavior than when they do not. As individuals differ in the reinforcement that they have received in the past, Rotter argued that they will also differ in the degree to which they generally attribute reinforcement to their own actions and that these beliefs regarding the internal versus external nature of reinforcement constituted a personality trait (Rotter 1966).

5 Piatek and Pinger (2010) distinguish in their research between a behavioral and a productive impact locus of control does have on either economic choices individuals make or on labor market returns, like earnings. The present paper looks at the behavioral side, as quitting is an economic choice an individual makes. Spector (1982) already demonstrated the importance of personality traits in explaining decision-making and behavior of individuals and looked at locus of control as he found that especially this personality trait is related to behavior in organizational settings.

6 A lot of studies agree that locus of control affects a variety of economic choices individuals make. This is particularly true for education decisions, which most researchers find to be highly influenced by locus of control (Piatek and Pinger 2010). Coleman and DeLeire (2003) for instance, present a model of locus of control and education decisions. Within this model locus of control is viewed as a behavioral trait that affects education decisions, because of its impact on personal beliefs about the effect of education on expected earnings. The authors found, using the National Education Longitudinal Study (NELS), that locus of control has a high and significant impact on schooling decisions, as well as on ex-ante expected earnings conditional on schooling. Recent evidence by Caliendo et al. (2015) on German unemployment data similarly shows, that locus of control is a behavioral trait that affects the subjective probability of finding a job, which in turn leads to an increased search effort and higher reservations wages.

control events and externals to believe that they cannot contains implications for employee's attitudes, perceptions and behaviors also for work settings (Blau 1987).<sup>7</sup>

Spector (1982) appears to be the first of a few studies that conjected locus of control to moderate the relationship between satisfaction and turnover intentions, such that the negative relationship between satisfaction and turnover to be stronger for internals. He found that internals tend to take action more often than externals when being dissatisfied and are therefore more likely to quit their job in dissatisfying situations. They also tend to be more successful on the job and more satisfied, which is further associated with less turnover intentions.<sup>8</sup> On the contrary, individuals with an external locus of control are more likely to stay in their jobs, even when they are not satisfied with it, as they believe they cannot change these circumstances. Spector (1982, p. 493) state that “for highly satisfying jobs, internals would exhibit the same rate of turnover as do externals; for highly dissatisfying jobs, internals would exhibit more turnover than do externals”. Adding to this, only one additional study used locus of control as moderation variable in the relationship between job satisfaction and turnover. Chiu et al. (2005) proposed a model of turnover intentions, using locus of control as a moderator. They focused on locus of control and individual differences to be manifested in perceptions of job stress and leadership support. Their study aimed to fill a gap by investigating the moderating effects of locus of control on each model path across internals and externals. The authors used a sample of professional staff in a hospital in metropolitan Taipei, Taiwan. Their results underpin a stronger influence of job satisfaction on turnover intentions among those with an internal locus of control than those with an external locus of control. The authors highlight the importance of cross-personality research in defining relationships between variables that are sensitive to locus of control, since locus of control is

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7 Blau (1987) showed that internals exert greater efforts personally to control their environment than externals do. He named organizational areas in which internals would probably attempt control, for instance work flow, task accomplishment, work assignments, relationships with supervisors and subordinates, working conditions, goal setting or work scheduling.

8 Regarding the direct effect of locus of control on job satisfaction, Blau (1987) found that internals tend to be more satisfied than externals and are looking for opportunities to take control over their working environment and seek situations in which they can be autonomous. As a consequence, internals with low satisfaction, in the areas mentioned before, may be more likely to take action looking for solutions to change it. Internals motivation is higher than externals to exert greater efforts toward acquiring rewards or achieving their goals because they are more likely to believe their efforts will be successful. Spector (1982) listed a couple of reasons why internals should demonstrate greater job satisfaction than externals do: Besides that internals tend to take action more frequently, tend to set higher goals and obtain these goals with higher motivation than externals, they also may perform better and receive the benefits of that performance because they are used to control information in a more effective way than externals. Furthermore internals tend to advance more quickly and receive more raises than externals do and tend to re-evaluate the situation favorably to retain consistency between their attitudes and behavior.

an important personality trait for describing individual differences and predicting behavior in organizational settings.<sup>9</sup> Therefore my hypothesis is:

*Hypothesis 2 (H2):*            The negative relationship between job satisfaction and turnover intentions is stronger for internals than externals.

### **Training as a Policy Instrument**

As turnover imposes high costs, organizations are likely to be very keen to decrease voluntary turnover intentions. Additionally, if job satisfaction indeed negatively impacts turnover intentions, it will be in their interest to try to seek ways to increase job satisfaction within the work setting. This thesis focuses on the instrumental role of the provision of training courses. Providing and investing in training is needed to maintain skills and knowledge over the life cycle, but may also be a useful tool to increase employee's job satisfaction (Lee and Bruvold 2003). Training can be defined as "a set of planned activities on the part of an organization to increase the job knowledge and skills or to modify the attitudes and social behavior of its members in ways consistent with the goals of the organization and the requirements of the job" (Landy 1985, p. 306). The systematic development of knowledge, skills and expertise provides employees with the means to effectively perform a given task or job (De Grip 2009).

Based on the extant literature, two hypotheses can be formulated about the impact of training courses on employee's turnover intentions. First, using training courses as a motivational tool, they are able to increase job satisfaction and thereby indirectly reduce turnover intentions. Second, the more general the training course, the more ambiguous its effect on turnover will be.

### **Motivating Effect of Training on Job Satisfaction**

Several studies showed that as a consequence of training, employees feel more important and valuable to the organization (see e.g. Bartlett 2001; Egan et al. 2004; Sieben 2007; Koster et al. 2011) and that further education is interpreted as an expression of appreciation by employees. Sieben (2007) highlights that investments in employees development, decreases their intention to quit. An explanation for this effect has been given by several studies: HR-

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<sup>9</sup> Chiu et al. (2005) focused on the HR-management (HRM) for the health care sector and looking especially at locus of control. Moreover, turnover intentions are of particular interest, because managed care has contributed to the erosion of professional autonomy, which has resulted in increasing job stress and dissatisfaction among health professionals. Therefore, the author's investigation can present an interesting opportunity to examine issues of concern to health care managers.

development (HRD) practices affect the behavior and attitudes of employees (see e.g. Sieben 2007; Koster et al. 2011). Organizations investments in further education, contributes to the creation of a favorable perception of employees, regarding the organization's willingness to support their development (Lee and Bruvold 2003). This perception is related to the psychological contract and embedded in the context of the social exchange theory (Koster et al. 2011).<sup>10</sup> The motivational effect of providing training on employee's job satisfaction therefore appears when employees believe in a social exchange relationship between themselves and the organization and this furthermore induces a higher level of job satisfaction as well as a stronger willingness to work hard to contribute to the organization's higher performance (Koster et al. 2011). Lee and Bruvold (2003) found this perceived investment in employees' development to result in an increased job satisfaction for three reasons. First, individuals appreciate organizational development programs as representing the organization's concern for their long-term growth. Second, it gives the employee a greater sense of control over his or her career due to the opportunities to update old skills and gain new ones. Finally, offering development programs improves employee's perceptions about their employer and increases employee's overall positive feeling towards the employer, which in turn then impacts job satisfaction. Training therefore facilitates greater satisfaction by employees towards their jobs and in turn, a willingness by employees to work hard to increase the organization's effectiveness. Providing and investing in training may therefore be a useful tool to increase employee's job satisfaction (Lee and Bruvold 2003). This leads to the following hypothesis:

*Hypothesis 3 (H3):* Training positively influences Job Satisfaction.

### Job Satisfaction as Mediation Variable

Providing training might on the one hand be a tool for organizations to invest in their workforce to keep up skills and knowledge and hence, increasing their image as attractive employer as well as tying the employee to the organization. On the other hand, provided

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<sup>10</sup> Related to the social exchange theory, a central premise is that the provision of training creates conditions in which employees believe that their organizations value their contribution and care about their employability. Concomitant within the context of social exchange theory is the psychological contract which describes employees' beliefs "about their employment relationship and guide employee beliefs about what they think they are entitled to receive because of real or perceived promises from their employing organization" (Bartlett 2001, p. 338). It is further argued by Bartlett (2001), that the psychological contract acts as a powerful determinant of organizational behavior and as a consequence HR management practices are acknowledged as affecting this psychological contract. Multiple studies underpin that HR development practices affect the behavior and attitudes of employees (see e.g. Sieben 2007; Georgellis and Lange 2007; Pajo et al. 2010; Koster et al. 2011). Against this background, training can be viewed as a management practice that can be instrumentalized to trigger a desired set of attitudes and behaviors, including job involvement, motivation and organizational commitment (Bartlett 2001; Lee and Bruvold 2003).

training also might be seen as a sign of appreciation and value towards the employee and as a consequence may lead to more commitment and motivation as well as an increase of employee's job satisfaction. As stated in the first hypothesis of this thesis, high job satisfaction is expected to negatively impact turnover intentions. Looking at the motivational effect training has on job satisfaction, it occurs that job satisfaction could be a mediation variable between training and turnover intentions.

Looking at job satisfaction in a mediating model including training, job satisfaction and turnover intentions, only one empirical study is getting close: Egan et al. (2004), who investigated the relationship among organizational learning culture, job satisfaction, motivation to transfer learning to the workplace setting and turnover intentions. The authors used a self-administered web-based survey to collect individual-level perception data from employees in stand-alone information technology (IT) departments. The population for the study was IT worker in large U.S. companies. The authors highlight that knowledge increasingly becomes a key factor for productivity as well as a currency for competitive success and it is therefore of importance to understand factors that contribute to organizational learning. Indeed, the authors did not look at training itself, but it can be argued that learning culture can be viewed as a worthy comparison variable, as organizational learning culture is similar reasoned as providing training. The authors reasoned that an organizational learning culture will increase employees' job satisfaction and that both of these variables also influence turnover intentions. The results of their structural equation modeling analyses revealed that an organizational learning culture has a strong and significant influence on job satisfaction. They further found that learning culture has also an impact on employees' turnover intentions, but that this impact is indeed mediated by job satisfaction. They concluded that learning culture has a weak direct impact on turnover intentions but that this impact is linked indirectly through job satisfaction (Egan et al. 2004). Their results indicate that organizational success can be improved by paying attention to the organizational learning culture, as well as providing contexts for future examination of workplace learning and performance.

According to Pajo et al. (2010, p. 285), "job satisfaction and organizational commitment have assumed important roles in conceptual models of labor turnover and are often included as key psychological predictors in studies investigating employee withdrawal". Regarding job satisfaction, the conscious use of training might therefore lead to an increase in job satisfaction and further reduce the likelihood of employees actively looking for new jobs

(Green et al. 2000). I expect therefore that all activities related to learning, indifferent of the type of training, will reduce turnover intentions and that this relationship is mediated by job satisfaction.

*Hypothesis 4 (H4):* Participating in training indirectly negatively impacts turnover intentions through the mediating role of job satisfaction.

### Training Type and its Effect on Turnover Rates

I conjecture that the positive effect of training on turnover intentions differ with the type of training provided. Based on the human capital theory, investing in employee development can contribute to the market value of employees and thereby induce turnover (Koster et al. 2011). Seminal research has been done by Becker (1962), who distinguishes between two types of training investment - general and firm-specific training. The skills acquired through general training are equally valuable to the organization which provided the training, as to other organizations in the labor market. It raises the employee's external value, as this training also increases productivity at other employers by the same amount as for the employer that provided the training. As a consequence, voluntary turnover may increase because employees can easily be poached by other organizations (Koster et al. 2011). Specific training, on the other hand, is defined as training that only increases the employee's productivity at the employer providing the training. Regarding firm-specific training, Green et al. (2000, p. 263) explain that "unless there is a contract between employer and employee to share the benefits", they are not willing to pay for its costs, as the acquired skills are not useable in other organizations. In case, the benefits are shared employees will be rather reluctant to quit and employers will be rather reluctant to fire them (Sieben 2007). After all, the mutual benefits to specific training will be lost when quitting and leaving the organization. Therefore, firm-specific training is unambiguously associated with lower turnover rates, through the direct effect of training on turnover, as well as the mediation by job satisfaction.

Investments in general training are of particular interest, as this type of training increases the productivity of employees for organizations other than the incumbent firm (Becker 1962) and may therefore increase turnover behavior. Looking at the total effect of general training on turnover intentions, the association is more ambiguous. On the one hand, it increases the likelihood that employees are poached but on the other hand, it can increase the motivation of employees to stay. This implies that turnover intentions may rise or fall after

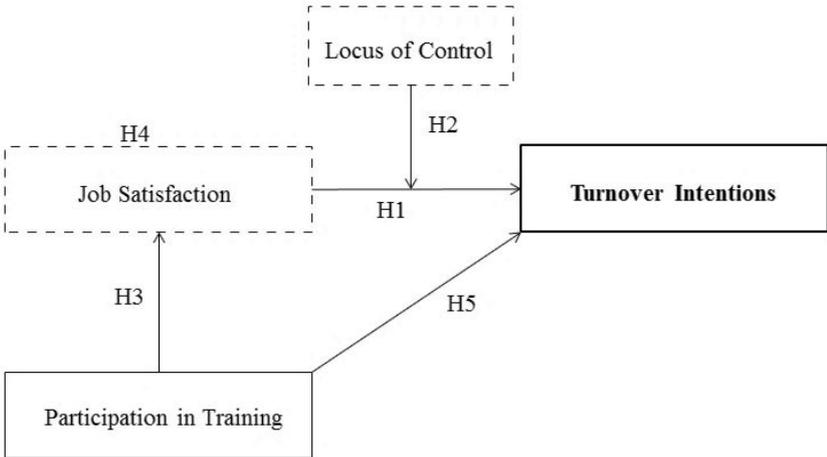
general training provision, depending on which effect is bigger. I therefore expect that firm-specific training will always lead to less turnover intentions, while the impact of general training is ambiguous. This conjecture will be tested:

*Hypothesis 5 (H5):* The more general training is, the more ambiguous the effect on turnover intentions.

**Theoretical framework in an overview**

Figure 1 presents a summary of the theoretical model that forms the basis of this thesis. The main variable of interest in the figure – turnover intentions – is in boldface, the relations to be estimated are represented by the hypothesis number and both the mediating and moderating variables are presented in the dotted boxes. First, job satisfaction is expected to have a negative impact on turnover intention (H1). Hypothesis 2 (H2), conjectures that locus of control is moderating this basic relationship. It is likely to assume that all employees may not react in the same way when they are dissatisfied with their job situation and that the tendency for internals to believe that they can control events and externals to believe that they cannot contain implications for employee’s behaviors. Training provision is expected to be a useful policy instrument to positively influence employee’s job positively (H3). As high job satisfaction reduces employees’ turnover intention and training is expected to increase job satisfaction, it is further expected (H4) that the training indirectly negatively impacts turnover intentions through the mediating role of job satisfaction. Finally, it is argued that the more general the training course is, the more ambiguous its effect on turnover get becomes (H5), as general training directly increases employee’s external value on the labor market, which may then stimulate turnover intentions.

**Figure 1** Theoretical framework.



### III. Data

#### Description

I use unique employee survey data for the Dutch public and privatized sectors to examine the relationships between turnover intentions, job satisfaction and training, as well as how these relationships are moderated by locus of control. The panel survey data are matched to administrative data from the Dutch pension fund for public sector employees (ABP). The administrative data contain information on the number of working hours and the annual wage as well as employment status, tenure, age and gender of the participants. The survey data are available for three years and were collected by the Research Centre of Education and the Labour market (ROA). The purpose of the survey was to get insights into the turnover behavior of public personnel and their job satisfaction.

The sectors covered include more than 1.6 million employees - 13% of the total Dutch labor force. For this study, the public sector's pension fund provided 13,151 randomly selected email addresses of public sector employees born between 1946 and 1975. In the first weeks of April 2011 to 2013, e-mails to these employees containing the link to a web-based survey were sent.<sup>11</sup> The employee survey contained detailed questions on turnover intentions, job satisfaction and life conditions, job characteristics, and a battery of questions to measure employee personality. 5,814 individuals completed the questionnaire in 2011, 6201 answered the survey in 2012 and 6510 in 2013. In sum, a total of 18,525 individual observations were collected. Unemployed respondents at the moment of the survey have been excluded, leading to a 2.6% loss in observations.<sup>12</sup> The final estimation sample consists of 16,684 observations.

#### Measurement

##### Main Variables

The main interest lies in investigating how employee's turnover intentions are related to their job satisfaction and internal locus of control. Research shows that behavioral intentions of turnover are strongly related to actual turnover (Herrbach et al. 2004; Singh and Loncar 2010) and as such, intention to quit is verified to be a direct antecedent of turnover. Turnover intention is measured with a single-item question *Are you looking for another job, or did you look for another job in the past year?*, to which respondents could reply *yes* or *no*. The

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<sup>11</sup> The e-mail addresses were provided by ABP, which has detailed contact information for each employer, due to its role as the public sector's pension fund.

<sup>12</sup> The dropping resulted in the exclusion of 148 observations from 2011, 715 in 2012 and in 2013, 978 were excluded.

measurement is consistent with measures used in previous studies (see e.g. Koster et al. 2011).

For measuring job satisfaction, the following question is used: *How satisfied are you with your job?* Respondents had to indicate their level of satisfaction on a 10-point scale with 0 meaning *totally unsatisfied* and 10 meaning *totally satisfied*. Previous studies have shown that the reliability of subjective, self-reported well-being measures, extracted from individual answers to the survey's satisfaction questions, is sufficiently high to support much of the research that is currently undertaken on subjective well-being. Psychologists and economists have made ample use of such questions in the past three decades. Yet, due to their discreteness and non-random measurement errors, the reliability of these measures is somewhat lower than for measures like education, income, and many other objective microeconomic variables (see e.g. Krueger and Schkade 2008; Montizaan and Vendrik 2014).

An individual's locus of control is measured using self-rated responses to two separate items from the Rotter (1966) scale which can be answered on a 5-point Likert type scale<sup>13</sup> (1) *How my life goes, I have in my own hands* and (2) *For success one must work hard*.<sup>14</sup> Locus of control is ranging from 1 (external) to 5 (internal). Locus of control only was gathered in the second panel year 2012. As it is assumed that personality traits are stable over time, locus of control is extrapolated. Average personality changes are small and do not vary substantially across age groups when individuals reach maturity. Moreover, there is evidence that locus of control is a relative stable personality trait for the working-age population (see e.g. Cobb-Clark and Schurer 2013; Cobb-Clark 2015).

Training participation is measured using the answers on the following survey question: (1) *Have you participated in a training in 2010 [2011, 2012] which is useful for your work?*, to which respondents could reply *yes* or *no*. As in most other studies (see e.g. Koster et al. 2011) training is assessed by whether employees participated in job-related trainings in the previous year. Two other survey questions ask about the degree of training being general (2) *The knowledge gained during the training is useful in other organizations within the same industry* and (3) *The knowledge gained during this training is useful outside the industry in which you work*. The two statements had to be rated on a 5-point Likert type scale measuring

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13 When responding to a Likert questionnaire item, respondents specify their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements. Thus, the range captures the intensity of their feelings for a given item. The two statements had to be rated *To what extent do you agree with the following statements?*, within five possible levels of *Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree*.

14 Both statements are classified to the measurement of internal locus of control. I argue that the degree of locus of control gives an indication if the individual's locus of control is internal, medium, or external.

to what extent the participant agrees with them, within the possible levels of *Strongly Agree*, *Agree*, *Neutral*, *Disagree*, and *Strongly Disagree*.

### Basic control variables

When examining the effect of locus of control as personality trait, the Big Five personality traits are added in my analyses to control for the overall human personality and psyche. Based on Goldberg (1992), personality is assessed using the Big Five taxonomy, according to which personality is broken down into five main dimensions: openness to experience (intellectual curiosity, imagination), conscientiousness (self-discipline, aim for achievement), extraversion (enjoying being with others, being full of energy), agreeableness (consideration, friendliness), and neuroticism (emotional instability, negative emotions). These five personality traits are measured on a 5-point Likert type scale using the abbreviated 15-item Big Five validated by Chamorro-Premuzic and Furnham (2003) as well as McManus and Furnham (2006). This scale includes three items for each personality factor.<sup>15</sup> The statements had to be rated to what extent the participant agree with the them, within levels of *Strongly Agree*, *Agree*, *Neutral*, *Disagree*, and *Strongly Disagree*. I constructed the Big Five personality traits by taking the average score of the three items belonging to each factor. The Big Five were also only gathered in 2012. Because I assume that personality traits are stable over time, I extrapolate the Big Five. There is convincing evidence that the Big Five personality traits are stable for working-age adults over a four-year period (see e.g. Cobb-Clark and Schurer 2012).

For measuring the educational level, the following survey question is used: *What is your highest level of education completed?*, and respondents had to select their level of education out of seven options. Three educational level dummy variables are constructed. The first indicates whether an individual completed a *Lower Vocational Education*. The second dummy indicates whether an individual completed an *Intermediate Vocational Education*, while the last dummy indicates whether an individual completed a *Higher Professional Education* or *University*.

### Descriptives and Correlations

Table 1 presents descriptive statistics of the variables measured in 2011. The exceptions are the variables locus of control as well as Big Five, as both are only gathered in 2012. Starting off with the main dependent variable, the table shows that on average, a large majority of

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<sup>15</sup> The Big Five personality traits are five broad domains or dimensions of personality used in psychology to provide a comprehensive description of human personality. They are based on the Five Factor model (Goldberg 1992). These Big Five personality traits are assumed to account for the basic traits in personality without overlap between traits.

employees in the public and privatized sector are not intended to quit their job. Only 13.5% answered *yes* to the question if they are looking for another job, with a standard deviation of 0.3.<sup>16</sup> The mean score on the question about job satisfaction was nearly 7 (6.978) with a standard deviation of 1.7.<sup>17</sup> A detailed distribution of job satisfaction is given in Figure A 1 (see Appendix). The average score of 7 on a 10-point scale shows that on average employees are reasonable satisfied with their job. The average score on the locus of control indicator is 3.6 with a standard deviation of 0.6. As locus of control is ranging from 1, indicating an external locus of control, to 5, indicating an internal locus of control, the average score indicates that the estimation sample is a slightly more internal than external. Figure A 2 confirms this by showing the distribution of the locus of control variable. Concerning the three dimensions of participation in training, it is striking that the overall participation is large. 60.7% of all respondents participated in a training with a standard deviation of 0.5.<sup>18</sup> However, it is noticeable that there less investment are made in general training: 56.3% participated in general training useable within sector while only 45.4% participated in general training useable outside the sector.

Looking at the other variables of interest, on average, the respondents are nearly 56 years old with a standard deviation of 0.6. The youngest respondent was born in 1975 and the oldest in 1946. Furthermore, 84.1% of the respondents are married or living with a partner. Regarding the education level the majority (68.5 %) is highly educated. Only a minority of 4.9% of the respondents completed a low level of education. Concerning the five dimensions of the variable Big Five, on a 5-point scale, it has been identified that employees score high on conscientiousness - with an average score of 3.6 and with a standard deviation of 0.5 and agreeableness (average score of 3.5, with a standard deviation of 0.4). The score on neuroticism is on average 2.5 with a standard deviation of 0,7 and the score on extraversion is on average scored 3.3 with an standard deviation of 0.6. Finally, the score on openness to experience is on average 3.3 with a standard deviation of 0.7.<sup>19</sup> The final part of Table 1

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16 Looking at the development over the following two years, intentions to quit are affirmed by 13.83 % in 2012 and 12.26% in 2013.

17 Over the following two years the level of job satisfaction developed as follows: – in 2012 the average score is 6.977 with a standard deviation of 1.68 and in 2013 the average score dropped a little to 6.89 with a standard deviation of 1.77.

18 Looking at the development of this average score over the next two years it is noticeable that there is a small decrease in participation, as in 2012, 59.85% and in 2013, 57.12% participated in training.

19 Based on Goldberg (1993) the Big Five can be described by means of their manifestation level. Neuroticism includes for example such traits as nervousness, moodiness, and temperamentality. Extraversion is ranging on the scale from 1 (traits such as silence, passivity, and reserve) to 5 (traits such as talkativeness, assertiveness, and activity level). Openness to experience contrasts such traits as shallowness and imperceptiveness (scale ranging from 1) with traits such as imagination, curiosity, and creativity (scale ranging to 5). Agreeableness contrasts traits such as kindness, trust, and warmth (5) with such traits as hostility, selfishness, and distrust (1). Finally conscientiousness contrasts traits such as carelessness, negligence, and unreliability (1) with traits such as organization, thoroughness, and reliability (5).

shows the descriptives on the job characteristics of the estimation sample. On average, 90% of the respondents have a fulltime working contract of 40 hours per week. Workers have on average nearly 20 years on tenure in the organization.

**Table 1** Descriptive statistics.

| Variable description                                     | Mean   | Std. Dev. | Min | Max |
|--|--------|-----------|-----|-----|
| <i>Main variables</i>                                    |        |           |     |     |
| Intention to quit (yes)                                  | 0.135  | 0.342     | 0   | 1   |
| Job satisfaction (10 - point scale)                      | 6.979  | 1.675     | 0   | 10  |
| Locus of control (5 - point scale)                       | 3.598  | 0.623     | 1   | 5   |
| Training:  |        |           |     |     |
| Participation in training (yes)                          | 0.607  | 0.489     | 0   | 1   |
| Participation in general training useable within sector  | 0.563  | 0.496     | 0   | 1   |
| Participation in general training useable outside sector | 0.454  | 0.498     | 0   | 1   |
| <i>Employee characteristics</i>                          |        |           |     |     |
| Age (in years)   | 55.65  | 6.291     | 36  | 65  |
| Male   | 0.604  | 0.489     | 0   | 1   |
| Living with partner                                      | 0.841  | 0.366     | 0   | 1   |
| Education level:   |        |           |     |     |
| Lower - educated   | 0.049  | 0.217     | 0   | 1   |
| Intermediate – educated                                  | 0.266  | 0.442     | 0   | 1   |
| High – educated  | 0.685  | 0.465     | 0   | 1   |
| Personality traits Big Five (5 point scale):             |        |           |     |     |
| Neuroticism  | 2.475  | 0.670     | 1   | 5   |
| Extraversion   | 3.259  | 0.582     | 1   | 5   |
| Openness   | 3.293  | 0.708     | 1   | 5   |
| Agreeableness  | 3.465  | 0.412     | 1   | 5   |
| Conscientiousness  | 3.619  | 0.538     | 1   | 5   |
| <i>Job characteristics</i>                               |        |           |     |     |
| Contractual working hours (fulltime equivalent scale)    | 0,900  | 0,187     | 1   | 2   |
| Yearly wage (in logs)                                    | 10,728 | 0,459     |     |     |
| Tenure (in years)  | 19,56  | 12,732    | 0   | 47  |

Table 2 presents a correlation matrix of the main variables – turnover intention, job satisfaction, locus of control, training participation and the two variables indicating the degree to which training is general (useable within and without sector). The correlation matrix shows that job satisfaction is indeed highly negatively correlated with turnover intention. Locus of control is also positively correlated with turnover intentions. No raw correlation is found for training participation and turnover intentions. Yet, there is a highly significant and positive

relationship between training participation and job satisfaction. Finally, there is a significant positive correlation between both general training items and turnover intentions.

**Table 2** Correlation Matrix of main variables.

|   | 1           | 2         | 3         | 4         | 5         |
|---|-------------|-----------|-----------|-----------|-----------|
| 1. Turnover   | -           |           |           |           |           |
| 2. Job satisfaction                                   | - 0.2458*** | -         |           |           |           |
| 3. Locus of control                                   | 0.0198**    | 0.1529*** | -         |           |           |
| 4. Participation in training                          | 0.0122      | 0.0937*** | 0.0545*** | -         |           |
| 5. Participation in general training (within sector)  | 0.0416***   | 0.1037*** | 0.0748*** | 0.7567*** | -         |
| 6. Participation in general training (outside sector) | 0.0195**    | 0.1086*** | 0.0699*** | 0.0493*** | 0.9106*** |

Note: \*\*\* p<0.01; \*\* p<0.05.

### Empirical Model

The theoretical model (Figure 1) is divided in two parts - first, it is tested to what extent locus of control moderates the basic relationship between job satisfaction and turnover intentions; second, the mediation construct is tested. To assess the moderation effect of locus of control on the negative relationship of job satisfaction on turnover intentions, the first two hypotheses are estimated according to the following equation:

$$TI_{it} = \alpha + \beta_1 JS_{it} + \delta X_{it} + e_{it} \quad (1)$$

$$TI_{it} = \alpha + \beta_1 JS_{it} + \beta_2 LOC_i + \beta_3 JS_{it} \times LOC_i + \delta X_{it} + e_{it} \quad (2)$$

As part of the equations,  $TI_{it}$  stands for the turnover intentions of employee  $i$  in year  $t$  and  $JS_{it}$  represents the job satisfaction of each individual  $i$  in year  $t$ . Coefficient  $\beta_1$  is expected to be negative ( $\beta_1 < 0$ ).  $LOC_i$  denotes the degree of employee's internal locus of control. The term  $JS_{it} \times LOC_i$  in equation (2) denotes the moderation between internal locus of control and job satisfaction. The coefficient  $\beta_3$  represents the size of moderation effect on the negative relationship between job satisfaction and turnover intentions, being stronger for internals than externals ( $\beta_3 < 0$ ).  $X_{it}$  is a vector of control variables and  $e_{it}$  is the error term.

This study tests further the mediating role of job satisfaction between training participation and turnover intentions. Four requirements need to be fulfilled to indicate mediation, based on Herrbach et al. (2004): First, the independent variable (participation in training) must be significantly related to the dependent variable (turnover intentions). Second, the independent variable should significantly predict the mediating variable (job satisfaction). Third, the mediating variable should be a significant predictor of the dependent variable. Fourth, the effect of the independent variable on the dependent variable should be reduced when the mediator is included in the analysis. Moreover, when the coefficient of the independent variable is no longer significant when the mediator is included, there is strong evidence for a dominant mediator. I estimate the mediation model in four steps (3) - (6) of the form:

$$TI_{it} = \alpha + \beta_1 T_{it} + \delta X_{it} + e_{it} \quad (3)$$

Here,  $T_{it}$  stands for participation in training of employee  $i$  in year  $t$ . Regressing participation in training on turnover intentions is needed to confirm that training is a significant predictor of turnover intentions (Herrbach et al. 2004). The coefficient of interest  $\beta_1$  measures the effect of training on turnover intentions and is expected to be negative ( $\beta_1 < 0$ ). Since I conjecture that the more general training is, the more ambiguous the effect on turnover is, a less strongly negative effect is expected for general training useable outside / inside the sector.

In the second equation of my mediation model (4), job satisfaction is related to participation in training, in order to confirm that training is a significant predictor of job satisfaction (Herrbach et al. 2004). If job satisfaction is not associated with training participation, then a mediation effect is not possible. The training participation coefficient is expected to be positive ( $\beta_1 > 0$ ).

$$JS_{it} = \alpha + \beta_1 T_{it} + \delta X_{it} + e_{it} \quad (4)$$

Subsequently, job satisfaction should be a significant predictor of turnover intentions in the mediation model (Herrbach et al. 2004). The term  $\beta_1 JS_{it}$  indicates the main effect, which is expected to be negative ( $\beta_1 < 0$ ).

$$TI_{it} = \alpha + \beta_1 JS_{it} + \delta X_{it} + e_{it} \quad (5)$$

Finally, I estimate turnover intentions on both job satisfaction and participation in training, to confirm job satisfaction being a mediator (Herrbach et al. 2004). The previously

significant effect of training on turnover intentions in equation (3) should be now greatly reduced. The parameter  $\beta_2$  needs to be statistically significant and  $\beta_1$  should be smaller in absolute value than the original direct effect ( $\beta_1$  of 3).

$$TI_{it} = \alpha + \beta_1 T_{it} + \beta_2 JS_{it} + \delta X_{it} + e_{it} \quad (6)$$

A full mediation model would occur if inclusion of job satisfaction drops the relationship between participation in training and turnover intentions to zero.

I estimate these regressions using ordinary least squares (OLS) regressions in first instance. Afterwards, random and fixed effect regressions are used when possible, as these techniques make use of the panel character of the data. By measuring repeated observations for individuals within the same sample across time (three years), it is possible to control for fixed individual unobserved heterogeneity that can bias my results. Including fixed effects allow me to focus on changes in observations within individuals. Random effects analysis assumes that the individual specific effects to be uncorrelated with the independent variables, while fixed effects analysis assumes that the individual specific effect can be correlated to the independent variable. Because the fixed effect model controls for unobserved heterogeneity, I will treat the estimates based on the fixed model as my preferred estimates. However, as locus of control is only measured in one data wave, I am limited to use OLS regressions followed by random effect regressions to test the moderation effect.

## **IV. Estimation Results**

### **Job Satisfaction as a Predictor for Turnover Intentions**

I start the analysis by documenting a strong negative and significant impact of job satisfaction on turnover intentions in Table 3 for all estimations. The result that high job satisfaction evokes a reduction in turnover intentions is consistent with the evidence provided by the previous literature (see e.g. George and Jones 1996; Susskind et al. 2000; Clark 2001). Column (1) of the table shows the results of OLS regressions. The main advantage of this thesis, however, is the use of panel data and thereby the results of random and fixed effect regressions. Column (2) shows the results of the random effect regression in which the impact of job satisfaction on turnover intentions still remains strongly negative compared to the OLS results. The results of the fixed effect regression presented in column (3), show a drop in the size of the coefficient of job satisfaction, but it remains highly statistically significant. As the Hausmann test shows a chi square of 42.04 and a p-value of smaller than 0.01, the fixed effect model shows the preferred estimation results. Therefore, the results of the fixed effect estimation confirm that an increase in job satisfaction with one unit on a scale from 0 to 10 reduces turnover intentions by approximately 4%. Compared to pooled and random effect regressions, the lower estimate of the negative effect in the fixed effect model can be attributed to the fact that unobserved heterogeneity picks up endogeneity. It can be concluded that hypothesis 1 is confirmed: job satisfaction has indeed a negative impact on turnover intentions.

**Table 3** Job-satisfaction on turnover intentions.

| Dependent Variable:   | (1)                  | (2)                  | (3)                  |
|---|----------------------|----------------------|----------------------|
| Turnover intentions   | Pooled               | Random effect        | Fixed effect         |
| Job satisfaction  | -0.051***<br>(0.002) | -0.049***<br>(0.002) | -0.040***<br>(0.004) |
| 2012 (2011 is ref)  | 0.005<br>(0.007)     | 0.002<br>(0.006)     | -0.012<br>(0.009)    |
| 2013  | -0.012*<br>(0.007)   | -0.010<br>(0.007)    | -0.021**<br>(0.009)  |
| Age   | -0.011***<br>(0.000) | -0.011***<br>(0.001) |                      |
| Gender  | 0.002<br>(0.007)     | 0.001<br>(0.008)     |                      |
| Marital status  | -0.018**<br>(0.008)  | -0.019**<br>(0.009)  | 0.009<br>(0.038)     |
| Lower- educated<br>(intermediate level of education is ref) | 0.052***<br>(0.008)  | 0.054***<br>(0.008)  |                      |
| High- educated  | -0.035**<br>(0.016)  | -0.032**<br>(0.016)  |                      |
| Contractual working hours                                   | -0.032<br>(0.020)    | -0.018<br>(0.021)    | 0.087<br>(0.054)     |
| Yearly income (ln)  | 0.030***<br>(0.011)  | 0.026**<br>(0.011)   | -0.025<br>(0.027)    |
| Constant  | 0.779***<br>(0.106)  | 0.804***<br>(0.110)  | 0.615**<br>(0.293)   |
| Observations  | 12,284               | 12,284               | 8,565                |
| R-squared   | 0.111                | 0.111                | 0.033                |
| Hausmann test chi square                                    |                      |                      | 42.04                |
| P-value Hausmann test                                       |                      |                      | 0.000                |

Robust standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Apart from job satisfaction as predictor for turnover intentions, several basic control variables are included. The results show that age is significant negatively related to turnover intentions. The older an employee, the less the intentions to quit are. In addition, it stands out that intentions to quit are greater for low-educated employees compared to intermediate-educated employees and lower for high-educated employees.

### Locus of Control as a Moderating Factor

Table 4 presents the results of the estimation of the moderation effect of locus of control on the relationship between job satisfaction and turnover intentions (hypothesis 2). Column (1) shows the OLS regressions in which I relate job satisfaction to turnover intentions. The

sample size differs from column (1) from Table 3 because I condition on that locus of control is not missing. The results of the OLS regression including locus of control are presented in column (2). Column (3) includes the moderation analyses. From these three regressions, it becomes clear that job satisfaction remains strongly negatively related to turnover intentions and that locus of control is a strong and statistically significant predictor of whether employees intent to quit. An increase on the locus of control scale of one entity, leads to a 1.9 percentage increase in the likelihood to quit. More importantly, the interaction effect between locus of control and turnover intentions is negative and statistically significant. Thus, the more internal an employee is, the higher the intentions to quit. This result is consistent with the evidence provided by the previous literature (see e.g. Spector 1982; Chiu et al. 2005) and hypothesis 2.

This result is robust to the inclusion of the Big Five as control variables (column 4). I find that extraversion and openness to experience are highly positively correlated with turnover intentions. This can be understood from the fact that these personality traits include assertiveness, creativity, or curiosity (Goldberg 1993). Agreeableness is found to be highly negative correlated to turnover intentions, as this personality trait contrasts traits such as kindness and trust with traits as selfishness and distrust.

Finally, column (5) shows that the results remain robust when estimating a random effect regression.<sup>20</sup> The results of the random effect regression show no significant drop in the coefficient of the interaction effect. I can therefore conclude that hypothesis 2 is confirmed: the negative relationship between job satisfaction and turnover intentions is stronger for internals than externals.

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<sup>20</sup> As locus of control and the Big Five are stable over time and are only available in one data wave, the random effects model is applied instead of a fixed effects model.

**Table 4** Job satisfaction on turnover intentions, stronger for internals than externals.

| Dependent variable:                        | (1)                  | (2)                  | (3)                  | (4)                  | (5)                  |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| Turnover intentions                        | Pooled               | Pooled               | Pooled               | Pooled               | Random effects       |
| Job satisfaction                           | -0.052***<br>(0.002) | -0.053***<br>(0.002) | -0.022*<br>(0.012)   | -0.018<br>(0.012)    | -0.018<br>(0.012)    |
| Locus of Control                           |                      | 0.019***<br>(0.006)  | 0.082***<br>(0.023)  | 0.081***<br>(0.023)  | 0.073***<br>(0.024)  |
| Job satisfaction x Locus of control        |                      |                      | -0.009***<br>(0.003) | -0.011***<br>(0.003) | -0.010***<br>(0.003) |
| 2012 (2011 is ref)                         | -0.005<br>(0.009)    | -0.005<br>(0.009)    | -0.005<br>(0.009)    | -0.003<br>(0.009)    | -0.005<br>(0.008)    |
| 2013                                       | -0.021**<br>(0.010)  | -0.021**<br>(0.010)  | -0.021**<br>(0.010)  | -0.021**<br>(0.010)  | -0.015*<br>(0.009)   |
| Age  | -0.011***<br>(0.001) | -0.011***<br>(0.001) | -0.011***<br>(0.001) | -0.011***<br>(0.001) | -0.012***<br>(0.001) |
| Gender                                     | 0.007<br>(0.009)     | 0.009<br>(0.009)     | 0.009<br>(0.009)     | 0.018*<br>(0.009)    | 0.015<br>(0.011)     |
| Marital status                             | -0.024**<br>(0.010)  | -0.024**<br>(0.010)  | -0.024**<br>(0.010)  | -0.028***<br>(0.010) | -0.029**<br>(0.012)  |
| Lower-educated (intermediate level is ref) | 0.055***<br>(0.010)  | 0.055***<br>(0.010)  | 0.055***<br>(0.010)  | 0.046***<br>(0.010)  | 0.051***<br>(0.011)  |
| High- educated                             | -0.044**<br>(0.020)  | -0.041**<br>(0.020)  | -0.043**<br>(0.020)  | -0.040**<br>(0.020)  | -0.035*<br>(0.021)   |
| Neuroticism                                |                      |                      |                      | -0.000<br>(0.006)    | 0.002<br>(0.007)     |
| Extraversion                               |                      |                      |                      | 0.055***<br>(0.007)  | 0.051***<br>(0.008)  |
| Openness                                   |                      |                      |                      | 0.027***<br>(0.006)  | 0.029***<br>(0.007)  |
| Agreeableness                              |                      |                      |                      | -0.027***<br>(0.009) | -0.026**<br>(0.011)  |
| Conscientiousness                          |                      |                      |                      | 0.016**<br>(0.007)   | 0.018**<br>(0.009)   |
| Contractual working hours                  | -0.049*<br>(0.026)   | -0.049*<br>(0.026)   | -0.049*<br>(0.026)   | -0.054**<br>(0.026)  | -0.030<br>(0.028)    |
| Yearly income (ln)                         | 0.034**<br>(0.015)   | 0.030**<br>(0.015)   | 0.031**<br>(0.015)   | 0.019<br>(0.015)     | 0.015<br>(0.016)     |
| Constant                                   | 0.790***<br>(0.152)  | 0.759***<br>(0.152)  | 0.534***<br>(0.172)  | 0.470***<br>(0.182)  | 0.497**<br>(0.196)   |
| Observations                               | 7,681                | 7,681                | 7,681                | 7,681                | 7,681                |
| R-squared                                  | 0.108                | 0.109                | 0.110                | 0.124                | 0.123                |

Robust standard errors in parentheses.

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

## Training as a Policy Instrument

I continue the analysis estimating the mediation model. It is of interest how participation in training impacts job satisfaction and turnover intentions. I expect to find a motivating effect of training on job satisfaction which indirectly reduced turnover intentions. Furthermore, I expect that firm-specific training will always lead to less turnover intentions, while the impact of general training is ambiguous.<sup>21</sup>

### Motivating Effect of Training on Job Satisfaction

Table 5 presents the results of the estimation of participation in training on job satisfaction (hypothesis 3). Column (1) of the table shows the results of OLS regressions and column (2) and (3) the results of the random and fixed effect regressions. From these three regressions, it becomes clear that training participation is strongly positively related to job satisfaction. The result that participating in training evokes an increase in job satisfaction is consistent with the evidence provided by previous literature (see e.g. Lee and Bruvold 2003; Sieben 2007; Koster et al. 2011). As the Hausmann test show a chi square of 30.25 and a p-value that is smaller than 0.01, the fixed effect model shows the most preferred results. The fixed effects estimates show, that participation in training increases job satisfaction by approximately 0.94 when job satisfaction is increased with one unit on the scale from 0 to 10. Indeed, the results of the fixed effect regression show a drop in its positive effect of training on job satisfaction compared to the pooled and random effect regressions, but it remains still statistically significant. This drop in size and significance can be attributed to the fact that the training participation dummy was picking up for unobserved fixed characteristics in the pooled and random effect models. Looking at the motivational effect of participating in training, hypothesis 3 is confirmed: Training positively influences job satisfaction.

Examining the basic control variables, Table 5 shows that a low education level has a significant negative effect on job satisfaction. It stands out for low-educated employees to be more dissatisfied than intermediate-educated employees. A low education level reduces job satisfaction by approximately -0.19 compared to an intermediate education level. Yet, there is no significant effect for highly educated employees. Furthermore, it is striking that job satisfaction was lower in 2013 compared to 2011.

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<sup>21</sup> Training is measured by three items – participation in training, general training useable within and outside the sector. In the main analysis I will only use participation in training and general training useable outside the sector. I assume that the more striking effect will be appearing the more general the provided training is. Therefore, the estimation results of general training useable within the sector are attached (see Table A 1 - 4 in Appendix).

**Table 5** Training on job satisfaction.

| Dependent Variable:                            | (1)                  | (2)                  | (3)                  |
|--|----------------------|----------------------|----------------------|
| Job satisfaction                               | Pooled               | Random effect        | Fixed effect         |
| Participation in training                      | 0.317***<br>(0.032)  | 0.245***<br>(0.030)  | 0.094**<br>(0.045)   |
| 2012 (2011 is ref)                             | -0.031<br>(0.037)    | -0.014<br>(0.030)    | 0.015<br>(0.038)     |
| 2013   | -0.114***<br>(0.038) | -0.114***<br>(0.032) | -0.114***<br>(0.041) |
| Age  | -0.000<br>(0.002)    | 0.000<br>(0.003)     |                      |
| Gender   | -0.141***<br>(0.037) | -0.099**<br>(0.043)  |                      |
| Marital status                                 | 0.240***<br>(0.042)  | 0.240***<br>(0.048)  | 0.241<br>(0.170)     |
| Lower- educated<br>(intermediate level is ref) | -0.186***<br>(0.039) | -0.143***<br>(0.043) |                      |
| High-educated                                  | -0.068<br>(0.081)    | -0.122<br>(0.083)    |                      |
| Contractual working hours                      | -0.098<br>(0.105)    | -0.030<br>(0.111)    | 0.140<br>(0.237)     |
| Yearly income (ln)                             | 0.349***<br>(0.055)  | 0.250***<br>(0.056)  | -0.023<br>(0.120)    |
| Constant                                       | 3.143***<br>(0.551)  | 4.125***<br>(0.569)  | 6.852***<br>(1.289)  |
| Observations                                   | 12,335               | 12,335               | 8,476                |
| R-squared                                      | 0.016                | 0.016                | 0.006                |
| Hausmann test chi square                       |                      |                      | 30.25                |
| P-value Hausmann test                          |                      |                      | 0.000                |

Robust standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 6 documents the effects when testing the motivational effect of general training useable outside the sector. Column (1) shows the results of an OLS regression and column (2) and (3) the results of the random and fixed effect regressions. When estimating for participation in general training usable outside the sector on job satisfaction, all estimation results remain positive and significant. The coefficient of the fixed effect regression for general training do not vary from the coefficients for overall training participation as

presented in Table 5.<sup>22</sup> Thus, the results indicate that regardless the type of training, its positive effect on job satisfaction remains and hypothesis 3 is still confirmed.<sup>23</sup>

**Table 6** General training on job satisfaction.

| Dependent Variable:                                      | (1)                  | (2)                  | (3)                  |
|--|----------------------|----------------------|----------------------|
| Job satisfaction   | Pooled               | Random effect        | Fixed effect         |
| Participation in general training useable outside sector | 0.355***<br>(0.031)  | 0.266***<br>(0.029)  | 0.094**<br>(0.043)   |
| 2012 (2011 is ref)                                       | -0.031<br>(0.038)    | -0.013<br>(0.030)    | 0.016<br>(0.038)     |
| 2013   | -0.122***<br>(0.038) | -0.121***<br>(0.032) | -0.119***<br>(0.041) |
| Age  | 0.001<br>(0.002)     | 0.001<br>(0.003)     |                      |
| Gender   | -0.149***<br>(0.037) | -0.102**<br>(0.043)  |                      |
| Marital status   | 0.244***<br>(0.042)  | 0.241***<br>(0.048)  | 0.240<br>(0.170)     |
| Lower- educated (intermediate level is ref)              | -0.175***<br>(0.039) | -0.136***<br>(0.043) |                      |
| High-educated  | -0.078<br>(0.081)    | -0.127<br>(0.083)    |                      |
| Contractual working hours                                | -0.114<br>(0.106)    | -0.060<br>(0.111)    | 0.071<br>(0.238)     |
| Yearly income (ln)                                       | 0.335***<br>(0.055)  | 0.245***<br>(0.057)  | -0.018<br>(0.121)    |
| Constant   | 3.297***<br>(0.552)  | 4.218***<br>(0.570)  | 6.872***<br>(1.295)  |
| Observations   | 12,252               | 12,252               | 8,420                |
| R-squared  | 0.018                | 0.018                | 0.006                |
| Hausmann test chi square                                 |                      |                      | 38.89                |
| P-value Hausmann test                                    |                      |                      | 0.000                |

Robust standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

22 The Hausmann test results in a chi square of 38.89 and a p-value of 0.000 – Therefore the fixed effects estimates are viewed as the appropriate ones.

23 To see if the results remain robust, Table A 1 documents the effects when also testing for general training useable within the sector. Column (1) shows the results of OLS regressions and column (2) and (3) the results of the random and fixed effect regressions. When estimating for participation in general training usable within the sector on job satisfaction, the results remain positive and significant ( $\beta = 0.369$ , p<0.01). The coefficient of the fixed effect regression for general training remains strong significant (3) and is also more significant compared to general training useable outside the sector (column (3) in Table 6). Thus, the results underpin that regardless the type of training, its positive effect on job satisfaction remains and hypothesis 3 is still confirmed.

### Job Satisfaction as Mediation Variable

Looking back to the empirical model presented in part III of this thesis the mediation model is estimated in four steps. The first requirement that needs to be fulfilled when testing for mediation is a significant effect of participation in training on turnover intentions. This hypothesis is tested in column (1) of Table 7. The second requirement is a positive and significant correlation of participation in training with job satisfaction. This requirement was already met when hypothesis 3 was tested: participation in training positively influences job satisfaction. Yet, this result is again presented in column (2). The third requirement is a negative relationship between job satisfaction and turnover intentions. This requirement was met when I tested hypothesis 1: Job satisfaction has a negative impact on turnover intentions. This result is again shown in column (3). Finally, controlling for job satisfaction should reduce the effect of training on intentions to quit (column (4), hypothesis 4).

Table 7 presents the OLS estimation results showing that participation in training is significantly and negatively correlated to turnover intentions ( $\beta = -0.016$ ,  $p < 0.05$ ). Thereby, the first requirement is met: participation in training predicts turnover intentions. Although hypothesis 3 is already confirmed, column (2) presents again participation in training significantly and positively ( $\beta = 0.244$ ,  $p < 0.01$ ) related to employees' job satisfaction. Furthermore, job satisfaction is significantly and negatively correlated with the intention to quit: The higher the level of job satisfaction, the lower the intention to quit. This finding is in line with hypothesis 1 and supports the third requirement for establishing a mediating effect: The mediating variable is a significant predictor of the dependent variable. In the final model (column (4) of Table 7), when including all variables of interest (turnover intentions, participation in training and job satisfaction), the negative effect of training decreases in size and significance from  $\beta = -0.016$  ( $p < 0.05$ ) in column (1) to  $\beta = -0.003$  in column (4). The coefficient of job satisfaction in column (4) remains strongly significant and negative. To conclude, job satisfaction functions as a mediator in the OLS model: Most of the impact of training on employee turnover intentions is transferred through job satisfaction. Therefore, hypothesis 4 is confirmed: Training indirectly negatively impacts turnover intentions through the mediating role of job satisfaction.

**Table 7** Training on turnover intentions, mediated by job satisfaction. - pooled

|  | (1)                  | (2)                  | (3)                  | (4)                  |
|--|----------------------|----------------------|----------------------|----------------------|
|  |                      | Test of H3           | Test of H1           |                      |
|  | Pooled               | Pooled               | Pooled               | Pooled               |
|  | Turnover Intentions  | Job satisfaction     | Turnover intentions  | Turnover intentions  |
| Participation in training                      | -0.016**<br>(0.006)  | 0.244***<br>(0.030)  |                      | -0.003<br>(0.006)    |
| Job satisfaction                               |                      |                      | -0.051***<br>(0.002) | -0.049***<br>(0.002) |
| 2012 (2011 is ref)                             | 0.007<br>(0.007)     | -0.016<br>(0.030)    | 0.005<br>(0.007)     | 0.002<br>(0.006)     |
| 2013   | -0.007<br>(0.008)    | -0.113***<br>(0.032) | -0.012*<br>(0.007)   | -0.010<br>(0.007)    |
| Age  | -0.011***<br>(0.000) | 0.000<br>(0.003)     | -0.011***<br>(0.000) | -0.011***<br>(0.001) |
| Gender   | 0.009<br>(0.007)     | -0.100**<br>(0.043)  | 0.002<br>(0.007)     | 0.000<br>(0.008)     |
| Marital status                                 | -0.030***<br>(0.008) | 0.237***<br>(0.048)  | -0.018**<br>(0.008)  | -0.019**<br>(0.009)  |
| Lower- educated<br>(intermediate level is ref) | 0.062***<br>(0.008)  | -0.139***<br>(0.043) | 0.052***<br>(0.008)  | 0.054***<br>(0.008)  |
| High-educated                                  | -0.032**<br>(0.016)  | -0.123<br>(0.083)    | -0.035**<br>(0.016)  | -0.032**<br>(0.016)  |
| Contractual working hours                      | -0.027<br>(0.021)    | -0.019<br>(0.111)    | -0.032<br>(0.020)    | -0.017<br>(0.021)    |
| Yearly income (ln)                             | 0.013<br>(0.011)     | 0.250***<br>(0.056)  | 0.030***<br>(0.011)  | 0.026**<br>(0.011)   |
| Constant                                       | 0.618***<br>(0.110)  | 4.119***<br>(0.570)  | 0.779***<br>(0.106)  | 0.807***<br>(0.110)  |
| Observations                                   | 12,284               | 12,284               | 12,284               | 12,284               |
| R-squared                                      | 0.048                | 0.015                | 0.111                | 0.111                |

Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### Training Type and its Effect on Turnover Rates

Table 8 documents the OLS estimates for participation in training courses that are usable outside the sector in which employees are presently employed (hypothesis 5). Similar to the previous table, column (2) and (3) present the results that test hypothesis 3 and 1. It becomes clear that participation in general training useable outside the sector remains to have a positive effect on job satisfaction and that job satisfaction has a negative effect on turnover intentions.

Columns (1) and (4) provide the results hypothesis 5 can be answered with. Column (1) test the overall effect of general training on turnover intentions. The coefficient is

positively correlated with turnover intentions, yet not significantly ( $\beta = 0.05$ ). When I compare this result with the negative effect of training participation in column (1) in Table 7, I can conclude that firm-specific training indeed leads to less turnover intentions and that the more general the provided training is, the more ambiguous its effect becomes on turnover intentions.

When controlling for job satisfaction, thus filtering out the negative indirect effect of general training through job satisfaction on turnover intentions, column (4) shows that a statistically significant direct effect of general training appears on turnover intentions ( $\beta = 0.015$ ,  $p < 0.01$ ), compared to the insignificant coefficient of column (1). The negative effect of job satisfaction on turnover intentions remains significant and negative ( $\beta = -0.050$ ,  $p < 0.01$ ). The results are therefore consistent with my expectations and hypothesis 5 is thereby confirmed.<sup>24</sup>

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<sup>24</sup> Table A 2 documents the OLS estimates looking at the impact of training useable within the sector on turnover intentions. Again in column (2) and (3) the results are shown when testing for hypothesis 3 and 1: both remain applicable and significant. Of interest to control for hypothesis 5 are column (1) and (4). In column (1) the effect of general training on turnover intentions is tested. The coefficient is negatively correlated with turnover intentions ( $\beta = 0.05$ ,  $p < 0.1$ ). The significantly negative effect of column (1) in Table 7 compared to column (1) of Table A 2 reveals, that less general training leads to less turnover intentions. Because of the drop in significance, hypothesis 5 thereby can be confirmed: The more general training is the more ambiguous the effect on turnover intentions. When controlling for job satisfaction and the indirect effect of general training through job satisfaction, column (4) presents the effect turns positive, yet not significant. Moreover, the effect of job satisfaction on turnover intentions remains significant and negative ( $\beta = -0.049$ ,  $p < 0.01$ ). This underpins that training being less general does not have a strong impact on turnover intentions when job satisfaction is included.

**Table 8** General training on turnover intentions. - pooled

|  | (1)                  | (2)                  | (3)                  | (4)                  |
|--|----------------------|----------------------|----------------------|----------------------|
|  | Pooled               | Pooled               | Pooled               | Pooled               |
|  | Turnover Intentions  | Job satisfaction     | Turnover intentions  | Turnover intentions  |
| Participation in general training useable outside the sector | 0.005<br>(0.006)     | 0.266***<br>(0.029)  |                      | 0.015***<br>(0.006)  |
| Job satisfaction   |                      |                      | -0.051***<br>(0.002) | -0.050***<br>(0.002) |
| 2012 (2011 is ref)   | 0.006<br>(0.008)     | -0.015<br>(0.031)    | 0.005<br>(0.007)     | 0.002<br>(0.007)     |
| 2013   | -0.006<br>(0.008)    | -0.120***<br>(0.032) | -0.012*<br>(0.007)   | -0.010<br>(0.007)    |
| Age  | -0.011***<br>(0.000) | 0.001<br>(0.003)     | -0.011***<br>(0.000) | -0.011***<br>(0.001) |
| Gender   | 0.010<br>(0.007)     | -0.103**<br>(0.043)  | 0.001<br>(0.007)     | 0.000<br>(0.008)     |
| Marital status   | -0.029***<br>(0.008) | 0.238***<br>(0.048)  | -0.016**<br>(0.008)  | -0.018**<br>(0.009)  |
| Lower- educated (intermediate level is ref)                  | 0.059***<br>(0.008)  | -0.132***<br>(0.043) | 0.052***<br>(0.008)  | 0.052***<br>(0.008)  |
| High-educated  | -0.032**<br>(0.016)  | -0.128<br>(0.083)    | -0.037**<br>(0.016)  | -0.033**<br>(0.016)  |
| Contractual working hours                                    | -0.028<br>(0.021)    | -0.049<br>(0.111)    | -0.031<br>(0.020)    | -0.020<br>(0.021)    |
| Yearly income (ln)   | 0.013<br>(0.011)     | 0.244***<br>(0.057)  | 0.031***<br>(0.011)  | 0.027**<br>(0.011)   |
| Constant   | 0.591***<br>(0.110)  | 4.216***<br>(0.571)  | 0.771***<br>(0.107)  | 0.790***<br>(0.110)  |
| Observations   | 12,202               | 12,202               | 12,202               | 12,202               |
| R-squared  | 0.047                | 0.018                | 0.111                | 0.112                |

Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### Robustness Analysis

The last step of my analysis is a robustness check, looking at fixed effect estimates for hypothesis 4 and 5. The Hausman test both times confirmed that the fixed effect regressions are the preferred model.<sup>25</sup>

<sup>25</sup> The Hausmann test in Table 9 revealed a chi square of 30.27 with a p<0.01. In Table 10 the Hausmann test confirmed fixed effects to be appropriate with a chi square of 29.48 and a p<0.01.

### Job Satisfaction as Mediation Variable

The fixed effect estimation results in Table 9 document again the four steps of the mediation model. Testing for hypothesis 1 (column 3) and 3 (column 2), the results remain significant when estimating for panel data.<sup>26</sup> Column (1) estimates training participation on turnover intentions. The results reveal that participation in training is not significantly correlated to turnover intentions anymore. Therefore, the first requirement of testing for mediation effects is no longer fulfilled. The results thus show that the previous results of Table 7 are not robust.

The reason for this could be that the relationship of training and turnover intentions is biased by omitted variables and when controlling for unobserved heterogeneity the drop of the coefficients reveals this. However, it should also be noted that my estimation sample decreased with one third. Standard errors increased therefore substantially, leading automatically to lower significance levels. This could be problematic as only a very small portion has turnover intentions and even a smaller portion of people do change their turnover intentions and do change their training behavior over time (after all, turnover in this stage of life cycle is bad for retirement plans and the likelihood that people start training at this age is low). Furthermore, although the coefficient of training participation is not significant anymore, the coefficient of the training participation variable is not significantly smaller in the fixed effects analysis than in the pooled. The fixed effects results therefore should still be treated with caution.

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<sup>26</sup> Participation in training is significantly and positively ( $\beta = 0.094$ ,  $p < 0.05$ ) related to employees job satisfaction. The drop in the coefficient compared to the pooled results can be ascribed to testing for unobserved heterogeneity. Hypothesis 3 remains true. Moreover, job satisfaction remains also significantly and negatively correlated with the intention to quit although the coefficient is smaller than in column (3) of Table 7. This finding is in line with hypothesis 1.

**Table 9** Training on turnover intentions, mediated by job satisfaction. – fixed effects

|                           | (1)                    | (2)                        | (3)                        | (4)                    |
|---------------------------|------------------------|----------------------------|----------------------------|------------------------|
|                           | Fixed effect           | Test of H3<br>Fixed effect | Test of H1<br>Fixed effect | Fixed effect           |
|                           | Turnover<br>Intentions | Job<br>satisfaction        | Turnover<br>intentions     | Turnover<br>intentions |
| Participation in training | -0.008<br>(0.010)      | 0.094**<br>(0.045)         |                            | -0.005<br>(0.010)      |
| Job satisfaction          |                        |                            | -0.040***<br>(0.004)       | -0.040***<br>(0.004)   |
| 2012 (2011 is ref)        | -0.014<br>(0.009)      | 0.015<br>(0.038)           | -0.012<br>(0.009)          | -0.013<br>(0.009)      |
| 2013                      | -0.018*<br>(0.009)     | -0.114***<br>(0.041)       | -0.021**<br>(0.009)        | -0.021**<br>(0.009)    |
| Marital status            | -0.001<br>(0.039)      | 0.241<br>(0.170)           | 0.009<br>(0.038)           | 0.009<br>(0.038)       |
| Contractual working hours | 0.084<br>(0.054)       | 0.140<br>(0.237)           | 0.087<br>(0.054)           | 0.087<br>(0.054)       |
| Yearly income (ln)        | -0.024<br>(0.027)      | -0.023<br>(0.120)          | -0.025<br>(0.027)          | -0.025<br>(0.027)      |
| Constant                  | 0.335<br>(0.294)       | 6.852***<br>(1.289)        | 0.615**<br>(0.293)         | 0.619**<br>(0.293)     |
| Observations              | 8,443                  | 8,443                      | 8,443                      | 8,443                  |
| R-squared                 | 0.003                  | 0.006                      | 0.033                      | 0.033                  |
| Hausmann test chi square  |                        |                            |                            | 30.27                  |
| P-value Hausmann test     |                        |                            |                            | 0.000                  |

Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### Training Type and its Effect on Turnover Rates

Table 10 presents the fixed effect estimates when including general training useable outside the sector. The results for hypothesis 3 and 1 in column (2) and (3) stay robust. Looking at the results of column (1), when testing for the effect of general training on turnover intentions, the coefficient is now negatively correlated with turnover intentions, yet not significantly ( $\beta = -0.008$ ). More important, however, is that there is no positive significant direct effect of general training on turnover intentions when I control for job satisfaction.<sup>27</sup> Hypothesis 5 is thus rejected when using fixed effects. The same reasoning, however, should be applied here.

<sup>27</sup> Table A 3 presents the fixed effect estimates when including general training useable within the sector. The results for hypothesis 3 and 1 in column (2) and (3) stay robust. Looking at the results of column (1), when testing for the effect of general training on turnover intentions, the coefficient is negatively correlated with turnover intentions, yet not significantly ( $\beta = -0.007$ ). When controlling for job satisfaction and the indirect effect of general training through job satisfaction, column (4) presents also an insignificantly negative effect of general training on turnover intentions. Compared to the pooled results, the fixed effect estimates stay not robust.

The fixed effects estimates should be treated with caution because of the substantial drop in observations.

**Table 10** General training on turnover intentions. – fixed effects

|  | (1)                                    | (2)<br>Test of H3                   | (3)<br>Test of H1                      | (4)                                    |
|--|--|-------------------------------------|--|--|
|  | Fixed effect<br>Turnover<br>Intentions | Fixed effect<br>Job<br>satisfaction | Fixed effect<br>Turnover<br>intentions | Fixed effect<br>Turnover<br>intentions |
| Participation in general training useable outside the sector | -0.008<br>(0.010)                      | 0.094**<br>(0.043)                  |  | -0.004<br>(0.010)                      |
| Job satisfaction   |  |                                     | -0.040***<br>(0.004)                   | -0.040***<br>(0.004)                   |
| 2012 (2011 is ref)   | -0.014<br>(0.009)                      | 0.016<br>(0.038)                    | -0.012<br>(0.009)                      | -0.012<br>(0.009)                      |
| 2013   | -0.018*<br>(0.009)                     | -0.119***<br>(0.041)                | -0.021**<br>(0.009)                    | -0.022**<br>(0.009)                    |
| Marital status   | -0.001<br>(0.039)                      | 0.240<br>(0.170)                    | 0.009<br>(0.038)                       | 0.009<br>(0.039)                       |
| Contractual working hours                                    | 0.083<br>(0.054)                       | 0.071<br>(0.238)                    | 0.087<br>(0.054)                       | 0.083<br>(0.054)                       |
| Yearly income (ln)   | -0.023<br>(0.028)                      | -0.018<br>(0.121)                   | -0.025<br>(0.027)                      | -0.025<br>(0.027)                      |
| Constant   | 0.331<br>(0.296)                       | 6.872***<br>(1.295)                 | 0.615**<br>(0.293)                     | 0.613**<br>(0.295)                     |
| Observations   | 8,388                                  | 8,388                               | 8,388                                  | 8,388                                  |
| R-squared  | 0.003                                  | 0.006                               | 0.033                                  | 0.033                                  |
| Hausmann test chi square                                     |  |                                     |  | 29.48                                  |
| P-value Hausmann test  |  |                                     |  | 0.000                                  |

Robust standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## V. Conclusion

High incidents of turnover in organizations can lead to substantial direct costs for organizations, which arise due to separation, replacement, new-hire training, and general administration costs. Turnover can also involve indirect costs as it stands for the loss of firm-specific capital. Turnover may furthermore have long-term consequences for organizations; it can restrain the build-up of human capital as it may reduce firm investments in firm-specific and more general skills and abilities (Koster et al. 2011). Voluntary turnover may therefore have a significant adverse impact on organizational performance (Dess and Shaw 2001), implying that organizations will have strong incentives to reduce their turnover level.

The purpose of this thesis was to examine the relationship between turnover intentions and job satisfaction and the moderating role of locus of control in this relationship. Furthermore, I investigated the impact of training as an organizational policy instrument to prevent turnover. For this purpose, I matched unique employee panel survey data with administrative data from the Dutch pension fund for public sector employees (ABP) and estimated the relationships between turnover intentions, job satisfaction and training, as well as how these relationships are moderated by locus of control. The survey data were annually collected over three years (2011-2013) by the Research Centre of Education and the Labour market (ROA), except for locus of control which was only measured in 2012.

The results showed that job satisfaction has a substantial negative impact on turnover intentions. The more satisfied an employee is, the less the intentions to quit. Moreover, I found that locus of control moderates this relationship. The negative relationship between job satisfaction and turnover intentions is stronger for internals than externals. This confirms my conjecture that when employees are dissatisfied with their job, especially the employees with an internal locus of control, they are more likely to actively restructure their job situation, by turning over to a new employer. The results furthermore showed that participating in training as well as participating in general training useable outside the sector, impacts job satisfaction strongly positively. The results of the OLS regressions provided evidence for the mediation role of job satisfaction between training and turnover intentions. The robustness analyses including fixed effects, however, indicate that this result should be interpreted with caution. Finally, the OLS regressions showed that general training impacts turnover intentions in a different way than firm-specific training. The more general the provided training is, the more ambiguous its impact on turnover intentions is. This is consistent with the conjecture that

general training on the one hand, similar to firm-specific training, raises job satisfaction which decreases in turn turnover intentions, but on the other hand increases the value of employees also outside the organization and thereby increasing the likelihood that they get poached. Again this result is not robust to the inclusion of fixed effects.

The lack of the robustness of the last two results can be due to several reasons. First, the relationship of training and turnover intentions is biased by omitted variables and when controlling for unobserved heterogeneity the drop in the size of the coefficients reveals this. Second, when testing for fixed effects the estimation sample decreases with one third and as the standard errors thereby increases substantially this automatically leads to lower significance levels. Third, it should be mentioned that my estimation sample consists of respondents of relatively old age (average age of approximately 56 years). Within my estimation sample the overall intention to quit was relatively low and not many people developed an intention to quit. This also applies for participation in training: only a small portion of employees is changing their training behavior at this age. Therefore, the sample may lack variation over time, which may have partly contributed to the fact I did not find results in the fixed effect analysis. I expect to find bigger and more significant effects for younger age cohorts as these are more mobile.

## Discussion

This thesis contributes to the small literature that has empirically analyzed locus of control on turnover intentions. The results of this study suggest that personality matters when investigating organizational outcomes. Contributing to the few previous studies (see e.g. Spector 1988; Chiu et al. 2005), I confirm that locus of control moderates the relationship between satisfaction and turnover intentions, such that the negative relationship between satisfaction and turnover is stronger for internals. Employees do not react and behave in the same way when being dissatisfied, as it depends on their individual level of locus of control. As Rotter (1966) already found, individuals behave differently, depending on the degree of perceived ability to control circumstances in their lives. In particular, the tendency for internals to believe that they can control events and externals to believe that they cannot (Blau 1987), is reflected by the results, as internals tend to take action more often when being dissatisfied and are therefore more likely to quit their job in dissatisfying situations. The link between locus of control and individuals' subjective perception of their job situation has ramifications for nearly every conceivable dimension of organizational work settings (Cobb-

Clark 2015). Management teams therefore need to be aware of this circumstance and should focus on employees' individual personality to provide solutions how to deal with dissatisfaction and to prevent them from quitting. Moreover, I substantiate the importance of including locus of control or several personality traits in future research, as these describe individual differences and predict behavior in organizational settings and therefore provide insights in human thinking and behavior.

Turnover, job satisfaction and training are especially important in competitive labor markets. Both, the high demand for skilled employees and the dynamic changes occurring on this market make the need for organizational strategies aiming retention, well-being and continuous learning to ensure a long-term success (Egan et al. 2004). I contribute to the human capital literature by looking at the impact of training participation on job satisfaction and turnover intentions and by analyzing whether this impact differs with the degree to which training is general. Lee and Bruvold (2003) explained that providing and investing in training is needed to maintain skills and knowledge over the life cycle, but is also a useful tool to increase employee's job satisfaction. My results underpin this motivational effect of training on turnover regardless the degree of training being general. However, the results further show that providing general training might impact turnover intentions in a way organizations want to avoid: General training is a useful tool to increase employees' job satisfaction however, it might not be the best instrument to prevent turnover intentions. Training is more likely to lead to lower turnover when it is less transferable to other organizations. It might therefore be recommendable for organizations to predominantly provide firm-specific training when lowering turnover rates is their main aim.

### **Limitations and Future Research**

Despite the strengths of the analyses, especially the large sample size, the three-year observation window, using OLS as well as random and fixed effects to test for robustness, this research is not without limitations. First, in working-age populations, there is evidence that locus of control is a stable personality trait (see e.g. Cobb-Clark and Schurer 2012, 2013). However, Boyce et al. (2013), find in their study that personality can change and that such change is important and meaningful. Additionally, Cobb-Clark (2015) also highlights that personality has a potential malleability and that work environments or institutional arrangements are able to shape employees' personality. Assuming that locus of control might not be stable over time, it is worthwhile for future research to provide more insights how best

to help employees and organizations to improve their well-being within work settings, taking into account their locus of control. Moreover, it might than be possible to test the impact of locus of control with fixed effect regressions, leading to a more meaningful result.

Second, the used questionnaire limited the measurement for locus of control, as only two underlying items were available from the original scale of Rotter (1966). Future research could benefit from using the full set of items. This enables, to measure an internal as well as an external locus of control to ensure a meaningful measurement and robust interpretation.

Third, despite the use of fixed effects, concerns remain about the internal validity of my results. This holds in particular for the causality. When the survey was conducted, turnover intentions were asked for at the same time as job satisfaction, training and locus of control. It might well be that people who are forced to quit have as a consequence a lower satisfaction level. Moreover, there may be justification bias. When people decide to quite, they may justify their decision by indicating a lower job satisfaction than they actually have. Reverse causality cannot be ruled out.

Fourth, as I use employee survey data for the Dutch public sector, the external validity may be limited. Furthermore, the estimation sample of this study is relatively old. I expect that the effects are more substantial for younger age cohorts, being more mobile in their career decisions. Therefore, future research should focus on younger estimation samples. To increase the generalizability of the results, it would be furthermore worthwhile to extend the analyses to other sectors as well as samples in other countries.

## References

- Akerlof, G. A., Rose, A. K., Yellen, J. L., Ball, L., & Hall, R. E. (1988). Job Switching and Job Satisfaction in the U.S. Labor Market. *Brookings Papers on Economic Activity*, 1988(2), 495–594.
- Bandura, A. (2009). Cultivate self-efficacy for personal and organizational effectiveness. *Handbook of principles of organization behavior*, 2, 179–200.
- Bartlett, K. R. (2001). The relationship between training and organizational commitment: A study in the health care field. *Human Resource Development Quarterly*, 12(4), 335–352.
- Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, 70(5), 9–49.
- BLAU, G. J. (1987). Locus of control as a potential moderator of the turnover process. *Journal of Occupational Psychology*, 60(1), 21–29.
- Boyce, C. J., Wood, A. M., & Powdthavee, N. (2013). Is personality fixed? Personality changes as much as “variable” economic factors and more strongly predicts changes to life satisfaction. *Social Indicators Research*, 111(1), 287–305.
- Caliendo, M., Cobb-Clark, D. A., & Uhlendorff, A. (2015). Locus of control and job search strategies. *Review of Economics and Statistics*, 97(1), 88–103.
- Chamorro-Premuzic, T., & Furnham, A. (2003). Personality predicts academic performance: Evidence from two longitudinal university samples. *Journal of Research in Personality*, 37(4), 319–338.
- Chiu, C., Chien, C., Lin, C., & Hsiao, C. Y. (2005). Understanding hospital employee job stress and turnover intentions in a practical setting: The moderating role of locus of control. *Journal of Management Development*, 24(10), 837–855.
- Chiu, R. K., & Francesco, A. M. (2003). Dispositional traits and turnover intention: Examining the mediating role of job satisfaction and affective commitment. *International Journal of Manpower*, 24(3), 284–298.
- Clark, A. E. (2001). What really matters in a job? Hedonic measurement using quit data. *Labour Economics*, 8(2), 223–242.
- Clark, A. E. (2015). What makes a good job? Job quality and job satisfaction. *IZA World of Labor*.

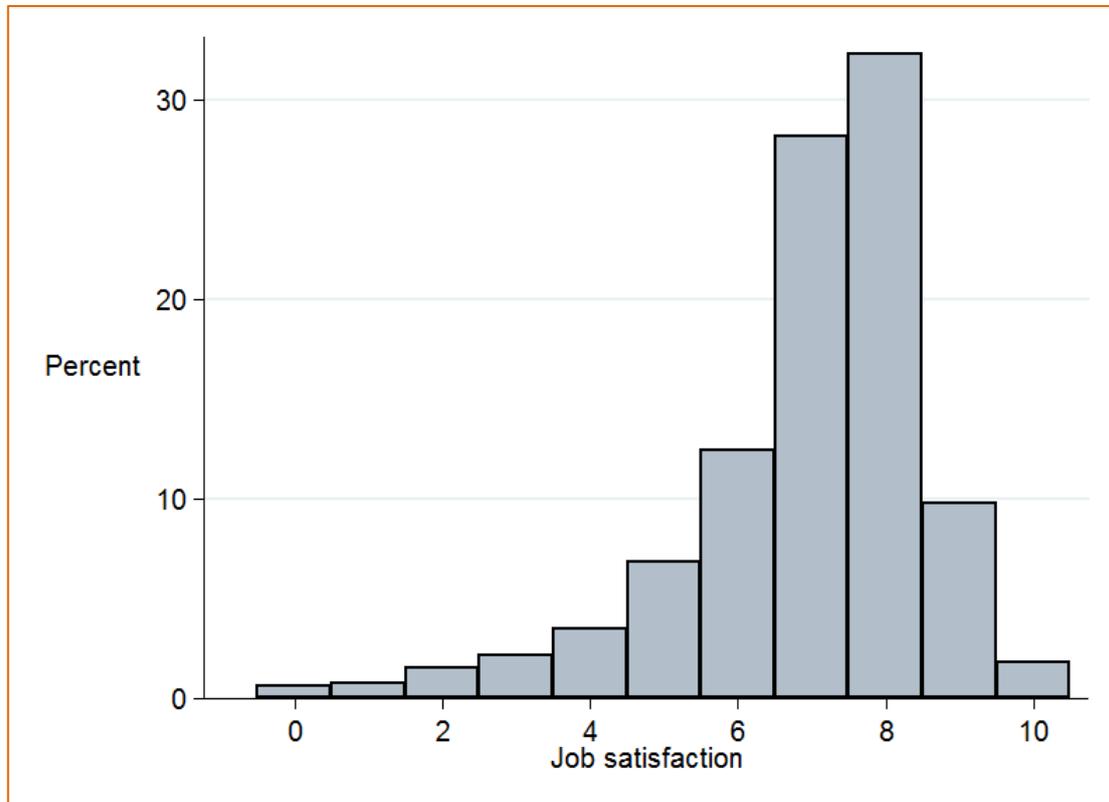
- Cobb-Clark, D. A. (2015). Locus of control and the labor market. *IZA Journal of Labor Economics*, 4(1), 1–19.
- Cobb-Clark, D. A., & Schurer, S. (2012). The stability of big-five personality traits. *Economics Letters*, 115(1), 11–15.
- Cobb-Clark, D. A., & Schurer, S. (2013). Two Economists' Musings on the Stability of Locus of Control. *The Economic Journal*, 123(570), F358.
- Coleman, M., & DeLeire, T. (2003). An Economic Model of Locus of Control and the Human Capital Investment Decision. *Journal of Human Resources*, (3), 701–721.
- Delfgaauw, J. (2007). The effect of job satisfaction on job search: Not just whether, but also where. *Labour Economics*, 14(3), 299–317.
- Dess, G. G., & Shaw, J. D. (2001). Voluntary turnover, social capital, and organizational performance. *Academy of Management Review*, 26(3), 446–456.
- Egan, T. M., Yang, B., & Bartlett, K. R. (2004). The effects of organizational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human Resource Development Quarterly*, 15(3), 279–301.
- Fishman, C. (1998). The war for talent. *Fast Company*, 16(August), 104–108.
- Freeman, R. B. (1978). Job Satisfaction as an Economic Variable. *American Economic Review*, 68(2), 135.
- George, J. M., & Jones, G. R. (1996). The experience of work and turnover intentions: Interactive effects of value attainment, job satisfaction, and positive mood. *Journal of Applied Psychology*, 81(3), 318–325.
- Georgellis, Y., & Lange, T. (2007). Participation in continuous, on-the-job training and the impact on job satisfaction: longitudinal evidence from the German labour market. *International Journal of Human Resource Management*, 18(6), 969–985.
- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological assessment*, 4(1), 26.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American psychologist*, 48(1), 26.
- Green, F., Felstead, A., Mayhew, K., & Pack, A. (2000). The Impact of Training on Labour Mobility: Individual and Firmlevel Evidence from Britain. *British Journal of Industrial Relations*, 38(2), 261.

- Green, F. (2010). Well-being, job satisfaction and labour mobility. *Labour Economics*, 17(6), 897–903.
- Grip, A. de. Economic perspectives of workplace learning. In *The Learning Potential of the Workplace* (pp. 15–29).
- Herrbach, O., Mignonac, K., & Gatignon, A.-L. (2004). Exploring the role of perceived external prestige in managers' turnover intentions. *The International Journal of Human Resource Management*, 15(8), 1390–1407.
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, 86(1), 80–92.
- Judge, T. A., Bono, J. E., & Locke, E. A. (2000). Personality and job satisfaction: The mediating role of job characteristics. *Journal of Applied Psychology*, 85(2), 237–249.
- Koster, F., Grip, A. de, & Fouarge, D. (2011). Does perceived support in employee development affect personnel turnover? *International Journal of Human Resource Management*, 22(11), 2403–2418.
- Krueger, A. B., & Schkade, D. A. (2008). The reliability of subjective well-being measures. *Journal of Public Economics*, 92(8–9), 1833–1845.
- Landy, F. J. (1985). *Psychology of work behavior* (3rd ed). *The Dorsey series in psychology*. Homewood, Ill.: Dorsey Press.
- Lee, C. H., & Bruvold, N. T. (2003). Creating value for employees: investment in employee development. *International Journal of Human Resource Management*, 14(6), 981–1000.
- Lévy-Garboua, L., Montmarquette, C., & Simonnet, V. (2007). Job satisfaction and quits. *Labour Economics*, 14(2), 251–268.
- McManus, I. C., & Furnham, A. (2006). Aesthetic activities and aesthetic attitudes: Influences of education, background and personality on interest and involvement in the arts. *British Journal of Psychology*, 97(4), 555–587.
- Mobley, W. H. (1977). Intermediate linkages in the relationship between job satisfaction and employee turnover. *Journal of Applied Psychology*, 62(2), 237–240.

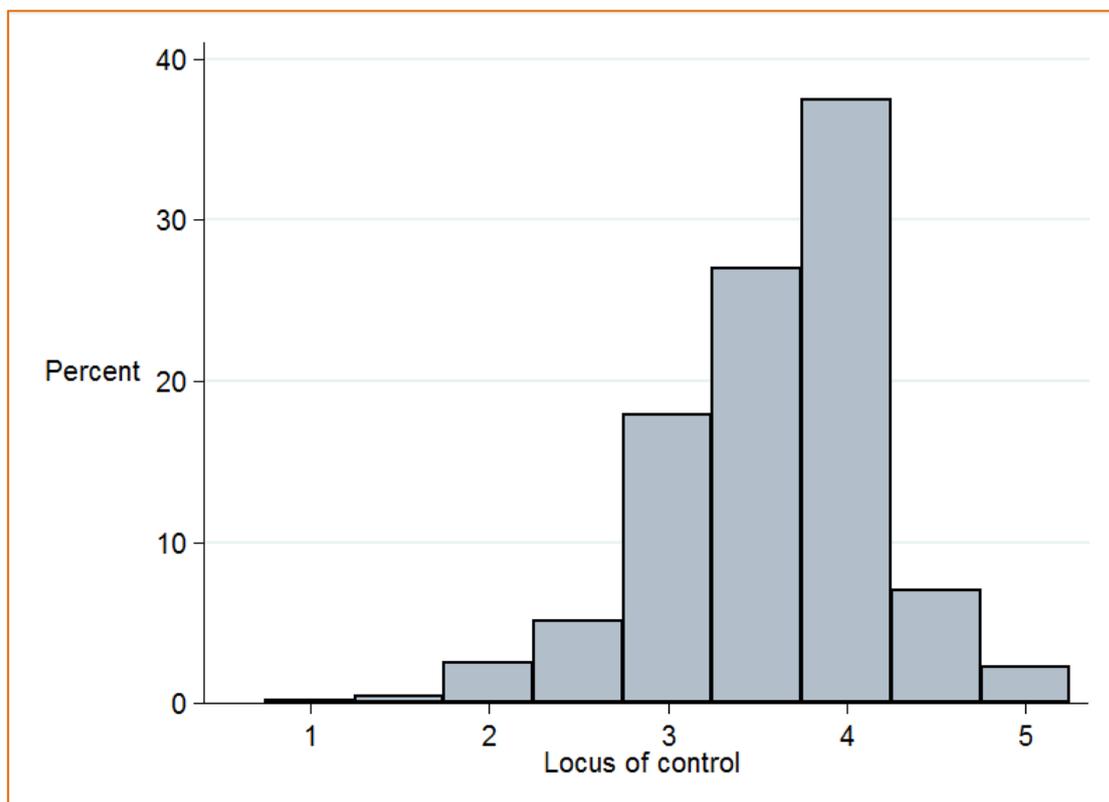
- Montizaan, R. M., & Vendrik, M. C. M. (2014). Misery loves company: Exogenous shocks in retirement expectations and social comparison effects on subjective well-being. *Journal of Economic Behavior & Organization*, *97*, 1–26.
- Pajo, K., Coetzer, A., & Guenole, N. (2010). Formal Development Opportunities and Withdrawal Behaviors by Employees in Small and Medium-Sized Enterprises. *Journal of Small Business Management*, *48*(3), 281–301.
- Piatek, R., & Pinger, P. (2010). Maintaining (locus of) control? Assessing the impact of locus of control on education decisions and wages. *Assessing the Impact of Locus of Control on Education Decisions and Wages*, (10–093).
- Porter, L. W., Steers, R. M., Mowday, R. T., & Boulian, P. V. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology*, *59*(5), 603–609.
- Rotter, J. B. (1954). Social learning and clinical psychology.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, *80*(1), 1–28.
- Sieben, I. (2007). Does training trigger turnover-or not? The impact of formal training on graduates' job search behaviour. *Work, Employment & Society*, *21*(3), 397–416.
- Singh, P., & Loncar, N. (2010). Pay Satisfaction, Job Satisfaction and Turnover Intent. *Relations industrielles*, *65*(3), 470.
- Spector, P. E. (1982). Behavior in organizations as a function of employee's locus of control. *Psychological Bulletin*, *91*(3), 482–497.
- Spector, P. E. (1988). Development of the Work Locus of Control Scale. *Journal of Occupational Psychology*, *61*(4), 335–340.
- Staw, B. M. (1980). The Consequences of Turnover. *Journal of Occupational Behaviour*, *1*(4), 253–273.
- Susskind, A. M., Borchgrevink, C. P., Kacmar, K. M., & Brymer, R. A. (2000). Customer service employees' behavioral intentions and attitudes: An examination of construct validity and a path model. *International Journal of Hospitality Management*, *19*(1), 53–77.

## Appendix

**Figure A 1** Sample distribution by level of job satisfaction.



**Figure A 2** Sample distribution by level of locus of control.



**Table A 1** General training on job satisfaction.

| Dependent Variable:                                     | (1)       | (2)           | (3)          |
|---|-----------|---------------|--------------|
| Job satisfaction  | Pooled    | Random effect | Fixed effect |
| Participation in general training useable within sector | 0.369***  | 0.282***      | 0.115***     |
|   | (0.031)   | (0.029)       | (0.043)      |
| 2012 (2011 is ref)                                      | -0.026    | -0.009        | 0.016        |
|   | (0.037)   | (0.030)       | (0.038)      |
| 2013  | -0.117*** | -0.117***     | -0.119***    |
|   | (0.038)   | (0.032)       | (0.041)      |
| Age   | 0.001     | 0.001         |              |
|   | (0.002)   | (0.003)       |              |
| Gender  | -0.137*** | -0.094**      |              |
|   | (0.037)   | (0.043)       |              |
| Marital status  | 0.240***  | 0.238***      | 0.242        |
|   | (0.042)   | (0.048)       | (0.170)      |
| Lower- educated (intermediate level is ref)             | -0.195*** | -0.152***     |              |
|   | (0.039)   | (0.043)       |              |
| High-educated   | -0.063    | -0.116        |              |
|   | (0.081)   | (0.083)       |              |
| Contractual working hours                               | -0.137    | -0.076        | 0.010        |
|   | (0.105)   | (0.111)       | (0.238)      |
| Yearly income (ln)                                      | 0.354***  | 0.263***      | 0.021        |
|   | (0.055)   | (0.056)       | (0.121)      |
| Constant  | 3.070***  | 3.999***      | 6.486***     |
|   | (0.550)   | (0.569)       | (1.291)      |
| Observations  | 12,287    | 12,287        | 8,420        |
| R-squared   | 0.019     | 0.019         | 0.006        |
| Hausmann test chi square                                |           |               | 34,77        |
| P-value Hausmann test                                   |           |               | 0,000        |

Robust standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table A 2** General training on turnover intentions. - pooled

|  | (1)                    | (2)                  | (3)                    | (4)                    |
|--|------------------------|----------------------|------------------------|------------------------|
|  | Pooled                 | Test of H3<br>Pooled | Test of H1<br>Pooled   | Pooled                 |
|  | Turnover<br>Intentions | Job<br>satisfaction  | Turnover<br>intentions | Turnover<br>intentions |
| Participation in general training<br>useable within the sector | -0.012*                | 0.281***             |                        | 0.003                  |
|  | (0.006)                | (0.029)              |                        | (0.006)                |
| Job satisfaction   |                        |                      | -0.051***              | -0.049***              |
|  |                        |                      | (0.002)                | (0.002)                |
| 2012 (2011 is ref)   | 0.007                  | -0.011               | 0.005                  | 0.002                  |
|  | (0.007)                | (0.030)              | (0.007)                | (0.007)                |
| 2013   | -0.007                 | -0.116***            | -0.013*                | -0.010                 |
|  | (0.008)                | (0.032)              | (0.007)                | (0.007)                |
| Age  | -0.011***              | 0.001                | -0.011***              | -0.011***              |
|  | (0.000)                | (0.003)              | (0.000)                | (0.001)                |
| Gender   | 0.009                  | -0.095**             | 0.001                  | 0.000                  |
|  | (0.007)                | (0.043)              | (0.007)                | (0.008)                |
| Marital status   | -0.030***              | 0.236***             | -0.018**               | -0.019**               |
|  | (0.008)                | (0.048)              | (0.008)                | (0.009)                |
| Lower- educated<br>(intermediate level is ref)                 | 0.062***               | -0.149***            | 0.052***               | 0.054***               |
|  | (0.008)                | (0.043)              | (0.008)                | (0.008)                |
| High-educated  | -0.033**               | -0.117               | -0.036**               | -0.033**               |
|  | (0.016)                | (0.083)              | (0.016)                | (0.016)                |
| Contractual working hours                                      | -0.025                 | -0.065               | -0.031                 | -0.018                 |
|  | (0.021)                | (0.111)              | (0.020)                | (0.021)                |
| Yearly income (ln)   | 0.013                  | 0.262***             | 0.031***               | 0.027**                |
|  | (0.011)                | (0.056)              | (0.011)                | (0.011)                |
| Constant   | 0.607***               | 3.994***             | 0.771***               | 0.791***               |
|  | (0.110)                | (0.570)              | (0.106)                | (0.110)                |
| Observations   | 12,236                 | 12,236               | 12,236                 | 12,236                 |
| R-squared  | 0.048                  | 0.018                | 0.110                  | 0.110                  |

Robust standard errors in parentheses.

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table A 3** General training on turnover intentions. – fixed effects

|  | (1)                    | (2)                        | (3)                        | (4)                    |
|--|------------------------|----------------------------|----------------------------|------------------------|
|  | Fixed effect           | Test of H3<br>Fixed effect | Test of H1<br>Fixed effect | Fixed effect           |
|  | Turnover<br>Intentions | Job<br>satisfaction        | Turnover<br>intentions     | Turnover<br>intentions |
| Participation in general training<br>useable within the sector | -0.007<br>(0.010)      | 0.115***<br>(0.043)        |                            | -0.004<br>(0.010)      |
| Job satisfaction   |                        |                            | -0.040***<br>(0.004)       | -0.040***<br>(0.004)   |
| 2012 (2011 is ref)   | -0.015*<br>(0.009)     | 0.016<br>(0.038)           | -0.012<br>(0.009)          | -0.013<br>(0.009)      |
| 2013   | -0.019**<br>(0.009)    | -0.119***<br>(0.041)       | -0.021**<br>(0.009)        | -0.022**<br>(0.009)    |
| Marital status   | -0.002<br>(0.039)      | 0.242<br>(0.170)           | 0.009<br>(0.038)           | 0.008<br>(0.039)       |
| Contractual working hours                                      | 0.081<br>(0.054)       | 0.010<br>(0.238)           | 0.087<br>(0.054)           | 0.079<br>(0.054)       |
| Yearly income (ln)   | -0.023<br>(0.028)      | 0.021<br>(0.121)           | -0.025<br>(0.027)          | -0.023<br>(0.027)      |
| Constant   | 0.326<br>(0.296)       | 6.486***<br>(1.291)        | 0.615**<br>(0.293)         | 0.595**<br>(0.295)     |
| Observations   | 8,388                  | 8,388                      | 8,388                      | 8,388                  |
| R-squared  | 0.003                  | 0.006                      | 0.033                      | 0.033                  |
| Hausmann test chi square                                       |                        |                            |                            | 31,91                  |
| P-value Hausmann test  |                        |                            |                            | 0.000                  |

Robust standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## Official statement of original thesis

By signing this statement, I hereby acknowledge the submitted thesis, titled

**‘How to retain employees? The impact of job satisfaction, locus of control, and organizational training’**

to be produced independently by me, without external help.

Wherever I paraphrase or cite literally, a reference to the original source (journal, book, report, internet, etc.) is given.

By signing this statement, I explicitly declare that I am aware of the fraud sanctions as stated in the Education and Examination Regulations (EERs) of the SBE.

Carolin Gilcher

Management of Learning

Skill MA Thesis: Management of Learning (2015-300-EBS4005)

ID number: I6114076

Maastricht, 22th July 2016

Signature:

A handwritten signature in black ink that reads "Carolin Gilcher". The signature is written in a cursive style with a large, looped initial 'C'.