



Utrecht University

Job insecurity and in-role performance in the public sector: the mediating role of willingness to train

A CASE STUDY OF PUBLIC UNIVERSITIES IN THE NETHERLANDS

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ABSTRACT

Research aim: Flexible employment with temporary contracts is a general characteristic in the Netherlands, while the current labor market is affected by staff shortages. Dutch universities are frontrunners when it comes to temporary contracts; from 2003-2020 the number of temporary contracts doubled. This high percentage of temporary workers and the staff shortages are causing a tension in the employment relations. Temporary workers change jobs more easily and, therefore, universities employees are considered at risk to change work environment, especially since the staff shortages increase the opportunities in the labor market.

Generally, job insecurity impacts short-term and long-term outcomes on the individual and organizational levels, but what is interesting is to study the relation to in-role performance, since the research is indecisive, and investigate if training programs can be a mediating mechanism. Therefore, this study examines the relationship between job insecurity due to the provision of fixed-term contracts, and in-role performance, and job insecurity and employees' incentives for training; whether job insecurity will push them to participate in sector-specific learning and development programs.

Relevance: The inconsistent research on the impact of job insecurity on in-role performance, as well as the scarce evidence about employees' willingness to follow sector-specific trainings in uncertain environments dictate that more exploration on the matter is needed. Furthermore, there is a social relevance related to keeping a high educational level in society, while universities and workers will have a clear idea and an arrow in their quiver to substantiate their bargain of providing permanent contracts to more employees.

Study method: Quantitative research with web-based survey prepared in Qualtrics and analyzed in Stata. Linear regression models were used, and mediation was tested with Stata's mediation option.

Study findings: Job insecurity is negatively related to in-role performance and the following and willingness to follow job-related trainings, in the context of Dutch universities. Furthermore, the following and the willingness to follow job-related trainings positively relates to better in-role performance. Lastly, the following of job-related trainings like the BKO mediates the relationship between job insecurity and in-role performance.

Future research: Explore if the possibility to obtain a permanent contract will alter the results and the effects on psychological and physical well-being. Regarding the research about Dutch universities, researchers could test whether the position plays a significant role in determining whether employees will follow job-related trainings. Also, examine if employees will be more willing to follow trainings that will enhance their general skills.

Keywords: job insecurity, incentives / willingness to train and develop, employees, public Dutch universities, the Netherlands, fixed-term / permanent contracts, in-role performance, training and development programs / COR theory

1. INTRODUCTION

1.1. THE INTERESTING CASE OF PUBLIC UNIVERSITIES IN THE NETHERLANDS

Exposure to temporary employment relates to increased job insecurity (De Witte & Naswall, 2003), which impacts short-term and long-term outcomes like performance and learning intentions (Sverke et al., 2002). Some researchers tend to agree that there is a negative relationship between job insecurity and performance and job insecurity and intentions to follow training (Jiang et al., 2012; Lepine et al., 2005), others find the relationship positive (De Cuyper et al., 2008; Gilboa et al., 2008), while others insisted that it could both positive and negative depending on the situation (Staufenbiel & König, 2010) and tried to locate mediating mechanisms (Podsakoff et al., 2007).

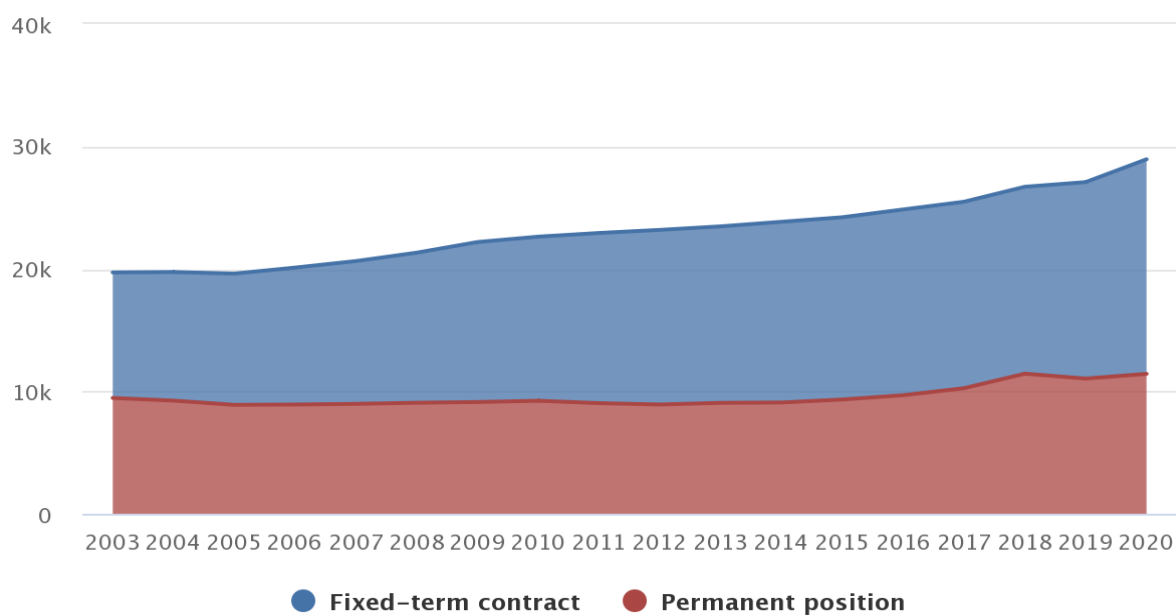
This research will attempt to apprise the relation between job insecurity and in-role performance and shed light on the debate, and, more specifically, on whether there is a negative relationship or whether employees are challenged to perform. The focus is on in-role performance because job-related tasks and responsibilities are related to the effectiveness and success of the organization (Herawati et al., 2021); in-role performance directly impacts an organization's ability to achieve its goals. Moreover, the study will provide a deeper understanding of the relationship by locating a mediating mechanism. Job insecurity can impact the employees' willingness to follow training programs, which is important as training seems to affect in-role performance.

The variables and their relationships are studied in the context of universities in the Netherlands. Generally, a high percentage of Dutch universities' employees work under fixed-term contracts, which combined with the general staff shortages in the Netherlands and the fact that temporary workers change jobs more frequently, create a tension in the employment relations. Since one of the main objectives of the universities is to educate the society, it is important to understand whether the teaching personnel contributes to the achievement of the universities' goals, through performing effectively their in-role related tasks. The role of the universities is essential to ensure a high level of education in society, and, thus, the in-role performance of teachers is considered important and, therefore, measured. In other words, it is interesting to examine how temporary contracts and job insecurity impact in-role performance.

Generally, flexible employment is a characteristic of the Dutch labor market. The percentage of temporary workers in the Netherlands was 19%-22.8% between 2009-2021 (Statista, 2022) (European: 10,5%-11,3% between 2005-2020 (Statista, 2021)). Currently, the labor market in the Netherlands is characterized as tight, with staff shortages affecting all sectors of the market (NL Times, 2022).

Dutch universities are frontrunners when it comes to temporary contracts. A high percentage of university staff in the Netherlands are employed with temporary contracts, which could also be extended to a maximum of 6 years. This includes teaching and non-teaching personnel and researchers. Graph 1 presents the number of temporary and permanent contracts in Dutch universities over the seventeen years between 2003 to 2020. Even though the positions increased by a third, the permanent contracts remained at the same levels throughout all the years. In contrast, the temporary contracts doubled (Rathenau Instituut, 2021).

Graph 1
The development of fixed-term contracts as compared to the permanent at Dutch universities.



Source: UNL – the WOPI database on university personnel
<https://www.rathenau.nl/en/science-figures/personnel/university-staff/scientists-temporary-and-permanent-contracts-within>

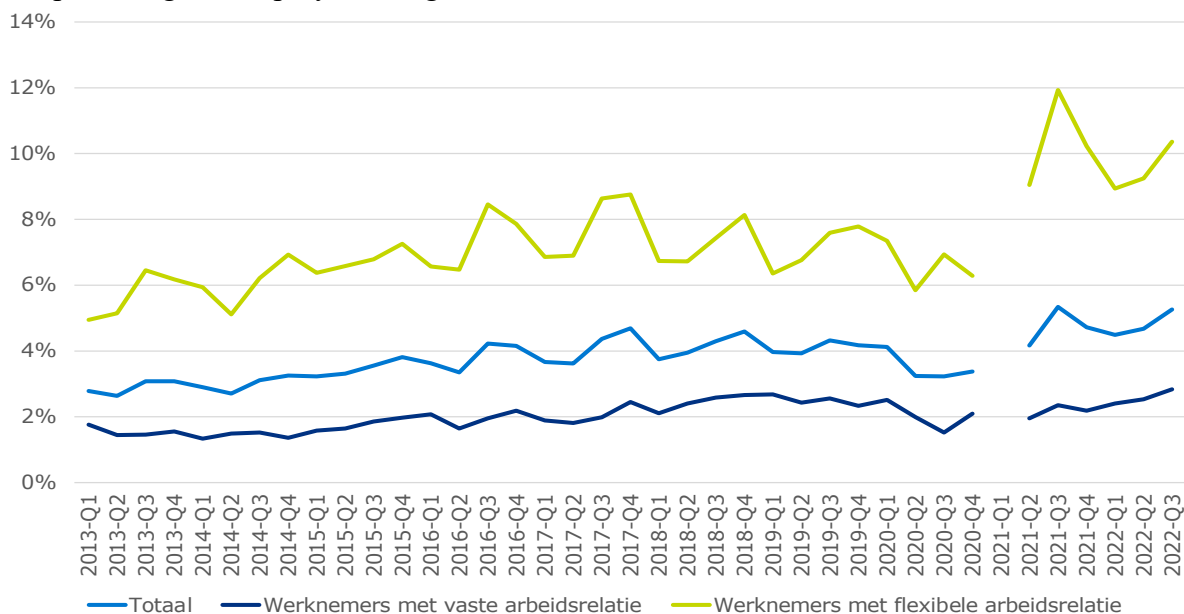
This high percentage of temporary workers and the labor market shortages are causing a tension in the relationship between employer-employee. Temporary workers are more inclined to change jobs (WERKbedrijf, 2023) (see graph 2), and since staff shortages characterize the labor market, the opportunities for temporary employees increase, making job changes more possible to occur. Under these circumstances, the universities’ employees that are not bound by permanent contracts are considered at risk of changing their working environment. It is only

logical to assume that universities would try to maintain a high quality of education by keeping their employees motivated to perform, and ensure the continuance of the employment, thus, providing permanent contracts. Nevertheless, as shown in graph 1, generally, the universities tend to offer fixed-term contracts.

In the past years, the affiliated union has been fighting to alter the situation and ensure more permanent contracts will be given. In 2019 it was decided that contracts would be at least for four years with a minimum of 0.7 FTE, which translates to 3,5 working days per week (Knobel, 2020).

Graph 2

The percentage of employer changes in the Netherlands between 2013-2022.



Source: UWV/CBS (no data available in 2021-Q1) (WERKbedrijf, 2023)

Research shows that the challenges of temporary contracts from an employee perspective can be multiple. Temporary contracts impact both mental and physical health through the feelings of distress and causes loss of loyalty to the organization (Yu et al., 2021). Furthermore, it increases the feelings of uncertainty for the employees' career and increases job insecurity (Sverke et al., 2002).

1.2. JOB-INSECURITY, IN-ROLE PERFORMANCE AND THE FOLLOWING OF TRAINING PROGRAMS: WHAT ARE THEY AND HOW ARE THEY RELATED?

Job insecurity is related to an employee's fear of losing their current job due to uncontrollable factors and, thus, disrupting the continuity of their career (M. K. Shoss, 2017). Positions not

bound by permanent contracts or cannot ensure employability for a long period are considered to lack job security (Lucky et al., 2013). In other words, people lose interest and are likely to terminate their employment in jobs that produce feelings of being underestimated or even include unjust terms (Purcell & Boxall, 2015, p.123). The same research by Boxall and Purcell (2015, p. 123) provided evidence that employees' second priority when choosing jobs is job security. At the same time, job insecurity is one of the most contributing factors to stress in everyday modern life (De Witte et al., 2016, p. 30).

Job insecurity is argued to have multiple short-term and long-term outcomes on the individual and organizational levels, such as job satisfaction and involvement, mental and physical health, organizational commitment and trust, and turnover intention and performance (Sverke et al., 2002).

In-role performance refers to an employee's ability to effectively perform the duties and responsibilities that are specifically assigned to their job role (Borman & Motowidlo, 1993). In other words, it is the completion of an employee's expected tasks in their designated position, as described in their work contract. Employee performance can affect organizational success (Herawati et al., 2021). When employees perform their job-related tasks effectively, it contributes to the overall success of the organization, while it also results in better quality products or services (Herawati et al., 2021).

Furthermore, research has revealed that job insecurity can affect in-role performance. Researchers studying the effect of job insecurity on in-role performance seem to form a bipartite system. One group agrees that job insecurity has a negative effect on expected in-role outcomes, and often results in a turnover. Lepine et al. (2005) studied the effects of stressor factors on performance, which was negatively impacted. Jiang et al. (2012) found that motivation-enhancing practices affect turnover rates and organizational performance, thus, job (in)security is a factor that should be taken into account.

Other researchers tend to agree that job insecurity is a factor that has a positive outcome on performance, as it provides space for employees to challenge and prove themselves. Gilboa et al. (2008) argue that job insecurity could increase efforts to achieve organizational goals (Gilboa et al., 2008). De Cuyper et al. (2008) connected job insecurity to in-role performance by proving that people worked longer hours when their job did not provide security.

However, others hanged in the middle contemplating that job insecurity could be both a challenge and a negative stressor factor (Staufenbiel & König, 2010). Podsakoff et al. (2007) took a step further and enlightened on the mediating factors that control the effects of job insecurity on individual performance, proving that these two factors are not mutually exclusive.

Furthermore, research has shown that employees' training can positively impact in-role performance (Adamu et al., 2021; Owotunse & Yetunde, 2018), which in turn results in better organizational performance (Bashir & Jehanzeb, 2013). It is, therefore, important to invest in training programs, as it is beneficial for the employee and the organization.

Research on labor insecurity and employees' willingness to invest in training remains scarce. However, Kamphuis and Glebbeek (2020) conducted research on whether job insecurity affects employees' training investment and argue that job security does not motivate people to commit to keeping their skills up-to-date. Thus, job insecure environments promote lifelong learning, due to the employees' fear of losing their job and being replaced and in an attempt to keep their competitive advantage (Kamphuis & Glebbeek, 2020). The only prerequisite is that the terms are propitious for the employee. When the training terms are favorable (who bears the financial expenses, in whose time the training will take place, wage increase after training, whether the employee needs to pay back the expenses after the training) employees are more inclined to follow training (Kamphuis & Glebbeek, 2020).

Nevertheless, when the training is firm-specific, and the terms of the employment do not provide job security, workers are more reluctant to invest in the training, therefore, there is a negative impact (Becker, 1964; Katsimi, 2008). Taking a step further, sector-specific training will not be favorable by employees. Talents that can only be used in specific jobs do not promote career development, and since job insecurity is involved, employees could find the skills irrelevant and unnecessary.

Given the research regarding the relationship between job insecurity and in-role performance and the general job insecurity in Dutch universities, as well as the educational role of the universities, it is interesting to study how fixed-term contracts relate to employee performance. Furthermore, since job insecurity impacts employee incentives for training, and training is positively related to performance, it is important to examine whether Dutch universities' employees opt to follow training and whether the training affects in-role performance.

The training most related to Dutch universities is the Basiskwaliteit Onderwijs (BKO), which translates to Basic Teaching Qualification. Teaching personnel in the Netherlands are implied to follow this training and obtain the BKO certificate. This certificate was created in order to ensure that the education level in the Netherlands remains high (Leiden University).

Therefore, teaching personnel working on a contract for more than 0.5 FTE hours is obligated to set learning goals in discussion with a supervisor appointed by the university (Leiden University). These goals become a learning plan, and the person is to develop an educational experience, which is later assessed by a committee. This certificate is mandatory to grow on the financial scale; people who receive it can climb up the ladder. Most importantly, obtaining the certificate does not necessarily guarantee that the teacher will receive a permanent contract (Universiteit Utrecht). The BKO certificate is set to improve the quality of universities' teaching and is considered sector-specific, as it is set to improve the skills of employees regarding the specific sector of universities. In other words, the training revolves around improving skills that are related to teaching and can be useful when being employed in any university in the Netherlands.

Given this situation in universities in the Netherlands, the study at hand is determined to explore how job insecurity directly affects in-role performance and employees' willingness to train. These variables are important to study in the context of universities, since one of their main objectives is to provide high-level education to people and enrich the knowledge of society. Thus, the research will focus on the teaching staff.

The research question can be summed up as follows:

RQ: How is job insecurity related to employees' willingness to follow sector-specific training programs and ultimately in-role performance in public universities in the Netherlands?

1.3. STUDY RELEVANCE

The effects of job insecurity have been raised by researchers in the past, both in the private and public sectors. However, the evidence of the relation between job insecurity and in-role performance mainly derives from the private sector; and the results are inconclusive. Some indicate that job insecurity negatively impacts performance (Jiang et al., 2012; Lepine et al., 2005); others suggest the opposite (De Cuyper et al., 2008; Gilboa et al., 2008), while others suggest that there are mediating factors that determine the positive or negative relationship

(Podsakoff et al., 2007; Staufenbiel & König, 2010). This research could enlighten on the relation of the two variables by adding the variable of employees' incentives for training, which is understudied and considered important as research showed a relationship between the following of training and in-role performance. Job-related training is essential for both employees and organizations since it can have positive outcomes on the individual and organizational levels. Therefore, studying workers' willingness to follow training programs is important.

Additionally, research has focused on the reasons behind employees' willingness to train, but the results are inconclusive; it could either have a positive or negative influence (Kamphuis & Glebbeek, 2020; Katsimi, 2008, respectively). As such, this research will apprise the situation with empirical evidence.

Furthermore, the effects of job insecurity on in-role performance in education have not been extensively raised. Studies from Lebanon (Yahchouchi & Bouldoukian, 2014) and Ghana (Domfeh & Hunsaker, 2020) indicate that job security positively affects performance in the educational system. Nevertheless, the research is scarce and derives from a non-western part of the world. Furthermore, it does not include data from the post-covid era, which generally increased job insecurity effects and raised financial concerns with an impact on workers' mental health (Wilson et al., 2020).

The unique Dutch environment and work culture have not yet been explored. The importance of researching the Dutch educational system lies in the general differences in the Netherlands' society, where workers rate job security highly (Pruijt & Dérogée, 2010). Moreover, with the staff shortages affecting all sectors, and temporary work as a characteristic, studying the Dutch environment could provide evidence of how temporary workers behave when the labor market is tight.

The societal relevance of the research lies in examining whether adopting different contract policies will promote a better educational system and increase societal knowledge, which is the universities' main objective. There are 14 public research universities funded and accredited by the government in the Netherlands. These universities have a very specific mission: educating the young generation and promoting research (Universities of the Netherlands, 2016). More specifically, their mission is:

“The societal task of research universities is to provide high-quality academic education and to conduct high-quality scientific research in order to build a strong knowledge society.

Important scientific questions for society are studied and resolved if possible. Knowledge is created in order to encourage innovation. This is how research universities contribute to a strong society, whereby the Netherlands achieves and maintains a prominent international position....” (Universities of the Netherlands, 2016)

The achievement of universities’ teaching organizational goals rises the society’s educational level, while knowledgeable citizens build a competitive economy; businesses benefit from the flow of skilled workers (Invest in Holland), and a strong economy builds the conditions for a high standard of living.

Therefore, the universities could utilize the research to build a better educational system and promote their mission. In other words, universities will have a clear idea about the results of their contract policies on achieving organizational goals.

Furthermore, there are implicated benefits for the workers. The unions raised the fixed-term contract issue in the Netherlands in recent years. Yet, there is still no clear vision of the road that is going to be followed; providing permanent contracts to staff is still under discussion (Hoogenboom & Schippers, 2022). This research will investigate the elements that impact the issue; unions and workers could have a better insight into the outcomes of the choices made and a better bargaining power. For example, if job insecurity is proven to affect one of the universities’ objectives, educating society, this could be a valuable counterargument towards providing permanent contracts.

2. THEORETICAL FRAMEWORK

This section discusses the core concepts and variables related to the research. Firstly, the concepts of job insecurity, in-role performance and willingness to train are closely approached and defined, as well as the reasons for creating and following work-related training programs. It is important to examine all concepts, to understand their relationships.

Furthermore, in order to develop the framework for the research, Conservation of Resources (COR) theory was considered appropriate. COR theory was developed by Hobfoll (1989) to assess the impact of emotions on performance through the focus on the resources of the individual (Buchwald & Schwarzer, 2010). COR theory examines the nature of stress and its potential consequences; people appraise on stressful events and decide what they need to ensure their well-being (Hobfoll & Ford, 2007).

Therefore, since job insecurity is proved to adverse psychological well-being (De Witte et al., 2010, 2016; Hellgren et al., 1999) and cause stress (Vásquez et al., 2020), COR theory is appropriate to address the consequences. In other words, since the study focuses on the results of job insecurity, which causes feelings of stress and is generally considered subjective (De Witte & Naswall, 2003), meaning that employees working in the same environment do not experience the same levels of job insecurity, COR theory is optimal because it evaluates the consequences of stress. In that sense, COR theory can apprise the outcomes of a stressful situation.

First, the theoretical principles of the theory are outlined. Then, the core principles are applied to the case being studied to locate the direct impact of job insecurity on in-role performance and to employees' willingness to follow training programs and two hypotheses are built. Finally, the connection between employees' incentives for training and in-role performance is made and the relevant hypothesis is explained. In the last part of this section, the conceptual model is presented.

2.1. JOB INSECURITY, IN-ROLE PERFORMANCE, AND WILLINGNESS TO TRAIN

Job insecurity is framed in a two-dimensional conceptualization that measures its twofold aspects. Hellgren et al. (1999) distinguished job insecurity into *quantitative* and *qualitative job insecurity* (Hellgren et al., 1999, p.179-195). The former is used to describe the concerns of

losing the employment, and the latter explains the fear of losing specific elements of the job, like working conditions, development opportunities and compensation. Both dimensions are considered to cause similar outcomes on the individual and organizational level (De Witte, 2005), namely in well-being, organizational attitudes and performance, although it is unclear which has a greater impact (De Witte et al., 2010, p. 40-56). The current research studies quantitative job insecurity, since the impact of losing the employment after the end of the contract years is studied, with a focus on its relation to employee attitudes towards training and the consequent in-role performance.

For this research, in-role performance is defined as the performance regarding tasks related to the main objectives of the role (Borman & Motowidlo, 1993). The teaching staff of the universities is expected to educate young adults on specific matters, formulate learning objectives and align them with materials, activities and testing, design courses and follow course manuals (Radboud University). The degree of how well employees perform these tasks and proceed to actions that enrich the teaching methods and materials, as well as the degree of satisfaction of the receivers of the service are important.

Ramawickrama et al. (2017) elaborated on how performance can be stimulated and found that work-related individual performance is not stable over time due to training and other long-term and short-term changes. Therefore, they distinguished three types of performance perspectives, which namely are: *individual differences perspective*, *situational perspective*, and *performance regulation perspective* (Ramawickrama et al., 2017). The first refers to individual's personality, abilities, motivation, and experiences that influence performance. The second focuses on the individual's environment and how it stimulates and ignites performance and refers to job characteristics, role stressors and constraints. The latter contemplates how organizations can hinder performance through goal setting, training, feedback, and behavior moderation.

In addition, Purcell & Boxall (2015) suggest that situational factors, such as HR practices and other organizational variables, can impact employees' motivation and, ultimately, individual performance outcomes. Factors like employment contracts, collective labor agreements and legislation, the specific work industry and location, as well as personal characteristics, can determine the relationship between employee and employer.

As such, following the Ramawickrama et al. (2017) distinction of performance perspective and Purcell & Boxall (2015), this research is related to the situational perspective since it discusses

the relation of situational factors, vis-à-vis the contract terms, and their relation to employees' training incentives and in-role performance.

In addition, performance is related to engagement in training programs. Employees who are motivated to learn and develop their skills are more likely to be willing to follow job-related training (Abdul Wahab et al., 2014). Whether workers perceive the training as valuable for their current or future job career is important to determine their willingness to follow job-related training (Jurburg et al., 2016; Kyndt et al., 2011). In other words, for the current research, employees' willingness to train is the motivation of employees to follow sector-specific training programs, such as the BKO certificate, because they consider the trainings important for their individual and career development. In other words, it is the readiness to take action in order to improve work-related skills.

Lifelong learning and keeping up with the development of one's profession are considered important, especially in the Dutch environment. The recent attention to improving knowledge and competencies and the current labor market characteristics have caused the adoption of policies and measures aimed at initiating interest (Kamphuis & Glebbeek, 2020). Nevertheless, employee participation in learning experiences has not increased (Golsteyn Bart, 2012).

The learning intention of employees appears to be a rational decision, which underlines that the intention to engage in a behavior, ensures better performance in the actual behavior (Ajzen, 1991). Employees who are determined to advance their career acknowledge the need to learn skills and advance their expertise (Kyndt et al., 2014). Studies have shown that predictors of learning intentions are prior participation to trainings, organizational support, career-related variables, such as having a protean mentality and self-efficacy (the belief in own capacity) (Kyndt et al., 2014).

2.2. CONSERVATION OF RESOURCES (COR) THEORY AND JOB INSECURITY

Conservation of resources theory (COR) is used to describe the dynamic relationship between individuals and their surroundings (Spanouli & Hofmans, 2021). As Hobfoll (1989) suggests, "*people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources*" (Hobfoll, 1989, p.513). Individuals react to their environment, which entails threat or actual loss of resources and/or does not succeed

to exchange resources spent with other valuable resources, thus, causing psychological distress (Hobfoll, 1989).

These resources can be part of four main categories (Wells et al., 1999) and can impact the psychological and physical well-being, as well as self-esteem and self-appreciation, of employees (Hobfoll et al., 2018). The four categories are *objects, conditions, personal characteristics, and energies*. The first refers to tools that assist work; the second is about conditions that are considered valuable, such as social recognition due to job title and seniority; the third refers to the ability of the individual to handle the loss of resources and the latter reports to resources that the individuals have invested in obtaining other resources, such as time and money. Evidently, these resources aim to advance skills, facilitate tasks and increase (self-) appreciation to stimulate and produce character (Vásquez et al., 2020).

As a consequence, the continuous threat of losing one's job, vis-à-vis job insecurity, can be equally negative or worse than the event itself (Vásquez et al., 2020), as per Hobfoll (1989), the threat of losing resources and the actual loss of them, result in psychological stress. Furthermore, job insecurity correlates with these resources and results in less organizational commitment and poor performance (Cheng & Chan, 2008); employees are unwilling to spend their resources to initiate or maintain a commitment to the organization and its goals (Wright & Hobfoll, 2004). Wright & Hobfoll (2004) suggest that this avolition to commit starts a vicious cycle: employees withdraw their energies resources, leading to emotional exhaustion, poor self-esteem and self-appreciation of accomplishment, which in turn lead to poor performance.

COR theory suggests that employees will not spend their energies resources in an uncertain environment since the prospect of gaining other resources is lost. In other words, workers will value their time, attention, and physical effort, since their job is insecure, and, thus, the resources spent will not return gains. As such, the non-investment of resources and the reduction of effort relates to poor results in accomplishing job description implied tasks.

On the other hand, a job is a vital resource that fulfils the need to foster other valuable resources and, thus, demands protection. In that sense, employees will try to retain this critical resource, vis-à-vis their job, and prevent losing it, to avoid the loss of other valuable resources.

This job prevention motivation suggests that job insecurity will stimulate employees to take measures that will allow them to keep their job and prevent losing their employment (M. K.

Shoss, 2017). In that sense, employees will be motivated to put extra effort into performing tasks, in chance it will result in appreciation on the part of the employer. Thus, insecure workers become model employees, willing to blindly adopt organizational values and sacrifice important to them resources (M. K. Shoss, 2017). This results in engagement to complete tasks, increased commitment and reduced absenteeism (Miraglia & Johns, 2016).

Furthermore, employees will engage in achieving high performance supervisor rates to reduce the risk of losing their job and participate in improving the position of the organization in the market (Koen et al., 2019). M. Shoss et al. (2022) argue that the motivation to preserve one's job will engage the employee in exceptional performance, abstention from counter-proactive behavior, self-presentation, and hiding harmful to them knowledge and problems.

However, job preservation motivation implies that dismissal is based on performance evaluations (Koen et al., 2019). Thus, it is logical to assume that employees maximize their efforts in cases that fixed term contracts are present, to avoid involuntary turnover and achieve better employment conditions.

This assumption leads to presumable non-applicability on the case being studied, since in some cases there is a maximum possible extension of the employment. One can assume that since employees are working under fixed term contracts that cannot be longer than 6 years, performance evaluations do not contribute on whether the employee will manage to keep their job.

Nevertheless, the efforts to impress with performance, result in forming good relations with the employer and the supervisors, thus, enhance networking, which is important in pursuing an academic career (Lian, 2020; Streeter, 2014). In that sense, universities' employees will try to perform well, in order to enhance networking and ensure supervisor appreciation.

Research has revealed the determinants of staying or leaving academia. Social capital, having a mentor, is an important determinant of a successful academic career, while cultural capital seems to be irrelevant (Balén et al., 2012). Lian (2020) presents that academics use their networks to secure better, continuing positions and publication opportunities and conference invitations, which fortifies candidacy for PhD position (if not yet obtained) or recruitment in a position with better employment conditions. Furthermore, networking results in supervisors' willingness to help, and exclusive awareness of opportunities that other colleagues are not informed of (Streeter, 2014).

As a consequent, the academic job market is characterized as dynamic, staff regularly move to senior positions, or to a similar position at another university (Rathenau Instituut, 2023b). The positions more likely to be promoted or leave at retirement age are professors, associate professors and assistant professors, while other academic staff are more likely to leave academia. Among them, 82% leave academia for reasons unrelated to a promotion (Rathenau Instituut, 2023b). Thus, the competition for top university positions is high and employees in the lower ranks compete for higher positions.

Taking the above into consideration, there seems to be a direct relation of job insecurity to in-role performance. Employees will either use their resources to perform in order to retain the valuable resource of employment, or the uncertainty will push employees not to use their resources since one valuable resource, employment, is prompt to be lost. Thus, the relationship could either positive or negative, which is summed as follows:

H1: Job insecurity directly impacts in-role performance.

2.3. COR THEORY, UNIVERSITY EMPLOYEE ATTITUDES TOWARDS TRAINING AND THE CONNECTION TO IN-ROLE PERFORMANCE

According to the COR theory, employees will try to retain their job as a resource by putting effort to excel and perform. Furthermore, training programs will provide employees with the needed tools (extra skills and knowledge, which are related to the “objects” category of resources) to assist them in undertaking tasks and activities that are within their contract responsibilities. Thus, workers that experience job insecurity will pursue enhancing their abilities and undergo training due to fear of being replaced and losing their resources.

On a counterargument, individuals might not spend their resources (like time and effort), if there is no gain in other valuable resources (such as favorable conditions and personal characteristics), or if the loss of a resource is guaranteed (in this case, the job position). The BKO certificate, since it aims to enhance teaching in university qualifications is a sector-specific training, the acquisition of which does not guarantee the prevention of loss of the job position or does not increase the chances of getting other valuable resources. Therefore, employees might not pursue to obtain it.

As a consequence, even though a relation is expected, whether it is positive or negative is undetermined. Thus:

H2: Job insecurity is related to employees' willingness to train, either positively or negatively.

Furthermore, as evidence from empirical research suggests, training programs for employees benefit the organizations and increase their competitive advantage (Bashir & Jehanzeb, 2013); employee training can improve individual performance (Owotunse & Yetunde, 2018; Younas et al., 2018) and, consequently, organizational performance (Ole Kinisa, 2019; Samwel, 2018). Participation in development activities also helps employees network building and allows them to progress towards personal and career development by opening their horizons and opportunities to job-related bonuses and new career paths (Al-Emadi & Marquardt, 2007). Through training, employees enhance their skills, competence and knowledge, and reach their full potential, thus enhance their in-role performance, while organizations invest in the long-term building of a skilled workforce and are rewarded in return with commitment, high performance and achievement of organizational goals (Elnaga & Imran, 2013). Furthermore, training reduces errors and accidents (Mäkká & Kampová, 2018).

Taking a step further, enhanced human capital, new knowledge and enrichment of skills will result in improvement of performing duties and responsibilities related to the job title, which is labeled as in-role performance. As mentioned, training aimed to improve skills and knowledge, and provide the tools that employees need to perform, results in improved individual performance (Elnaga & Imran, 2013; Jiang et al., 2012; Mäkká & Kampová, 2018; Owotunse & Yetunde, 2018; Younas et al., 2018).

As an extension, employees that are willing to undergo job-related trainings like the BKO certificate training, demonstrate commitment to the organization and its objectives (Grund & Titz, 2022). Being committed to a work environment is proven to impact performance (Donkor et al., 2021; Ferris, 1981). In other words, employees that are willing to follow job-related trainings have better in-role performance, due to the commitment they demonstrate to the position and the organization. Thus, in cases employees are willing to undergo training, better in-role performance is expected. Therefore:

H3: Willingness to train will positively affect in-role performance.

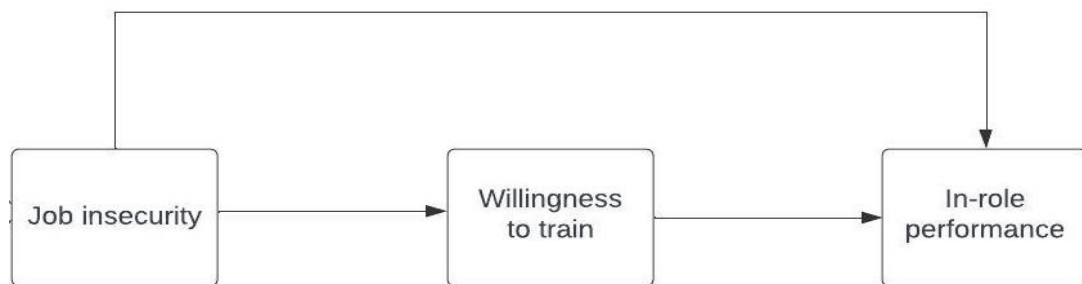
Following the previous hypotheses, a mediation relationship is implied. More specifically, if job insecurity impacts willingness to train and in-role performance and if willingness to obtain the BKO relates to in-role performance, then it is suspected that there is a mediation relationship between the three variables. Therefore:

H4: The relationship between job insecurity and in-role performance, is mediated by willingness to train.

The following model is a visual representation of the hypothesis:

Figure 1

The relationships that arise according to theory.



3. METHODOLOGY

In this part of the study, the research method is analyzed. Sub-chapter 3.1. presents the research design, sub-chapter 3.2. presents how the variables are operationalized, sub-chapter 3.3. focuses on explaining the data collection method and the obtainment of respondents, sub-chapter 3.4. analyzes the sample and subchapter 3.5. performs a comparison of the sample to the population. The data analysis is presented on subchapter 3.6. and subchapter 3.7. checks the validity and reliability of the study.

3.1. RESEARCH DESIGN

To answer the research question, a quantitative method was considered optimal and a survey with questionnaires was chosen. Questionnaires allow gathering information from a large sample, while are proven effective in measuring behavior, preferences, opinions, intentions, and attitudes. Since some of the variables measure subjective thoughts of individuals, like job insecurity, and intentions, such as willingness to train, the method was preferred.

Furthermore, the anonymity and the release of constraints, allow respondents to be more truthful, and remove any confirmation bias, bias of self-ostentation or the concealment of information that they consider harmful, thus, not allowing hidden agendas to infiltrate the research.

3.2. VARIABLES

3.2.1. INDEPENDENT VARIABLE

Job insecurity: Important for this research is to demonstrate how job insecurity affects willingness to train and in-role performance. Job insecurity is subjective (De Witte & Naswall, 2003); people experiencing the same circumstances do not always feel the same level of job insecurity and its work-related and psychological effects, but there is also an objective dimension to it, which mainly translates to having a non-permanent or indefinite contract (Helbling & Kanji, 2018). In this research, both the subjective and objective job insecurity was measured. Furthermore, two measures of job insecurity were used; one to measure job insecurity to one's current job and one related to maintaining a job in academia.

Job insecurity is defined as the employees' fear of losing their job as a whole (M. K. Shoss, 2017; Witte, 1999). Therefore, subjective job insecurity was measured using the Job Insecurity

Scale (JIS), a scale of four items originally developed by De Witte (2000), that evaluates the self-rated feeling of job insecurity. The items are: 1. Chances are, I will soon lose my current job, 2. I am sure I can keep my current job (reverse coded), 3. I feel insecure about the future of my current job, and 4. I think I might lose my current job in the near future. Respondents were asked to rate these items on a 1–5-point scale, ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). This scale was tested with Cronbach’s α ; the α of the scale is 0.89, and, thus, is deemed reliable.

Furthermore, employees that have a fixed-term contract, in some cases cannot extend their contract to continue working in the university. This is mainly relevant for lecturers. Nevertheless, they can be employed in another university in the Netherlands. It is important to demonstrate whether respondents feel insecure about maintaining a job in academia in another university. Therefore, the Job Insecurity Scale was adjusted as followed to evaluate this scenario¹. In that sense, the scale that was used to evaluate the level of job insecurity employees experience in their current job, was adjusted to evaluate whether employees feel insecure about continue working in academia in the future and maintaining a job in academia. The α of job insecurity regarding maintaining a job in academia is 0.83, and, thus, passed the reliability test.

Lastly, the objective job insecurity was measured with the distinction of permanent and fixed-term (temporary) contracts. To better work with the variable, it was coded as permanent=0 and fixed-term=1.

3.2.2. MEDIATING VARIABLE

Willingness to train: Willingness to train is the motivation of employees to follow sector-specific training programs, such as the BKO certificate, because they consider the trainings important for their individual and career development. The willingness to follow the BKO trajectory, in cases it is not yet acquired, is important. In this research, two measures for willingness to train were used; one to test whether employees are willing to follow the specific training of the BKO and one to test whether employees would like to follow other job-related trainings.

The variable was measured with 5 items based on Kyndt et al., 2011 learning intention scale regarding job-related trainings. This scale was adjusted to the parameters of the research², with

¹ See Appendix I, figure 1 for details.

² See Appendix I, figure 2 for details.

a 1–5-point scale. The Cronbach's α was used to test the reliability of the willingness to follow the BKO training, and was found reliable, with $\alpha=0.94$.

Furthermore, it is important to distinguish whether employees are willing to follow other job-related trainings. Therefore, the scale was adjusted to appraise this relationship³. In that sense, the Kyndt et al., 2011 regarding the learning intention of the employees was adjusted to measure if workers are willing to follow job-related trainings other than the BKO. The scale passed the Cronbach's α , with $\alpha=0.91$.

Lastly, the obtainment of the BKO certificate is important. The variable was measured with one item asking whether the BKO certificate is obtained (answered with a yes or no). Then, it was coded with obtained=1, not obtained=0.

3.2.3. DEPENDENT VARIABLE

In-role performance: In-role performance refers to how well employees perform on the tasks that are mainly related to the objectives of their contract (Borman & Motowidlo, 1993), and for this research mainly translates to how well the teaching staff of the universities educate young adults, and perform tasks related to formulating learning objectives and aligning them with materials, activities and testing, designing courses and following course manuals (Radboud University).

In role-performance was measured through self-evaluation. Asking employees to evaluate their own performance is quite effective; employees are often more critical regarding their performance (Carlos & Rodrigues, 2015) and, since in our case supervisor and student evaluations are often generated, employees have a realistic understanding of their performance.

In-role performance was measured with the adjusted items of the Yahchouchi & Bouldoukian (2014) scale used to evaluate teaching⁴. The rating was on a scale 1-5. The scale was then tested with Cronbach's α ; the α of in-role performance is 0.802, and, thus, is considered reliable.

3.2.4. CONTROL VARIABLES

Position: The sample of this research consisted of teaching staff in Dutch universities that are among the more junior ranks. These ranks of university teachers experience more job insecurity

³ See Appendix I, figure 3 for details.

⁴ See Appendix I, figure 4 for details.

and as research suggests are more likely to pursue a career outside of academia (Rathenau Instituut, 2023b), while higher ranks of academics (professors, assistant professors, and associate professors) usually are promoted higher up in the hierarchy or retire (Rathenau Instituut, 2023b). Furthermore, it is assumed that the more experienced and higher in a position, the more determined the employee is to stay in academia and, therefore, be willing to undergo trainings sessions and exhibit better performance. Therefore, the research was open for teaching staff, including lecturers, PhD candidates and post-docs, working in one of the 14 public universities in the Netherlands. Senior lecturers were excluded due to their presumed willingness to stay on academia. In this research, post-doc position was used as the reference in the group.

Age: In order to better work with the age variable, four bigger categories were created. Category 1 is people aged 20-25 (n=16, 16.49%), category 2 is people aged 26-30 (n=42, 43.30%), category 3 is people aged 31-35 (n=22, 22.68%) and category 4 includes people aged >36 (n=17, 17.52%). Age group 20-25 was used as the reference in the group for the analysis.

Gender: The question regarding gender had four possible answers in the questionnaire: male, female, third gender/ nonbinary, and prefer not to say. In order to work with the variable, gender was coded as male = 1.

Field of occupation: According to Golde & Dore (2001) those who pursued careers in academia were more likely to have earned degrees in fields such as humanities, social sciences, and life sciences, as opposed to engineering or physical sciences. Therefore, it is important to include the field of occupation.

In the questionnaire, nine categorizations were used, namely, science, veterinary medicine, humanities, medicine, law, economics, governance, social and behavioural sciences, and geosciences. These categories were at a later point organized in bigger categories, using the alfa, beta, gamma system. The Alfa category includes humanities studies, for example history, linguistics and literature, the Beta category includes science studies, like physics, engineering, math and biology, and the Gamma category includes studies of the society and human behavior, like anthropology, public administration, economy, political science, and psychology.

In this study, the Alfa category did not receive a lot of respondents, therefore it was merged with the Gamma category. The AlfaGamma category that was created includes the humanities, law, economics, governance, and social and behavioural sciences and the Beta category

includes science, medicine, veterinary medicine, and geosciences. After creating the categories, the variable was coded as AlfaGamma = 1.

3.3. DATA COLLECTION

Data was collected with a web-based questionnaires survey among teaching staff in Dutch universities. This survey was prepared in Qualtrics. In order to contact the sample, I used my connections with people working in these positions to participate and notify their colleagues, namely a junior lecturer and a PhD candidate in Utrecht University, a PhD candidate working in the University of Amsterdam, and a PhD candidate working in the Delft University of Technology. Furthermore, I asked the help of my professors during the master's; Eva Knies and Pauline Hormann helped me with posting on LinkedIn and notifying their co-workers in the faculty through e-mail. Also, I tried contacting the related union and asking their help with contacting the group of interest. The union put an announcement in their monthly newsletter.

Furthermore, I created a flyer (see appendix III) and posted it on Facebook in related groups, or even general groups of people living and working in the Netherlands. This flyer was also posted in my LinkedIn page. On LinkedIn, I have around 190 connections with people of interest, and I contacted them through private message. The response rate in the messages was about 1/3; most people were happy to help as they found the research topic interesting. Lastly, I visited several university buildings, in Utrecht and in Amsterdam and pinned the flyer in announcement boards.

3.4. SAMPLE

The survey collected 112 responses. Twelve of these responses were excluded because the respondents did not match the profile of the needed sample (they marked "other" under the question regarding their position in the university). From the remaining responses, one was removed because the respondent asked to exclude them from the survey, using the random ID that was generated at the end of the survey. Two more were excluded due to lack of answering most of the questions. Therefore, the final sample consisted of 97 participants.

Out of the respondents, 82,47% were between 20-35 years old; the age group with more responses was 26-30, at 43.30% of the whole sample. Regarding gender, 43.30% were males and 52.58% were females. Furthermore, 46.39% were lecturers, 41.24% PhD candidates and 12.37% post-docs.

Regarding the field of occupation, the most frequent answers, covering 86.60% of the responses, were divided among Science, Economics, Governance, and Social and Behavioral Sciences with 29.9%, 14.43%, 19.59% and 22.68% respectively.

Moreover, 21.65% of the participants had a PhD, while 57.89% of the rest was in the process of obtaining their PhD. Most of the sample was in the first year of their PhD (45.45%). Lastly, 22.34% had a permanent contract.

The following table presents a detailed analysis of the demographics:

Table 1
Respondents features.

| Variables | OPTIONS | N | % OF THE RESPONDENTS |
|------------------------------|---------------------------------|----|----------------------|
| Gender | Male | 42 | 43.3% |
| | Female | 51 | 52.58% |
| | Non-binary / Third gender | 2 | 2.06% |
| | Prefer not to say | 2 | 2.06% |
| Age | 20-25 | 16 | 16.49% |
| | 26-30 | 42 | 43.30% |
| | 31-35 | 22 | 22.68% |
| | 36-40 | 11 | 11.34% |
| | 41-45 | 1 | 1.03% |
| | 46-50 | 3 | 3.09% |
| | 51-55 | 0 | 0% |
| | 56-60 | 1 | 1.03% |
| | 61-65 | 1 | 1.03% |
| | Other | 0 | 0% |
| Position | Lecturer | 45 | 46.39% |
| | PhD candidate | 40 | 41.24% |
| | Post-doc | 12 | 12.37% |
| Field of occupation | Science | 29 | 29.9% |
| | Veterinary Medicine | 0 | 0% |
| | Humanities | 2 | 2.06% |
| | Medicine | 3 | 3.09% |
| | Law | 2 | 2.06% |
| | Economics | 14 | 14.43% |
| | Governance | 19 | 19.59% |
| | Social and behavioural sciences | 22 | 22.68% |
| | Geosciences | 5 | 5.15% |
| | Other | 1 | 1.03% |
| PhD obtainment | Yes | 21 | 21.65% |
| | No | 76 | 78.35% |
| In the process to obtain PhD | Yes | 44 | 57.89% |
| | No | 32 | 42.11% |
| PhD year | 1 | 20 | 45.45% |
| | 2 | 6 | 13.64% |
| | 3 | 0 | 0% |
| | 4 | 7 | 15.91% |
| | 5 | 7 | 15.91% |
| | 6 | 2 | 4.55% |
| | other | 2 | 4.55% |
| Type of contract | Permanent | 21 | 22.34% |
| | Fixed-term (temporary) | 73 | 77.66% |

3.5. POPULATION VS SAMPLE

The most recent statistics regarding employee universities are from 2021. According to Universiteiten van Nederland, in 2021, there were a total of 22.326 lecturers, post-docs and PhD candidates, with 6.044, 5.129 and 11.153 employees in these positions respectively. That translates to 27% lecturers, 23% post-docs and 50% PhD candidates of the total population. The most frequent age group of the total population of the research focus was between 25-29 (Rathenau Instituut, 2023a).

Women are underrepresented in academic jobs: the more senior the position, the smaller the proportion of women. The proportion of females was as follows: 45% female PhDs, 53% female teachers, 45% female assistant professors (Rathenau Instituut, 2023b).

Through the comparison of the sample to the population, it is evident that lecturers are more represented (population: 27% lecturers, 50% PhD candidates, 23% post-docs; sample: 46,4% lecturers, 41,2% PhD candidates, 12,4% post-docs). Furthermore, the sample is consisted of more females than males. This characteristic of the sample is expected since the biggest share of the total population of lecturers are women (53%, Rathenau Instituut, 2023) and the sample consists of more lecturer respondents. Regarding age, the most selected age group of the study is between 26-30, which matches the most frequent group of the total population.

3.6. DATA ANALYSIS

Data was analysed using Stata, 16.1 edition. First, I proceeded to clean the data and remove responses that did not meet the profile of the sample. The focus of the research were lecturers, PhD candidates and post-docs, any other person whose job did not match these positions was excluded. All variables were labeled, in order to be easily processed.

Then, the measurement scales were subjected to a reliability test, using the Cronbach's Alpha method. Once the scales passed the test, the reverse coded questions were processed, and the average of each response was calculated. To all the other questions, coded numerical values were given to the answers.

To examine the connection of the variables, including the control variables, a correlation test was generated. Subsequently, the control variables in relation to the dependent variable was tested and linear regression was used to analyze the relationship between the job insecurity as independent variable and in-role performance as dependent variable. Models were also

generated to test the relationship between job insecurity and willingness to train, and willingness to train with in-role performance. For job insecurity, three variables were used: one regarding objective job insecurity, one regarding subjective job insecurity regarding current job and one for job insecurity regarding maintaining a job in academia. All these variables were tested to analyze the relationship with job insecurity. Regarding willingness to train, the obtainment of the BKO, willingness to obtain the BKO and willingness to follow other job-related trainings were tested. The models were checked for homoscedasticity and if needed corrected with robust standard errors (SE).

The mediation of willingness to train was also tested using Stata. Stata's mediation package developed by Mehmetoglu (2018) is designed for testing mediation with models involving either observed/manifest variables or latent variables and can be utilized to specify path models. The output is based on the strategy articulated by Iacobucci et al. (2007). Their strategies are a modification of the Baron and Kenny (1986) approach using SEM technique. This strategy includes use of the Sobel test to test indirect effects. The output includes both test results and a decision-sequence based on the strategies described by Iacobucci et al. (2007). It is also possible to generate possible effect sizes to judge the magnitude of the indirect effect: indirect/ total & indirect/ direct.

For the mediation variable different models were tested with all job insecurity variables. First, the obtainment of the BKO was tested in relation to job insecurity, then willingness to follow the BKO trajectory and lastly willingness to follow other job-related trainings.

3.7. VALIDITY AND RELIABILITY

In order to ensure the quality of the study, attention was paid to the validity and reliability of the research design. The following factors were taken into account before and during the distribution of the survey to produce trustworthy and valid results.

Firstly, the external validity of the study was ensured by taking efforts to make it as representative as possible (Field, 2023). Thus, the survey was conducted in English. Even though the study examines Dutch universities, English was chosen for multiple reasons. First, the master's program I am following is for English speakers and I do not have a good Dutch command. Secondly, many university employees are non-Dutch speakers; a lot of bachelor's and master's programs in the Netherlands are taught in English and speaking Dutch is not a

precondition to be able to teach. Therefore, by choosing English, these employees were included in the survey and the sample was representative of the population.

Furthermore, respondents were given the option to complete their questionnaire in their own pace and time; if for any reason the survey was not completed, the respondents were allowed to continue at a later point. The first page of the questionnaire informed the participants about the study in layman's terms. There was a brief description of myself as the researcher and a way of contact was provided. Moreover, the study's purpose and relevance were explained, as well as a short description of the desired sample was given, with attention to the reasons behind this choice. The description also provided participants with information on technical matters, such as the duration of the study, the time needed to answer the survey and the scales used.

Most importantly, the voluntary participation and the confidentiality of the information gathered was highlighted, with clearly stating that there are no right or wrong answers. Finally, at the end of the survey, a random ID was generated to ensure that participants had the option to opt out of the survey. All such actions, improved the internal validity of the study by ensuring truthful answers, reducing biases, and lowering the possibility of social desirability.

Moreover, the structure of the questionnaire allowed better engagement with the questions. Questions were written simply and concisely, validated scales were used with a 1-5 points scale, and demographic inquiries were placed at the end of the survey, with priority given to the most important questions, such as type of contract, age, gender, and field of occupation (in presented order). Finally, control variables were included in the analysis, in order to check for any effects on the mediator and dependent variable.

For the reliability of the research, multiple actions were taken. Firstly, attention was given to achieving the highest feasible response rate. Thus, multiple methods to notify the participants were used; some were more effective than others.

Furthermore, validated adjusted measuring scales were used, with items that were considered more appropriate to measure the variables. Self-report and self-evaluation were considered optimal; the variables measure subjective thoughts of the individuals regarding job insecurity and their willingness to follow training programs, while the self-assessment of in-role performance is fitting, as employees are usually critical on their performance and the frequent generation of supervisor and student evaluation allow to have a clear idea on strengths and

weaknesses. These scales were passed through a reliability analysis, with the use of Cronbach's α method. All scales passed the Cronbach's α reliability tests.

4. RESULTS

4.1. DESCRIPTIVE STATISTICS

In order to better understand the data, descriptive analysis was executed. The willingness to obtain the BKO certificate demonstrates a mean of 2.82 with standard deviation of 1.32. Therefore, employees' opinions on following the BKO trajectory varies significantly. Nevertheless, it is important to mention that this variable does not include employees that have obtained or are in the process of obtaining the BKO certificate, since people who have obtained the BKO or are in the process to obtain it did not answer the question regarding how willing they were to follow the training. That means only a part of the sample could answer the last question (n=97, in the process to obtain the BKO n=65, willingness to obtain the BKO n=48). Furthermore, individuals seem more keen on following other job-related trainings (M=3.7, SD=1), with a smaller variation in the sample.

For in-role performance, employees score rather high with a small standard deviation (M=3.7, with max 4.25, SD=0.50). What is interesting is that the subjective job insecurity scores demonstrate that people feel more insecure about maintaining a job in academia with a smaller standard deviation, than the insecurity regarding their current job (M=3.20, SD=1 and M=2.74, SD=1.24 respectively).

Table 2 presents an overview of the minimum (Min) and maximum (Max) scores of the variables, the means (M) and the standard deviation (SD).

Table 2
Descriptive statistics

| | Min | Max | M | SD |
|---|------|------|------|------|
| Willingness to obtain BKO | 1 | 5 | 2.82 | 1.32 |
| Willingness to follow other job-related trainings | 1 | 5 | 3.7 | 1.00 |
| In-role performance | 2.25 | 4.25 | 3.5 | 0.50 |
| Subjective job insecurity regarding maintaining a job in academia | 1 | 5 | 3.20 | 1.00 |

| | | | | |
|---|---|---|------|------|
| Subjective job insecurity about current job | 1 | 5 | 2.74 | 1.24 |
|---|---|---|------|------|

Furthermore, 32.99% of the sample has obtained the BKO certificate. The majority of respondents had a fixed-term contract (77,66%). Most of the respondents belonged to the AlfaGamma category (humanities, law, economics, governance, and social and behavioural sciences) at 60.82%. Table 3 presents the sample size (n) and the percentages (%).

Table 3
Descriptive statistics

| | n | % |
|---|----|----------|
| People that have obtained the BKO | 97 | 32.99% |
| Type of contract (Fixed-term reported) | 94 | 77.66% |
| Position ^a | 97 | 1=46.39% |
| | | 2=41.24% |
| | | 3=12.37% |
| Field of occupation (AlfaGamma category reported) | 97 | 60.82% |
| Age ^f | 97 | 1=16.49% |
| | | 2=43.30% |
| | | 3=22.68% |
| | | 4=17.53% |
| Gender (male reported) | 97 | 43.30% |

^a1=Lecturer, 2=PhD candidate, 3=Post-doc

^f1=20-25, 2=26-30, 3=31-35, 4=>36

4.2. CORRELATION STATISTICS

A correlation analysis was performed to examine the interrelationships between the variables and test their significance. The correlation coefficient, r , determines whether a correlation is strong or weak. Therefore, if the correlation has $r < .29$ is weak, if it has $.3 > r < .49$ is moderate and if it has $r < .5$ is strong (Field, 2023). Furthermore, in this research, the 0.1 significance level was included, due to the small size of the sample.

Objective job insecurity is significantly and positively related to subjective job insecurity (current job: $r=0.46$, $p < 0.01$, remaining in academia: $r=0.40$, $p < 0.01$). It is also negatively and significantly correlated with the obtainment of the BKO certificate ($r=-0.45$, $p < 0.01$). Moreover, it is negatively correlated with in-role performance ($r=-0.19$, $p < 0.1$).

Subjective job insecurity is negatively related to the obtainment of the BKO certificate (current job: $r=-0.18$, $p < 0.1$, remaining in academia: $r=-0.28$, $p < 0.01$). Moreover, subjective job insecurity regarding maintaining a job in academia is negatively correlated with in-role

performance ($r=-0.26$, $p<0.05$). Moreover, in-role performance is positively and significantly correlated with the obtainment of BKO ($r=0.35$, $p<0.01$).

Regarding age, age group >36 is positively correlated with the obtainment of the BKO ($r=0.31$, $p<0.01$) and negatively with job insecurity (objective: $r= -0.54$, $p<0.1$, subjective job insecurity about current job: $r= -0.25$, $p<0.05$, subjective job insecurity regarding maintaining a job in academia: $r= -0.30$, $p<0.01$).

Table 4 presents the details:

Table 4
Correlation table

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--|----------|----------|----------|--------|----------|---------|----------|-------|------|------|
| 1. BKO obtained | 1.00 | | | | | | | | | |
| 2. In the process to obtain BKO | -0.32*** | 1.00 | | | | | | | | |
| 3. Willingness to obtain BKO | -0.69*** | -0.46*** | 1.00 | | | | | | | |
| 4. Willingness to follow other job-related trainings | 0.05 | -0.16 | 0.08 | 1.00 | | | | | | |
| 5. Objective job insecurity | -0.45*** | 0.12 | 0.33*** | 0.05 | 1.00 | | | | | |
| 6. Subjective job insecurity about current job | -0.18* | 0.05 | 0.14 | -0.10 | 0.46*** | 1.00 | | | | |
| 7. Subjective job insecurity regarding maintaining a job in academia | -0.28*** | 0.12 | 0.17* | 0.02 | 0.40*** | 0.53*** | 1.00 | | | |
| 8. In-role performance | 0.35*** | 0.04 | -0.36*** | 0.07 | -0.19* | -0.11 | -0.26** | 1.00 | | |
| 9. Age | | | | | | | | | | |
| 20-25 | -0.13 | -0.13 | 0.23** | 0.07 | 0.22** | 0.08 | 0.07 | -0.05 | | |
| 26-30 | -0.21** | 0.20 | 0.05 | 0.25** | 0.28** | 0.08 | 0.22** | -0.11 | 1.00 | |
| 31-35 | 0.09 | -0.12 | 0.01 | -0.18 | -0.02 | 0.06 | -0.05 | 0.09 | | |
| >36 | 0.31*** | 0.00 | -0.29*** | -0.19* | -0.54*** | -0.25** | -0.30*** | 0.10 | | |
| 10. Gender ^a | 0.18* | -0.04 | -0.14 | 0.03 | -0.02 | -0.18* | -0.21** | 0.17 | 0.15 | 1.00 |

^aMale=1

* $p<0.1$; ** $p<0.05$, *** $p<0.01$

4.3. REGRESSIONS ANALYSIS

In this section, the linear regression performed to test the direct effects and mediation are explained. All the models were checked for homoscedasticity and if needed corrected with robust standard errors (SE). Due to the limited power and the size of the sample, three levels of statistical significance were used to test the hypotheses, namely $p < 0.1$, $p < 0.05$ and $p < 0.01$. Age group 20-25 was used as a reference group, that is why the group was omitted from the table. This means that the other age groups were compared to age group 20-25. Similarly, post-doc group and beta group were used as a reference group to and were also omitted from the table.

Firstly, hypothesis 1 was tested (*job insecurity directly impacts in-role performance*). A model was created to check the relationship of the controls to in-role performance. Then, the connection between the job-insecurity variables (objective job insecurity (A), subjective job insecurity about current job (B), subjective job insecurity regarding maintaining a job in academia (C)) and in-role performance was tested. Each job insecurity variable was tested separately, meaning that different models were created for them.

The regression analysis of control variables in relation to in-role performance indicate that PhD candidates generally report lower in-role performance compared to post-docs (coefficient = 0.313, $p < 0.1$), meaning that PhD candidates' in-role performance is worse than the in-role performance of post-docs. The rest of the control variables seem to not have a significant impact on in-role performance. The adjusted R^2 of the model is 0.078, meaning that the controls explain 7.8% of the variance of in-role performance.

Objective job insecurity⁵ (Model A) does not present statistical significance ($p = 0.288$) with in-role performance. Furthermore, model A explains only 9.22% (adjusted $R^2 = 0.092$) of the variation of the dependent variable indicating a small level of fit. Similarly, subjective job insecurity about current job (Model B) does not present statistical significance ($p = 0.161$) with in-role performance.

However, subjective job insecurity regarding maintaining a job in academia (Model C) is statistically significant ($p < 0.1$) and presents a negative (coefficient = -0.103) relation to in-role performance, meaning that the if job insecurity regarding maintaining a job in academia increases by one on average, in-role performance will decrease 0.103 on average. Nevertheless,

⁵ Fixed term contracts = 1

the variable explains merely 10.3% percent of the sample (adjusted R²=0.103). Table 5 presents the regression analysis.

Table 5
Linear regression for the connection between job insecurity and in-role performance.

| | Model only with controls (SE) | Model A (SE) | Model B (SE) | Model C (SE) |
|---|-------------------------------|--------------------|---------------------|--------------------|
| Age (26-30) | -0.056 (0.151) | -0.006 (0.159) | -0.066 (0.151) | -0.033 (0.150) |
| Age (31-35) | 0.021 (.174) | 0.042 (0.182) | 0.011 (0.173) | 0.011 (0.172) |
| Age (>36) | -0.032 (0.184) | -0.081 (0.211) | -0.104 (0.190) | -0.100 (0.185) |
| Lecturer | -0.053 (0.169) | -0.011 (0.172) | -0.083 (0.169) | -0.059 (0.166) |
| PhD candidate | -0.313* (0.174) | -0.307* (0.180) | -0.359** (0.176) | -0.330* (0.172) |
| AlfaGamma | -0.030 (0.503) | 0.019 (0.502) | 0.048 (0.503) | 0.147 (0.505) |
| Gender | 0.141 (0.104) | 0.146 (0.104) | 0.112 (0.106) | 0.093 (0.106) |
| Objective job insecurity (A model) | | -0.158 (0.147) | | |
| Subjective job insecurity about current job (B model) | | | -0.061 (0.043) | |
| Subjective job insecurity regarding maintaining a job in academia (C model) | | | | -0.103* (0.055) |
| Number of observations | 96 | 93 | 96 | 96 |
| Adjusted R ² | 0.078 | 0.092 | 0.089 | 0.103 |

^aAge group 20-25, post-doc position and Beta are used as a reference group

^bMale=1

*p<0.1; **p<0.05, ***p<0.01

By reviewing table 5, it is evident that only Model C has enough statistical significance to support the negative relationship of job insecurity and in-role performance, which partially confirms hypothesis 1 and determines that the relationship is negative. Hypothesis 1 (H1) stated that job insecurity directly impacts in-role performance. While no statistical significance was observed for objective job insecurity (Model A) and subjective job insecurity about current job (Model B), subjective job insecurity regarding maintaining a job in academia (Model C) presented a negative and direct impact in-role performance with statistical significance on 0.1 level.

To answer H2 (*Job insecurity is related to employees' willingness to train, either positively or negatively*) job-insecurity variables with the BKO variables were tested. First, a model was created to test how the control variables relate to the training variables, both the obtainment of the BKO (1) and the willingness to obtain the BKO (2). Then, both variables were tested with the three variables for job insecurity (objective job insecurity (A), subjective job insecurity about current job (B), subjective job insecurity regarding maintaining a job in academia (C)). Therefore, six models were created, the models 1 are with the obtainment of the training and the models 2 are with willingness to obtain the BKO.

When looking at the model with controls, it is obvious that the controls do not make a significant impact on the BKO variables. What is noticeable is if the BKO is not yet obtained, older employees (age>36) seem more reluctant to obtain the BKO, when compared to the age group 20-25.

For the rest, objective job insecurity is negatively and statistically significantly related to the obtainment of the BKO (Model 1A) (coefficient= -0.434, $p < 0.01$), meaning if people have fixed-term contracts then the possibility to obtain the BKO is 43.4% less than people with permanent contract. The R^2 of this regression is 0.229, meaning that it explains 22.9% of the variation of the sample.

Model 1B (subjective job insecurity about current job) does not present statistical significance. However, subjective job insecurity regarding maintaining a job in academia (Model 1C) is negatively related to the obtainment of the BKO (coefficient= -0.087) with statistical significance ($p < 0.1$). The adjusted R^2 s of 1C model is 0.135. In that sense, employees that experience subjective job insecurity about remaining in academia are 8.7% less likely to have obtained the BKO.

Regarding willingness to obtain the BKO (Models 2A, 2B, 2C), there is no statistical significance to draw conclusions regarding the relevant hypothesis.

Table 6 presents the relation between job-insecurity and the BKO variables (Models 1 are with BKO obtained, Models 2 are with willingness to obtain the BKO).

Table 6
Linear regression for the connection between job-insecurity and the BKO variables.

| | Model 1 only controls (BKO obtained) (SE) | Model 2 only controls (Willingness to obtain the BKO) (SE) | Model 1A (SE) | Model 2A (SE) | Model 1B (SE) | Model 2B (SE) | Model 1C (SE) | Model 2C (SE) |
|--|---|--|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Age (26-30) | -0.040 (0.136) | 0.193 (0.499) | -0.052 (0.133) | 0.038 (0.595) | -0.044 (0.136) | 0.230 (0.501) | -0.014 (0.136) | 0.390 (0.519) |
| Age (31-35) | 0.102 (0.158) | 0.471 (0.589) | 0.034 (0.153) | 0.290 (0.690) | 0.097 (0.157) | 0.468 (0.780) | 0.100 (0.156) | 0.537 (0.587) |
| Age (>36) | 0.406 (0.167) | -1.610* (0.876) | 0.187 (0.179) | -1.840* (1.025) | 0.350** (0.172) | -1.517** (0.881) | 0.355** (0.168) | -1.395 (0.885) |
| Lecturer | -0.146 (0.155) | -0.010 (0.780) | -0.105 (0.147) | -0.036 (0.892) | -0.171 (0.155) | -0.028 (0.780) | -0.151 (0.153) | 0.100 (0.779) |
| PhD candidate | -0.151 (0.167) | -0.608 (0.744) | -0.017 (0.153) | -0.600 (0.854) | -0.191 (0.162) | -0.650 (0.746) | -0.168 (0.158) | -0.563 (0.739) |
| AlfaGamma | 0.612 (0.461) | 0.172 (0.433) | 0.766 (0.429) | 0.3246 (0.5121) | 0.679 (0.462) | 0.291 (0.450) | 0.762 (0.465) | 0.049 (0.441) |
| Gender ^b | 0.157 (0.096) | -0.218 (0.432) | 0.162 (0.089) | -0.261 (0.492) | 0.133 (0.097) | -0.274 (0.436) | 0.118 (0.097) | -0.337 (0.439) |
| Objective job insecurity (A) | | | -0.434*** (0.126) | -0.329 (0.820) | | | | |
| Subjective job insecurity about current job (B) | | | | | -0.052 (0.039) | -0.186 (0.192) | | |
| Subjective job insecurity regarding maintaining a job in academia (C) | | | | | | | -0.087* (0.050) | -0.326 (0.258) |
| Number of observations | 97 | 48 | 94 | 47 | 97 | 48 | 97 | 48 |
| Adjusted R ² | 0.116 | 0.032 | 0.229 | 0.015 | 0.123 | 0.030 | 0.135 | 0.046 |

^aAge group 20-25, post-docs and Beta are used as a reference in their group

^b Male=1

*p<0.1; **p<0.05, ***p<0.01

Furthermore, job insecurity variables (objective job insecurity and subjective job insecurity about current job and maintaining a job in academia) and willingness to follow other job-related trainings were tested.

Most of the control variables seem to be significant in this regression. Firstly, age group 31-35 and age group >36 are less likely to want to follow job-related trainings (coefficient= -0.814, p<0.05 and coefficient= -0.772, p<0.05, respectively) when compared to age group 20-25. That means age group 31-35 reports 0.814 lower willingness to follow job-related trainings on the average scale, when compared to age group 20-25. Similarly, age group >36 indicates 0.772 lower willingness to follow such trainings, when compared to age group 20-25. Furthermore, lecturers and PhD candidates are less likely to want to follow such trainings (coefficient= -1.080, p<0.01 and -0.722, p<0.05, respectively), when compared to post-docs. In that sense,

lecturers and post-docs are 1.080 and 0.722 respectively less likely to want to follow other job-related trainings on the average scale.

Objective job insecurity and subjective job insecurity regarding maintaining a job in academia (Models A and C) do not present statistical significance. However, subjective job insecurity about current job presents a negative relationship with willingness to follow other job-related trainings with statistical significance (coefficient = -0.138, $p < 0.05$). That means that on the average scale, employees that experience subjective job insecurity about their current job are 0.138 less likely to want to follow other job-related trainings.

Table 7

Linear regression for the connection between job insecurity variables (objective job insecurity (Model A), subjective job insecurity about current job (Model B), subjective job insecurity regarding maintaining a job in academia (model C)) and willingness to follow other job-related trainings.

| | Model with controls (SE) | Model A (SE) ^b | Model B (SE) | Model C (SE) |
|---|--------------------------|---------------------------|----------------------|----------------------|
| Age (26-30) | 0.013 (0.282) | -0.120 (0.294) | 0.002 (0.279) | 0.033 (0.285) |
| Age (31-35) | -0.814** (0.326) | -0.965*** (0.340) | -0.826** (0.323) | -0.815** (0.327) |
| Age (>36) | -0.772** (0.346) | -1.048*** (0.397) | -0.924** (0.354) | -0.811** (0.353) |
| Lecturer | -1.080*** (0.320) | -1.114*** (0.327) | -1.146*** (0.319) | -1.084*** (0.322) |
| PhD candidate | -0.722** (0.330) | -0.628** (0.341) | -0.827** (0.333) | -0.734** (0.332) |
| AlfaGamma | -1.124 (0.955) | -1.015 (0.954) | -0.948 (0.951) | -1.010 (0.976) |
| Gender | 0.179 (0.198) | 0.176 (0.198) | .0115 (0.200) | 0.149 (0.205) |
| Objective job insecurity (A) | | -0.320 (0.280) | | |
| Subjective job insecurity about current job (B) | | | -0.138** (0.081) | |
| Subjective job insecurity regarding maintaining a job in academia (C) | | | | -0.066 (0.106) |
| Number of observations | 97 | 94 | 97 | 97 |
| Adjusted R ² | 0.149 | 0.169 | 0.167 | 0.144 |

^a Age group 20-25, post-docs and Beta are used as a reference in their group

^b Male=1

* $p < 0.1$; ** $p < 0.05$, *** $p < 0.01$

Looking at table 6 and table 7, hypothesis 2 is partially confirmed. This hypothesis (H2) states that there is a relationship between job insecurity and willingness to train, either positive or negative. From my research analysis, when statistically significant, the relationship is negative.

More specifically, there is a negative relationship between objective job insecurity and the obtainment of the BKO and subjective job insecurity regarding maintaining a job in academia and the obtainment of the BKO that present statistical significance. Furthermore, subjective job insecurity about current job is significantly and negatively related to willingness to follow other job-related trainings. None of the job insecurity variables presented statistical significance when tested with willingness to obtain the BKO.

To test hypothesis 3, the relationship between the BKO variables (BKO obtained Model A, willingness to obtain BKO Model B) and in-role performance and willingness to follow other job-related trainings (Model C) and in-role performance were tested.

The analysis for the control variables is presented in table 5 (see page 34) and is added again in table 8 for reference. Both table 5 and table 8 use in-role performance as the dependent variable and thus, present no difference when tested only with controls.

The obtainment of the BKO is positively related to in-role performance (coefficient= 0.331) with statistical significance ($p < 0.01$). Generally, that means that people with the BKO certificate indicate 0.331 better in-role performance on the average scale than people who have not obtained the BKO. The adjusted R^2 is 0.155.

Willingness to obtain the BKO is positively and significantly related to in-role performance (coefficient= 0.189, $p < 0.01$), meaning that one point increase on the average scale of willingness to obtain the BKO results in 0.189 increase on the average scale of in-role performance. The adjusted R^2 is 0.234.

Willingness to follow other job-related trainings does not present statistical significance. Table 8 presents the findings:

Table 8
Linear regression for the connection between the BKO variables and in-role performance (Model A BKO obtained, Model B willingness to obtain BKO, Model C willingness to follow other job-related trainings).

| | Model controls (SE) | with Model A (SE) | Model B (SE) | Model C (SE) |
|-------------|---------------------------|-------------------------|-------------------|-------------------|
| Age (26-30) | -0.056 (0.151) | -0.040 (0.145) | -0.189 (0.187) | -0.058 (0.151) |
| Age (31-35) | 0.0214 (0.174) | -0.010 (0.167) | 0.041 (0.220) | 0.081 (0.179) |

| | | | | |
|---|--------------------|---------------------|---------------------|-------------------|
| Age (>36) | -0.032 (0.184) | -0.165 (0.182) | 0.086 (0.332) | 0.024 (0.188) |
| Lecturer | -0.053 (0.169) | -0.005 (0.162) | 0.281 (0.283) | 0.027 (0.179) |
| Phd candidate | -0.313* (0.174) | -0.263 (0.168) | 0.121 (0.273) | -0.259 (0.178) |
| AlfaGamma | -0.030 (0.503) | -0.233 (0.486) | 0.127 (0.159) | 0.053 (0.505) |
| Gender | 0.141 (0.104) | 0.089 (0.102) | 0.050 (0.157) | 0.128 (0.104) |
| BKO obtained (A) | | 0.331*** (0.111) | | |
| Willingness to obtain BKO (B) | | | 0.189*** (0.059) | |
| Willingness to follow other job-related trainings (C) | | | | 0.074 (0.056) |
| Number of observations | 96 | 96 | 47 | 96 |
| Adjusted R ² | 0.078 | 0.155 | 0.234 | 0.086 |

^a Age group 20-25, post-docs and Beta are used as a reference in their group

*p<0.1; **p<0.05, ***p<0.01

By analyzing table 8 it is evident that hypothesis 3 is partially confirmed. Hypothesis 3 (H3) states that willingness to train positively relates to in-role performance, which is strongly supported by the analysis of Model A and Model B. Employees that have obtained the BKO certificate or are in the process to obtain the BKO report better in-role performance, thus, in these cases, willingness to train positively related to in-role performance.

4.4. MEDIATION ANALYSIS

In order to test the mediation effects, Stata's mediation option was used. There are two commands in the software that allow to test mediation, the first reveals the coefficients and the second explains the steps taken to determine whether there is a mediation. The method was built on Iacobucci et al. (2007) research by Mehmetoglu (2018) and allows to check direct, indirect and total effects, while performing Sobel's tests.

In the first step, the effect of the independent variable on the mediator is tested (a). The second step test the effect of the mediator to the dependent variable (b) and in the third step the effects of the independent variable on the dependent variable are tested. Sobel's test is also performed. The indirect effect is calculated by multiplying step one and step two (a*b).

First, the job insecurity variables were tested with the obtainment of the BKO as a mediating variable and in-role performance as the dependent variable. The total direct effect of objective

job insecurity on the obtainment of the BKO (a) is -0.506, $p < 0.01$ (step one). The direct effect the obtainment of the BKO on in-role performance (b) is 0.391, $p < 0.01$ (step two) and, thus the indirect effect of the objective job insecurity on in-role performance is -0.198, $P < 0.05$ (a*b). The direct effect of objective job insecurity on in-role performance is not statistically significant (step three).

Since step one and step two are significant and step three is not significant the mediation is complete. The division of indirect effect and total effect (0.198/0.233) is 0.848, meaning that about 85% of the effect of objective job insecurity on in-role performance is mediated by the obtainment of the BKO. The division of the indirect effect and direct effect (0.198/0.035) is 5.583, therefore, the mediated effect is about 5.6 times as large as the direct effect of objective job insecurity on in-role performance. The following tables present the direct, indirect, and total effects.

Table 9

The direct, indirect, and total effects of objective job insecurity and the obtainment of the BKO on in-role performance (n=93).

| Direct effects | |
|--------------------------|---------------------|
| Obtainment of the BKO | 0.391*** (0.115) |
| Objective job insecurity | -0.035 (0.129) |

| Indirect effects | |
|--------------------------|---------------------|
| Obtainment of the BKO | No path |
| Objective job insecurity | -0.198** (0.071) |

| Total effects to in-role performance | |
|--------------------------------------|--|
| Obtainment of the BKO | 0.391*** (0.116) |
| Objective job insecurity | -0.233* (0.122) |
| | Total effects to the obtainment of the BKO |
| Objective job insecurity | -0.506*** (0.103) |

n=93

* $p < 0.1$; ** $p < 0.05$, *** $p < 0.01$

Then, the subjective job insecurity about current job was tested (n=96). The total direct effect of job insecurity about current job on the obtainment of the BKO (a) is not significant (step

one). The direct effect the obtainment of the BKO on in-role performance (b) is 0.366, $p < 0.01$ (step two) and, thus the indirect effect of the job insecurity about current job on in-role performance is -0.027, $p < 0.1$ ($a \cdot b$). The direct effect the objective job insecurity on in-role performance is not significant (step three). The total effect of the objective job insecurity on in-role performance is -0.073, $p < 0.1$. Since step one is not significant, there is no mediation.

Lastly, the mediation effect of the obtainment of BKO was tested using subjective job insecurity about maintaining a job in academia as the independent variable. The direct effect the subjective job insecurity about maintaining a job in academia on the obtainment of the BKO (a) is -0.136, $p < 0.05$ (step one) and the direct effect the obtainment of the BKO on in-role performance (b) is 0.323, $p < 0.05$. The indirect effect ($a \cdot b$) of subjective job insecurity about maintaining a job in academia on in-role performance is -0.044, $p < 0.05$. The direct effect of subjective job insecurity about maintaining a job in academia on in-role performance is -0.087, $p < 0.1$ (step three).

Since step one and step three are significant and step two is insignificant the mediation is complete. The division of indirect effect and total effect (0.044/0.131) is 0.337, meaning that about 34% of the effect of subjective job insecurity about maintaining a job in academia on in-role performance is mediated by the obtainment of the BKO. The division of the indirect effect and direct effect (0.044/0.087) is 0.507, therefore, the mediated effect is about 0.5 times as large as the direct effect of objective job insecurity on in-role performance. The following tables present the direct, indirect, and total effects.

Table 10

The direct, indirect and total effects of subjective job insecurity about maintaining a job in academia and the obtainment of the BKO on in-role performance (n=96).

| Direct effects | |
|---|---------------------|
| Obtainment of the BKO | 0.323** (0.105) |
| Subjective job insecurity about maintaining a job in academia | -0.087* (0.050) |
| Indirect effects | |
| Obtainment of the BKO | No path |
| Subjective job insecurity about maintaining a job in academia | -0.044** (0.021) |
| Total effects to in-role performance | |

| | |
|---|--|
| Obtainment of the BKO | 0.323** (0.105) |
| Subjective job insecurity about maintaining a job in academia | -0.131** (0.050) |
| | Total effects to the obtainment of the BKO |
| Subjective job insecurity about maintaining a job in academia | -0.136** (0.046) |

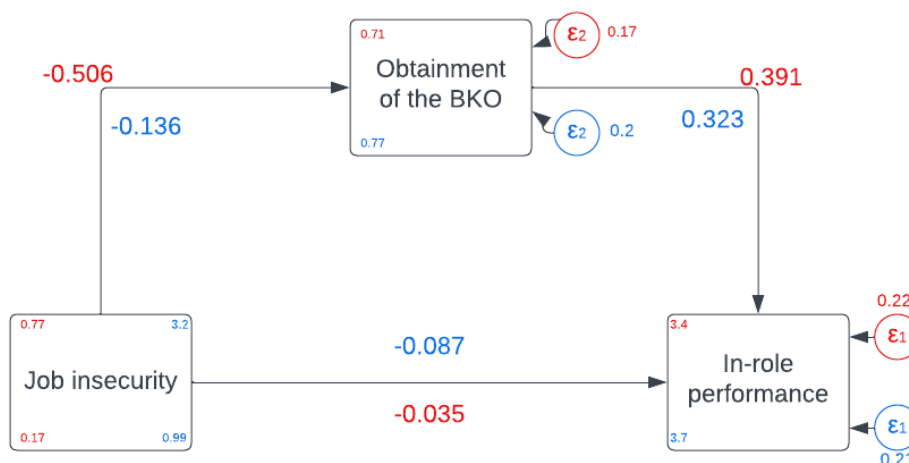
n=96

*p<0.1; **p<0.05, ***p<0.01

The following diagram is a visual representation of the findings regarding the mediation of job insecurity on in-role performance through the obtainment of the BKO.

Diagram 1

The mediation of the obtainment of the BKO (Red: objective job insecurity, blue: subjective job insecurity regarding maintaining a job in academia).



Objective job insecurity.

Subjective job insecurity regarding maintaining a job in academia.

Furthermore, the mediation of the willingness to obtain the BKO was tested. First, objective job insecurity was checked (n=46). The direct effect of objective job insecurity on willingness to obtain the BKO is not significant (step one). The direct effect of willingness to obtain the BKO on in-role performance is 0.220, p<0.01 (step two). Since step one is not significant, there is no mediation.

Then, the subjective job insecurity about current job was tested (n=47). The direct effect of job insecurity about current job on willingness to obtain the BKO is not significant (step one). The

direct effect of willingness to obtain the BKO on in-role performance is 0.194, $p < 0.01$ (step two). Since step one is not significant, there is no mediation.

Furthermore, the subjective job insecurity about maintaining a job in academia was tested ($n=47$). The direct effect of subjective job insecurity about maintaining a job in academia on willingness to obtain the BKO on in-role performance is not significant (step one). The direct effect of willingness to obtain the BKO on in-role performance is 0.194, $p < 0.01$ (step two). Since step one is not significant, there is no mediation.

Similarly, tests were conducted to test whether the relationship between job insecurity and in-role performance is mediated by willingness to follow other job-related trainings ($n=97$). None of the job insecurity variables (objective job insecurity, subjective job insecurity about current job, the subjective job insecurity about maintaining a job in academia) revealed mediation.

By reviewing the analysis of the mediation, hypothesis 4 (H4) is partially accepted. The obtainment of the BKO mediates the relationship between objective job insecurity and in-role performance and between subjective job insecurity regarding maintaining a job in academia and in-role performance. When testing for the relationship between subjective job insecurity about current job and in-role performance, there is no mediation. Regarding willingness to obtain the BKO and willingness to follow other job-related trainings, no tests revealed mediation.

5. DISCUSSION

Job insecurity and its short-term and long-term consequences on the individual and organizational levels are fairly examined among researchers. Although job insecurity's relation to in-role performance is extensively discussed, the results are inconclusive. Some studies argue in favor of a negative effect (Jiang et al., 2012; Lepine et al., 2005), others present the positive outcomes on performance (De Cuyper et al., 2008; Gilboa et al., 2008), while many stress that there are situational factors that can determine a positive or a negative relationship (Staufenbiel & König, 2010) and that the relationship can be controlled by mediating factors (Podsakoff et al., 2007).

This research shed light on the debate. Hypothesis 1 (H1) stated that job insecurity directly impacts in-role performance, which is partially confirmed, and the analysis determined that this relationship is negative when statistically significant. More specifically, subjective job insecurity regarding maintaining a job in academia presented a negative relation to in-role performance, meaning that when subjective job insecurity is involved in-role performance drops. In that sense, employees who indicate feelings of subjective job insecurity report worse in-role performance on the average scale.

Furthermore, research contemplates whether employees who experience job insecurity are inclined to follow training sessions. On one hand, it is argued that job insecurity will intrigue employees to learn more in order to perform better, and thus, follow learning and development programs (Kamphuis & Glebbeek, 2020). On the other hand, job insecurity can push employees to not follow trainings that do not increase their general knowledge and are firm-specific (Katsimi, 2008).

Hypothesis 2 (H2) argued that job insecurity impacts willingness to train, either positively or negatively. From the analysis, this hypothesis is partially confirmed. It is evident that there is a negative relationship between objective and subjective job insecurity and the obtainment of the BKO and subjective job insecurity and the following of job-related trainings. In that sense, employees do not want to follow sector specific trainings. H2 is, therefore, partially confirmed and the relationship is negative.

Moreover, research suggests that following training sessions results in improved in-role performance (Adamu et al., 2021; Younas et al., 2018). Hypothesis 3 (H3) revolves around this relationship and states that willingness to train positively relates to in-role performance.

From the analysis, it is evident that the connection between willingness to follow training and in-role performance is positive when statistically significant, and thus, H3 is partially confirmed. The obtainment of training and willingness to follow training positively relates to in-role performance. Employees that have followed trainings report better in-role performance on the average scale, while the more willing an employee is to undergo training, the better in-role performance they report.

Lastly, hypothesis 4 (H4) addressed the mediating relationship implied, vis-à-vis the relationship between job-insecurity and in-role performance and the mediating role of willingness to train. This hypothesis is partially accepted; willingness to follow does not indicate mediation, but the following and obtainment of training mediates the relationship between job insecurity and in-role performance. The mediation testing of both objective and subjective job insecurity revealed that there is a mediation.

Therefore, looking at the research question, vis-à-vis how job insecurity is related to employees' willingness to follow sector-specific training programs and ultimately in-role performance, even though the hypotheses are partially accepted, the research indicates that job insecurity relates negatively to willingness to follow sector-specific training programs. The relationship between job insecurity and in-role performance is also negative, while the relationship between willingness to follow sector-specific training and in-role performance is positive. In fact, the obtainment of training mediates the relationship between job insecurity and in-role performance, as training positively relates to in-role performance.

Consideration should be given to incorporating findings from this study into labor market policies and regulations. Academics and researchers can contribute to a broader comprehension of the relationship between job insecurity, training participation, and performance in various sectors and regions. Collaboration between public universities, policymakers, and researchers can result in the creation of evidence-based strategies that improve employee well-being, training engagement, and organizational performance as a whole.

Understanding that job insecurity has negative results in in-role performance is crucial. Recognizing and addressing job insecurity can have a positive effect on the overall well-being of employees, leading to greater motivation to participate in training programs and perform well in their roles. Furthermore, by recognizing and rewarding employees who actively participate in training programs and demonstrate improved performance, a positive feedback

loop can be created that reinforces the significance of training and skill development. By addressing concerns about employment security, they can foster an environment that encourages continuous skill development and enhanced performance among public university employees and beyond.

Therefore, organizations should inform their long-term strategic planning by aligning their training initiatives with broader organizational goals and resolving potential obstacles related to employment insecurity that may have an impact on these objectives.

Also, the research provided insights on how to mediate the relationship between job insecurity and in-role performance, which could be valuable for practitioners. Being willing to follow trainings does not mediate the relationship, but the actual following of trainings does. Therefore, incentives should be provided to follow job-related trainings.

Participation of employees in training programs can increase their perceived relevance and efficacy, and result in achieving organization goals (Ole Kinisa, 2019). Identifying employees who actively participate in sector-specific trainings and demonstrate strong in-role performance can contribute to a more robust and well-prepared workforce for future positions. Providing clear avenues for career advancement and highlighting the successes of employees who have benefited from training programs can encourage others to engage in similar activities. Employees may participate more actively if it is made clear how these programs can improve job security and professional growth. Offering flexible training options, such as online courses or seminars, can accommodate employees' varying schedules and alleviate job insecurity concerns.

In that way, employees can also benefit from the results. Firstly, employees could understand the benefits of following trainings, which will enhance their skills and increase their performance and, therefore, ensure longer term employability. Furthermore, they could use the research to claim that more permanent contracts should be given, as from the analysis it is evident that people with permanent contracts more often follow training, and, thus, improve their in-role performance.

Given the above, the contract policies of the universities should be examined and reevaluated and giving more permanent contracts should be considered. As examined, since there is no possibility to obtain a permanent contract, employees are not motivated to follow training programs, which results in poorer performance. A possibility to maintain employability for a

longer period could provide incentives and motivation to the employees. Nevertheless, this could entangle employees in a stressful situation, where they have to compete with one another in a field that is already highly competitive and dynamic, so measures to ensure well-being should be also taken.

The results of this research not only provide empirical evidence to the debate of how job insecurity impacts in-role performance in favor of the negative effect but can also be discussed in the context of COR theory. The core principles of COR theory suggest that individuals react to an environment that entails threat or loss of resources, or does not succeed to provide other resources in exchange for the resources spend (Hobfoll, 1989). Based on this principle, two speculations were made. Employees would either not spend their resources in an uncertain environment because they would not gain other valuable resources in exchange or they would spend their resources in order to be able to maintain employability and, thus, gain resources through it.

The results imply that the first speculation is correct. Employees when job insecurity is entailed opt less to spend their energy resources in gaining knowledge that will be utilized in the specific sector. When fixed-term contracts are involved or the individual feels threat of losing their resources, thus experiences subjective job insecurity, employees are less likely to follow training programs.

If performance could determine long-term employability, whether employees could be given permanent contracts, the second speculation could be correct. The job preservation motivation could drive employees to spend their resources to ensure employment in the future. Future research could explore that speculation in an environment that good performance is rewarded with a possibility for longer employability. In that sense, this could be an argument to provide more permanent contracts. Taking a step further, research could examine the psychological implications in an environment with such job characteristics, the competition for permanent contracts could result in adverse psychological and physical well-being.

Furthermore, for this specific research, the variable of willingness to follow other job-related trainings indicated that the results are impacted by the position of the employees greatly and significantly. Further research could investigate this and the reasons behind it, in order to understand why employees working in certain positions are more willing to undergo training compared to others. The specific job characteristics and situational factors could impact their

willingness to train. So this could be a starting point to determine which job characteristics and factors can result in motivation to follow learning and development programs, that, as research suggests, positively impact individual (Adamu et al., 2021; Younas et al., 2018) and organizational performance (Ole Kinisa, 2019; Samwel, 2018).

The results regarding the direct impact of job-insecurity on in-role performance and the following of trainings could be generalized. Even though the BKO training is specific to the Netherlands and is a job characteristic of teaching staff in the Netherlands, it is a sector-specific training, the obtainment of which is impacted by job insecurity. It also clearly mediates the negative effects of job insecurity and in-role performance.

Nevertheless, the relationship could be impacted by the fact that it is mandatory for employees of the universities to have followed the training, even though they are not obligated to have it when being hired. That means that employees might follow the training, even if they are reluctant or if they do not understand its value for future employment. Therefore, this research could be a starting point to understand whether employees opt to follow sector-specific trainings, or they prefer trainings that enhance general skills.

Even though all hypotheses are partially confirmed, it is important to mention that the regression analyses only explain a small percentage of the variance of the dependent and the mediation variable (low adjusted R^2 s). That indicates that there might be other variables that can explain the relationships better, such as salary, social recognition due to job title and feeling of contribution to research and the field, demonstrated by job satisfaction. Furthermore, due to GDPR concerns, self-evaluation of in-role performance was used, which might be the reason behind the low adjusted R^2 s and the partial confirmation of the hypotheses. Ideally, supervisor or student evaluations should have been used, as they would be more realistic, and any bias could have been better avoided.

Low adjusted R^2 s could be also a result of the small sample that was used. Especially for the question about the BKO the sample of 97 was divided in three categories. That could have taken some significance of the explanatory value of the variables. The mediation of willingness to obtain the BKO included only 48 respondents, thus, making it more difficult to draw results. Moreover, the sample contained only 21 employees with a permanent contract, which is not high enough to produce valid results. Therefore, the small sample number seems to be a limitation of the research.

Furthermore, due to the limited power of the small sample three statistical significance levels were used. Therefore, in some cases, the results are significant on the 0.1 level, which, while is statistically accepted, indicates a weaker relation.

Lastly, as demonstrated in the introduction, universities' contract strategy mostly revolves around providing fixed-term contracts. Permanent contracts are more often offered to employees among higher ranks (Rathenau Instituut, 2021). In that sense, employees in the lower ranks, like lecturers and post-docs, rarely work under permanent contracts. Therefore, finding enough employees among the lower ranks employed with permanent contracts was challenging, resulting in difficulty to find respondents with permanent contracts and, therefore, low adjusted R^2 s.

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APPENDIX I

Figure 1

Adjusted items to measure job insecurity regarding maintain a job in academia.

| Original scale | Adjusted items |
|---|---|
| Chances are, I will soon lose my current job. | Chances are, I will not be able to maintain a job in academia. |
| I am sure I can keep my current job. | I am sure I can obtain a job in academia. (Reverse coded) |
| I feel insecure about the future of my current job. | I feel insecure about having a job in academia in the future. |
| I think I might lose my current job in the near future. | I think I might not be able to maintain a job in academia in the near future. |

Figure 2

Items used to measure willingness to train.

| Item as presented in the Kyndt et al. (2011) research | Adjusted items |
|--|--|
| I Intend to talk with persons in my surroundings about job-related courses or trainings that I could follow. | I intend to talk with persons in my surroundings about the BKO certificate training. |
| I intend to participate in a job-related learning activity within the next year. | I intend to participate in the BKO certificate training within the next year. |
| I intend to look for information about job-related courses and learning activities that I could participate. | I intend to look for information about the BKO certificate training. |
| Sometimes I think about following a job-related training within the next year. | Sometimes I think about following the BKO certificate training within the next year. |

| | |
|--|---|
| I intend to talk with my executive about job-related courses or trainings that I could follow. | I intend to talk with my supervisor about the BKO certificate training. |
|--|---|

Figure 3

Adjusted items to measure willingness to follow the BKO certificate.

| Item as presented in the Kyndt et al. (2011) research | Adjusted items |
|--|--|
| I intend to talk with persons in my surroundings about job-related courses or trainings that I could follow. | I intend to talk with persons in my surroundings about job-related activities other than the BKO certificate or trainings that I could follow. |
| I intend to participate in a job-related learning activity within the next year. | I intend to participate in a job-related activity other than the BKO certificate within the next year. |
| I intend to look for information about job-related courses and learning activities that I could participate. | I intend to look for information about job-related activities other than the BKO certificate that I could participate. |
| Sometimes I think about following a job-related training within the next year. | Sometimes I think about following a job-related activity other than the BKO certificate within the next year. |
| I intend to talk with my executive about job-related courses or trainings that I could follow. | I intend to talk with my supervisor about job-related activities other than the BKO certificate that I could follow. |

Figure 4

Adjusted items to measure self-evaluated in-role performance.

| Items used in Yahchouchi & Bouldoukian (2014) research | Adjusted items |
|--|----------------|
| | |

| | |
|---|--|
| Awareness of discipline and academic rules. | I am knowledgeable on the subjects I teach. I follow the regulations, policies, and rules of the university. (For example, grading, time limit for grading, accommodation of people with disability etc.) |
| Awareness of pedagogical methods. | I apply pedagogical methods in my teaching. |
| Relevant student's evaluation methods. | I know how to design relevant student evaluation methods. |
| Teaching language skills. | My language skills for teaching are sufficient. |
| Respect of syllabus. | I follow the syllabus. |
| Achievement of the course objectives. | I help achieve the course objectives. |
| Students' satisfaction. | My students are satisfied with the quality of my educational skills. |

As noticed, the first item of the scale was split into two items.

JOB INSECURITY, WILLINGNESS TO TRAIN AND IN-ROLE PERFORMANCE IN DUTCH UNIVERSITIES

I am Martha Tsakiri and I am following a master's program in Strategic Human Resource Management at Utrecht University. As part of the program, I am conducting research on how fixed-term contracts impact employees willingness to train and develop their work skills and the subsequent quality of education. If you have any questions, please ask me. Email: m.tsakiri@students.uu.nl

Why this research?

The purpose of this research is to evaluate the impact of fixed-term (temporary) contracts on the willingness to follow training programs and the subsequent quality of education. It is important to identify whether employment choices affect the quality of education offered by Dutch universities; keeping a high educational level in society is essential, while we could gain insight into the effects of fixed-term contracts.

Why should you participate?

The participation is open for **Lecturers (in Dutch: Docenten), PhD candidates and Post-docs**. I ask you to participate because your position is of interest to this survey. These positions are characterised by fixed-term contracts and uncertainty in job development, therefore, are the centre of attention in understanding the effects of temporary employment.



Follow this qr code to enter the survey

Your participation is considered important, and the questionnaire requires **6-10 minutes of your time**. No follow-up is applicable. The survey will be open for 3 weeks, until 15/06/2023. All items have answers on 5-point scale. There are no right or wrong answers.

Participation in this study is completely voluntary and any information collected will be treated confidentially. You can withdraw your participation any time without giving any explanation.

APPENDIX III⁷

Job insecurity, willingness to train and in-role performance in Dutch universities

I am Martha Tsakiri and I am following a master's program in Strategic Human Resource Management at Utrecht University. As part of the program, I am conducting research on how fixed-term contracts impact employees' willingness to train and develop their work skills and the subsequent quality of education. If you want to participate in the study, you can indicate this below. If you have any questions, please ask me. Email: m.tsakiri@students.uu.nl

Why this research?

The purpose of this research is to evaluate the impact of fixed-term (temporary) contracts on the willingness to follow training programs and the subsequent quality of education. It is important to identify whether employment choices affect the quality of education offered by Dutch universities; keeping a high educational level in society is essential, while we could gain insight into the effects of fixed-term contracts.

Why should you participate?

The participation is open for lecturers (in Dutch: Docenten), PhD candidates and post-docs. I ask you to participate because your position is of interest to this survey. These positions are characterized by fixed-term contracts and uncertainty in job development, therefore, are the center of attention in understanding the effects of temporary employment.

What can you expect?

Your participation is considered important, and the questionnaire requires 6-10 minutes of your time. No follow-up is applicable.

The survey will be open for 3 weeks, until 15/06/2023. All items have answers on 5-point scale. There are no right or wrong answers.

Participation in this study is completely **voluntary and any information collected will be treated confidentially**. You can withdraw your participation any time without giving any explanation. A random ID number is generated at the end of the survey, please copy this number and send it directly to my email (m.tsakiri@students.uu.nl), so I can make sure your participation is deleted.

You can indicate below that you have read the information provided and agree to participate.

Do you agree to participate in the survey?

- I agree
- I disagree

⁷ The questionnaire distributed for the survey as prepared in Qualtrics.

Have you obtained the BKO certificate?

- Yes
- No

Display This Question:
If Have you obtained the BKO certificate? = No

Are you in the process of obtaining the BKO certificate?

- Yes
- No

Display This Question:
If Are you in the process of obtaining the BKO certificate? = No

Answer the following question by showing the level of disagreement or agreement to the statements.

| | Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree |
|--|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| I intend to talk with persons in my surroundings about the BKO certificate training. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I intend to participate in the BKO certificate training within the next year. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I intend to look for information about the BKO certificate training. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sometimes I think about following the BKO certificate training within the next year. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I intend to talk with my supervisor about the BKO certificate training. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Answer the following question by showing the level of disagreement or agreement to the statements.

| | Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree |
|--|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| I intend to talk with persons in my surroundings about job-related activities other than the BKO certificate or trainings that I could follow. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I intend to participate in a job-related activity other than the BKO certificate within the next year. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I intend to look for information about job-related activities other than the BKO certificate that I could participate. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sometimes I think about following a job-related activity other than the BKO certificate within the next year. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I intend to talk with my supervisor about job-related activities other than the BKO certificate that I could follow. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Answer the following question by showing the level of disagreement or agreement to the statements.

| | Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree |
|---|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| Chances are I will soon lose my current job. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am sure I can keep my current job. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I feel insecure about the future of my current job. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think I might lose my current job in the near future. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Answer the following question by showing the level of disagreement or agreement to the statements.

| | Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree |
|---|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| Chances are, I will not be able to maintain a job in academia. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am sure I can obtain a job in academia. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I feel insecure about having a job in academia in the future. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think I might not be able to maintain a job in academia in the near future. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Answer the following question by showing the level of disagreement or agreement to the statements.

| | Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree |
|--|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| I am knowledgeable on the subjects I teach. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I follow the regulations, policies and rules of the university. (for example, grading, time limit for grading, accommodation of people with disability etc.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I apply pedagogical methods in my teaching. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I know how to design relevant student evaluation methods. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My language skills for teaching are sufficient. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I follow the syllabus. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I help achieve the course objectives. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My students are satisfied with the quality of my educational skills. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

What is the type of your contract?

- Permanent
- Fixed-term (temporary)

What is your age group?

- 20-25
- 26-30
- 31-35
- 36-40
- 41-45
- 46-50
- 51-55
- 56-60
- 61-65
- Other

What is your gender?

- Male
 - Female
 - Non-binary / third gender
 - Prefer not to say
-

What is your position in the university?

- Lecturer
 - PhD candidate
 - Post-doc
 - Other
-

What is your field of occupation?

- Science
- Veterinary Medicine
- Humanities
- Medicine
- Law
- Economics
- Governance
- Social and behavioural sciences
- Geosciences
- Other

Do you have a PhD?

- Yes
- No

Display This Question:

If Do you have a PhD? = No

Are you in the process of obtaining a PhD?

- Yes
- No

Display This Question:

If Are you in the process of obtaining a PhD? = Yes

If yes, what year of the project are you in?

- 1
- 2
- 3
- 4
- 5
- 6
- Other

Here is your ID number: $\{e://Field/Random\%20ID\}$

Please copy this number. You can use this number to withdraw your participation anytime by sending the number through email to m.tsakiri@students.uu.nl. Once you have copied the number, click submit to finish the survey.