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# **LIVING ONE'S CALLING: THE ROLE OF SKILL VARIETY AND TASK IDENTITY**

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## Abstract

Recent research on calling emphasized on the important distinction between having a calling and being able to live a calling in order to clarify the positive effects of callings on well-being.

However, a number of factors, such as income and educational background are critical in this regard (Duffy & Autin, 2013). The present study focuses on the understudied role of work characteristics in explaining the linkage between having a calling and living it. Two work characteristics were studied specifically: skill variety and task identity. The former refers to the degree to which a job requires completion of a "whole" and identifiable task, whereas the latter indicates the degree to which a job requires a variety of different skills in carrying out the work. The level of both work characteristics were measured with an online questionnaire among a sample of 520 working nurses in the Netherlands, as well as their presence of calling and their ability to live this calling.

Contrasting with previous studies (e.g. Duffy & Autin, 2013; Hirschi, Keller & Spurk, 2018) that underline the assumption that the ability to live one's calling is depending on economic and social resources, the present study found that participants with higher salaries expressed lower levels of living their calling. Educational level was unrelated to living a calling in the sample. Moreover, presence of calling and living a calling were unrelated to leadership position.

Testing moderating effects with regression analysis, results show that the level of skill variety nurses have does not have an effect on the strength of the relationship between having a calling and being able to live it. Task identity however significantly moderates the relationship between presence of calling with living a calling, while controlling for age, working hours per week, working experience, leadership position, salary and educational level. However, this moderation effect was not in the hypothesized direction. Results indicate that as the level of task identity grows, the strength of the relationship between presence of calling and living a calling becomes weaker. The study therefore fails to support the idea that jobs with high levels of skill variety and task identity strengthen the relationship between presence of calling and living it.

However, a post hoc mediation analysis revealed that task identity was a significant mediator in the process of transforming the presence of calling into a state of actually living it. Nurses with a calling are also more likely to live out their calling by working in jobs with high levels of task identity.

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# 1. Introduction

## 1.1 Background

People differ in the way they perceive their career. While some people view work merely as means to pay their bills or to gain social status, others can feel truly 'called' to a certain work field and see their job as part of their identity. A **calling** is an approach to work that reflects the belief that one's career is a central part of a broader sense of purpose and meaning in life (Dik & Duffy, 2009). Due to the increasing centrality that work has in people's life, calling has become a popular topic in modern society (Hall & Chandler, 2005). People are increasingly seeking for their calling and for work that fulfills this calling (Dik & Duffy, 2009). A study with employed adults from over 70 countries point that approximately 30% experience their work as a calling (Peterson, Park, Hall & Seligman, 2009). Consistent with this popularity, work as a calling is an emerging concept for scholars across a variety of disciplines, such as psychology and management studies (Duffy & Dik, 2013).

Many scholars have linked calling to positive work related and general well-being outcomes. Studies found that those who endorse a calling report greater career and organizational commitment. Due to this commitment, they have lower withdrawal intentions (Duffy, Allan & Dik, 2011). Moreover, calling is related to a strong sense of **work meaningfulness**, **occupational identity**, **self-efficacy**, **work engagement** and **person-job fit** (Hirschi, 2012). In terms of general well-being outcomes, having a calling is related to increased **life meaning** and **life satisfaction** (e.g. Duffy & Sedlacek, 2010). People with a calling have a smaller chance of suffering from **stress**, **depression** and **conflict** between work and their private life (Treadgold, 1999). Therefore, recruiting people with a calling and helping them express their calling at work can have major benefits for organizations.

## 1.2 Problem statement

However, recent studies highlight an important distinction between **having a calling** and being able to **live a calling** (e.g. Duffy, Allan, & Bott, 2012; Duffy & Autin, 2013; Duffy, Bott, Allan, Torrey, & Dik, 2012). Having a calling (used in this study synonymously with *perceiving a calling* and *presence of calling*) refers to the degree to which an individual believes to be called to a particular career (Duffy & Autin, 2013). **Living a calling** refers to the degree to which a person is currently engaging in activities or work that meets this calling (Duffy & Autin, 2013). Individuals with a calling may not currently be working in a position that enables them to live their calling. There can be a variety of **barriers and constraints** that prevent people from living their calling (Blustein, 2008). Examples of barriers are income, educational level or family demands that influence career decision making (Brown et al., in Duffy et al., 2012).

The positive effects associated with having a calling differ substantially depending on the ability to actually live a calling. Having a calling but not being able to live a calling can be more detrimental to your **well-being** than having no calling at all (Duffy, Douglass, Autin, England, & Dik, 2016; Gazica & Spector, 2015). Studies found that living a calling correlates stronger with life satisfaction, career commitment, work meaning and job satisfaction than does having a calling (Duffy, Allan et al., 2012; Duffy, Bott et al., 2012). Moreover, living a calling is related to higher educational level and income, while presence of calling is not (Duffy, Allan, Autin, & Bott, 2013; Duffy & Autin, 2013; Duffy, England, Douglass, Autin, & Allan, 2017). To conclude, the positive effects of having a calling depend largely on the degree to which employees are able to actually live their calling. This leads to the importance of **finding conditions that enable people to live their calling** (Finding variables that link presence of calling with living a calling) (Hirschi, Keller & Spurk, 2018).

As mentioned above, most research has focused on individual factors (such as educational level) that explain the ability to live a calling (e.g. Duffy et al., 2013). However, recent research emphasized the importance of **work characteristics** in this relationship (Hirschi, Keller & Spurk, 2018). Work characteristics (or *job (design) characteristics*) refer to “how jobs, tasks, and roles are structured, enacted, and modified, as well as the impact of these structures, enactments, and modifications on individual, group, and organizational outcomes” (Grant & Parker, 2009, p. 319). Hirschi et al. (2018) showed that two work characteristics, **autonomy** and **task significance**, are important in explaining the linkage between having and living a calling. These two variables partially mediated the present relation between presence of calling and living a calling, meaning that having autonomy at work and having fulfilling tasks that are meaningful contributes to being able to live one’s calling. However, there might be a range of other **work characteristics** that can shape this relation.

Several scholars argued that not only autonomy and task significance, but also **skill variety** and **task identity** lead to a higher level of experienced meaningfulness of work (Hackman & Oldham, 1976; Hackman & Lawler, 1971). Perceived meaningfulness of a job is an important factor of being able to live a calling (Duffy et al., 2012), and there are at least two ways that work can come to be viewed as meaningful: Jobs need to involve doing a **whole piece of work** (i.e. high level of task identity) and at the same time provide the opportunity for employees to use their valued **skills and abilities**, in order to be challenged in their work (i.e. high level of skill variety) (Hackman & Lawler, 1971). Therefore, these variables might also have an important role in explaining the linkage between having a calling and living it. For example, if it is one’s calling to make bikes, but the design of the job only allows one to put together a piece of a bike (i.e. low level of task identity), using the same monotonous skills every day (i.e. low level of skill variety), you can imagine this person does not feel able to live his or her calling.

### 1.3 Research objective

The present research is aimed at extending the existing literature on the influence of work characteristics on the relationship between having a calling and living a calling, by testing for other variables that might be of importance, namely **skill variety** and **task identity**.

The research objective is to discover if those work characteristics have a moderating effect on the relationship between having a calling and living a calling. A moderating effect (or also called interaction effect) affects the direction and/or strength of the original relationship between an independent variable (having a calling) and a dependent variable (living a calling) (Baron & Kenny, 1986).

### 1.4 Research question

In line with the research objective described above, the research question of this study is:

*Do skill variety and task identity moderate the relationship between presence of calling and living a calling and if so, what is the moderating effect?*

This question will be examined by means of a **quantitative research**. A survey will be conducted in a sample of Dutch employed nurses. This sample was chosen because nursing is a profession which is likely to be done from a calling orientation (Peterson, Park, Hall & Seligman, 2009). Moreover, there are indications that nurses cannot always live their calling at work (Jager, Tutty & Kao, 2017; Aarts, 2017a; Aarts, 2017b). This leads to the question whether the level of skill variety and task identity are critical in this regard. A **regression analysis** will be used in order to investigate the moderating effect of both work characteristics on the relationship between having a calling and living it.

### 1.5 Relevance

Viewing a career as a calling is related to a range of positive work and well-being outcomes. These positive outcomes are especially visible when individuals are actually able to live out their calling at work. The first evidence of the importance of work characteristics in this regard is found by Hirschi et al. (2018). By designing jobs that are high in autonomy and task significance, organizations can create the ability for their employees to live out their calling. However, the effect of other work characteristics, such as skill variety and task identity, is not studied yet. As they are also strongly related to meaningful work (Hackman & Oldham, 1976; Hackman & Lawler, 1971), they might have an important influence in this relationship.

The findings of this study will increase our understanding in what **organizational conditions** enable people to live their calling. More insights in the way having a calling is related to living a calling will be provided. Moreover, the effect that two previously neglected **work characteristics**

have in this relationship will be tested. The current research will extend the relatively understudied area of the effect of work characteristics on the ability to live a calling.

Finding more organizational conditions in terms of work characteristics that enable people to live their calling can have major benefits for both **organizations** and their **employees**. **Organizations** that enable employees to live their calling are more likely to retain a workforce that is committed and have lower withdrawal intentions (Duffy et al., 2011). This will result in a sustained competitive advantage. Findings of this study will provide more knowledge for organizations on how to (re)design jobs that create the opportunity for **employees** to live out their calling. If organizations can do this successfully, **society** will benefit in terms of increased well-being (at work).

As this study focuses on the nursing sector, results are important for redesigning jobs in healthcare. Jobs can be redesigned in a way that they enable nurses to express their calling at work. **Nurses** will find their job more meaningful, exiting and fulfilling. **Patients** will benefit of better healthcare. **Healthcare organizations** benefit in terms of satisfied employees and clients. The current study can be replicated with other occupational groups in order to enable people in other professions to live their calling.

For individuals who are unable to live their calling or **career counselors** who help such clients, findings of the study can help them discover areas in their job that might prevent them from living their calling.

### **1.6 Outline of the research project**

The research consists of a theoretical framework, illustrating the relevant literature about the key concepts under study. After explaining the key concepts, the conceptual framework that forms the basis of the research will be introduced at the end of chapter 2. In chapter 3, the methodological choices made for examining the conceptual framework will be discussed. Chapter 4 addresses the results of the study, followed by a conclusion in chapter 5, as well as a critical discussion about the results and possible limitations of the research. In addition, recommendations for future research will be provided.



## 2. Theoretical framework

The aim of the study is to discover if the work characteristics skill variety and task identity moderate the relationship between presence of calling and living a calling. Therefore, the current chapter focuses on the relevant literature that is written about the **key concepts** in this regard. The chapter starts with an explanation of **meaningful work** and how a **calling orientation** relates to the concept. The subsequent paragraph elaborates on defining the concept of calling, followed by the important distinction between having a calling and living a calling. Furthermore, the **organizational context** and its effect on the ability to live a calling will be explained. More specifically, two work characteristics that might have an impact on the ability to live a calling are described in depth, namely: **skill variety** and **task identity**. The chapter concludes with a conceptual model that will be tested with the current research.

### 2.1 Work orientation and meaningfulness

Experienced meaningfulness at work refers to “the degree to which the individual experiences the job as one which is generally meaningful, valuable, and worthwhile” (Hackman & Oldham, 1976, p. 256). What individuals consider as meaningful is diverse. The meaning that people find in their work is shaped by the orientation that people have about work in general (Wrzesniewski, McGauley, Rozin & Schwartz, 1997). There are three types of work orientations distinguished in the literature: job, career and a calling orientation. Individuals who have a **job orientation** focus on material benefits that the job provides. They perceive work as means that enables them to pursue their interests and ambitions outside of work. Individuals with a **career orientation** find meaningfulness in the advancement in the organizational structure. Those people tend to value increased salary, prestige or status that come with promotion. Finally, individuals with a **calling orientation** find fulfillment in the work itself. Scholars have suggested that a sense of calling may offer the strongest (Bellah, Madsen, Sullivan, Swidler & Tipton, 1985) or deepest (Hall & Chandler, 2005) route to truly meaningful work. Enacting one’s calling through work can therefore be seen as the highest form of subjective career success (Hall & Chandler, 2005).

### 2.2 Calling defined

What a calling means is hard to define, since it can mean something differently for different people. Various definitions exist and can broadly be distinguished into two categories: neo-classical and modern definitions.

The neo-classical definitions describe calling as it was understood historically, when people were more religious. Formerly, callings were viewed as a sense of **destiny** or **social duty** to use your God’s

given talents in order to serve humankind. This approach assumes a system of productive work where individuals are obligated to specialize and contribute for the benefit of the whole. In the modern world, where religion is considered less important, calling is perceived more as an internal drive towards **personal happiness** and **fulfillment**. However, scholars in the modern category have not agreed on a unified definition yet. Bellah et al., (1985) described a calling as something performed for its own sake and for the personal meaning associated with it. It is the work that one chooses to do out of personal passion (Dobrow, 2006). However, other authors, like Wrzesniewski (2003) approached a calling as not just something with personal significance but also a societal aspect, that contributes to making the world a better place. Hall and Chandler (2005) describe a calling more fundamental as “work that a person perceives as his purpose in life”. Although modern definitions all view callings more as a personal passion than something of societal duty, they vary in the core elements of the calling experience.

Dik and Duffy (2009) identified three underlying components of occupational calling. These three components are useful to differentiate a calling from related concepts like meaningful work, work centrality, work commitment and work engagement. The first component is an **external call**, which can come from all kinds of sources outside the individual, such as societal needs, a family legacy or even a higher power. This is in line with the more historical meaning of calling. Secondly, one needs to be able to express a **sense of purpose** at work or to view the work in itself as a source of purpose, according to what the individual feels to be his or her purpose in life. Thirdly, one’s career should be **pro-socially oriented**, which means that the career should allow someone to (in)directly help others or to foster a greater good. In line with these three components, Dik and Duffy (2009) define a calling as “a transcendent summons, experienced as originating beyond the self, to approach a particular life role in a manner oriented toward demonstrating or deriving a sense of purpose or meaningfulness and that holds other-oriented values and goals as primary sources of motivation” (Dik & Duffy, 2009, p. 427).

However, more individuals today expressed their calling to come from internal (interests, passion, skills, values) rather than external sources. Therefore, a calling can also be defined as “an approach to work that reflects the belief that one’s career is a central part of a broader sense of purpose and meaning in life”, which only captures the last two elements described above. According to Duffy and Dik (2013) this definition suits research purposes best. The source of someone’s calling appears to be unrelated to the degree to which someone is living out his or her calling or is satisfied with work and life in general (Duffy & Dik, 2013). Nevertheless, all three elements will be measured in this study. Although the element might be unrelated to the outcome variable, it could be valuable to measure the whole construct to ensure that all possible components are included in the analysis if necessary.

Moreover, it is interesting to discuss if what Duffy & Dik (2013) claim holds true in the current sample. In that case, the current study will be a source of additional evidence that the measurement instrument is outdated. The measurement of the construct is discussed more in detail in paragraph 3.3 and Appendix I.

### 2.3 Having a calling and living a calling

Recent studies found a critical distinction between perceiving a calling and living a calling (e.g. Berg, Grant & Johnson, 2010; Duffy et al. 2012; Gazica & Spector, 2015; Duffy et al., 2016).

**Having a calling** refers to the degree to which an individual believes to be called to a particular career. **Living a calling** refers to the degree to which a person is currently engaging in activities or work that meets this calling (Duffy & Autin, 2013). Individuals who experience a sense of calling can nevertheless work in a job that does not support this calling. This is particularly the case in a weak economy, where people are unable to match their callings to the jobs they hold (Duffy et al., 2012).

Living a calling is an important boundary condition for the positive effects that presence of calling has. Research showed that the link between calling and **life satisfaction** is weaker once a person is involuntarily unemployed (Torrey & Duffy, 2012). Another study found that having a calling is only related to **career commitment** and **work meaning** under the condition that one is able to live out his or her calling (Duffy et al. 2012). Individuals with “unanswered callings” at work often experience regret for not fulfilling this calling and stress from trying to live out their callings outside of work (Berg, Grant & Johnson, 2010). Gazica and Spector (2015) found that those individuals scored lower on **work engagement**, **career commitment**, **job satisfaction** and **self-reported health** than individuals who were able to live their callings or who have no calling at all. Duffy et al. (2016) found that having a calling but being unable to live a calling is related to decreased levels of **life satisfaction**. In sum, all findings support that having a calling does not necessarily lead to positive individual and organizational outcomes, but actually being able to live a calling is critical in this regard. This leads to the importance of finding conditions that enable people to live their calling.

Several researchers tried to find variables that link presence of calling and living a calling (e.g. Duffy & Autin, 2013; Allan, Tebbe, Duffy & Autin, 2015). It is important to note that the ability to live one’s calling demands a certain degree of **privilege**. Aspects of vocational privilege (social class and work volition) enable individuals to pursue their desired career path (Duffy, Autin & Douglass, 2016). **Volition** refers to the choice in one's work life (Blustein, as cited in Duffy, Autin & Bott, 2015). The ability to live a calling depends largely on the access that individuals have to **economic and social resources** that enable them to choose their career of interest. For instance, individuals with higher incomes and higher levels of education are more likely to feel that they are living their calling (Duffy & Autin, 2013). These findings were confirmed by Hirschi et al. (2018). Moreover, the authors found

that individuals in leadership positions showed higher levels of living a calling and presence of calling compared with individuals in non-leadership positions. Other personal factors, such as family demands may have an influence as well (Brown et al., in Duffy et al., 2012).

## 2.4 Working environment

However, even when one is able to overcome personal barriers and pursue the career path of choice, one can face barriers in the working environment itself that constrain living a calling. Although several studies show how organizational conditions can facilitate or constrain workers' presence of calling (e.g. Bott & Duffy, as cited in Esteves, Lopes, Geremias & Palma, 2018) the working environment is largely neglected by most authors investigating the link between having a calling and living a calling. However, engaging in fulfilling work and having positive work experiences contributes to the feeling of living a calling. Meaningful, satisfying work experiences are important conditions in this regard (Duffy, Allan, Autin & Douglas, 2014).

Although a calling is not restricted to a certain profession, **professionals** (such as physicians, nurses, teachers or lawyers) are generally more likely to view their work as a calling (Peterson et al., 2009). For many professionals however, the organizational context has changed in the last 30 years. Due to (among others) scandals, the increase of managerialism and the introduction of market competition, many professionals are facing a changing working environment where they are forced to work according to standard procedures or predefined standards/targets/outcomes that can hinder them in their tasks (Vriens, Vosselman & Groß, 2016).

For instance, In the practice of medicine, that is widely considered as a calling, changes in the work context have major influences on physicians day-to-day tasks and can eventually erode their presence of calling (Jager, Tutty & Kao, 2017). Over the past decade, the implementation of electronic health records (EHR) and pay-for-performance metrics changed the way physicians experience their work. A recent study found that for every hour spent on providing direct care to patients, nearly two more hours are spent on EHR or desk work (Sinsky et al, 2016). The changing work context contributes to higher levels of professional burnout, which can erode physicians' sense of calling (Jager, Tutty & Kao, 2017), resulting in negative consequences for themselves as well as their patients.

The current study focuses on the medical profession of nursing. Not only physicians but also nurses experience burn-out complaints. 20% of nurses experience symptoms of burn-out, which is twice as much as other professions (SKB, 2017). The biggest problems nurses face are workload, administrative burden, checklists, spending cuts and lack of personnel (Aarts, 2017a). This results in the feeling of being unable to take care of patients;

“It doesn’t matter if you have to work hard, but if you cannot give your patients or clients the care and attention they need, you will go home with a feeling of exhaustion and feeling unsatisfied. The feeling of being deficient because you are with too few people is killing.” (Aarts, 2017a, p. 20).

More than half of Dutch employed nurses considers to stop working in their current profession, due to excessive work pressure (Aarts, 2017b). It seems that their initial passion to help patients might erode, because their working environment doesn’t enable them to do what they feel like they are ‘called’ to do. Therefore, in the present study, a selected sample of nurses are investigated more in depth.

As mentioned earlier, most research has neglected this working environment when trying to explain the linkage between having a calling and being able to live it. Two exceptions are found in the literature: Duffy and Autin (2013) show that perceived **organizational support** was a critical factor in explaining the link between having a calling and living a calling. Allan, Tebbe, Duffy and Autin (2015) point that for a lesbian, gay, and bisexual population a supportive **LGB workplace climate** is critical in predicting the ability to live a calling.

## 2.5 Work characteristics

Hirschi et al. (2018) introduced work characteristics to better understand what organizational conditions enable people to live their calling. **Work characteristics** refer to “how jobs, tasks, and roles are structured, enacted, and modified, as well as the impact of these structures, enactments, and modifications on individual, group, and organizational outcomes” (Grant & Parker, 2009, p. 319). Work characteristics are critical in perceiving one’s job as meaningful (Humphrey, Nahrgang & Morgeson, 2007). An important feature in the experience and enactment of one’s calling is to find meaning in your job (Duffy et al. 2012). Therefore, Hirschi et al. (2018) investigated the influence of work characteristics on the ability to live one’s calling.

Hirschi and colleagues (2018) focused on three work characteristics specifically: **autonomy**, **task significance** and **social support**, all of which are considered as **job resources**. Previous research by Humphrey et al. (2017) established that these three job resources were the strongest predictors of experienced meaningfulness. Therefore, the authors expected that they may facilitate the relationship between having a calling and living a calling. Results showed that people who have a calling are more likely to work in jobs with more resources in terms of autonomy, task significance and social support. Hirschi et al. (2018) base these findings on the argumentation that people who work in managerial or professional jobs are generally more likely to view their work as a calling, compared to people who work in clerical or blue-collar jobs (Peterson, Park, Hall & Seligman, 2009) and those jobs tend to be higher in job resources (Morgeson & Humphrey, 2006; Humphrey et al., 2017). Although there are probably some exceptions, like carpenters and other crafts, that can also

be done from a deeply rooted passion, I think this is a logical explanation. As expected, analyses also proved that living a calling is positively related to the availability of all three job resources. Moreover, the study showed that autonomy and task significance were significant **mediators** in explaining the linkage between having a calling and living a calling. This means that people with a calling are more likely to actually live their calling if they work in jobs that have higher levels of autonomy and task significance. Contradictory to what one would expect based on previous findings (Duffy & Autin, 2013; Allan et al., 2015), social support did not have a mediating effect.

In their study, Hirschi et al. (2018) only partially address the way jobs can be redesigned in order to help employees with a calling to achieve a state of living it. There might be other work characteristics that can shape this relation. Hackman and Oldham (1976) state that, from the five characteristics of jobs, distinguished in their job characteristic model, three contribute to the experienced meaningfulness of the work. “Three job characteristics combine additively to determine the psychological meaningfulness of a job. They are skill variety [...], task identity [...] and task significance [...]” (Hackman and Oldham, 1976, p. 257).

Additional evidence is provided by Hackman and Lawler (1971), who state that there are at least two ways that work can come to be viewed as meaningful: Jobs need to involve doing a whole piece of work (i.e. high level of task identity) and at the same time provide the opportunity for employees to use their valued skills and abilities, in order to be challenged in their work, which is usually found in jobs with a high level of skill variety (Hackman & Lawler, 1971).

Following the reasoning that meaningful work is an important feature in living one’s calling (Duffy et al. 2012) and that **skill variety** and **task identity** contribute to the experienced meaningfulness of jobs, assessing the possible impact of both work characteristics on the relationship between having a calling and living one’s calling seems viable. The subsequent paragraph will elaborate on this.

### 2.5.1 Skill variety

Skill variety refers to “the degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the person” (Hackman & Oldham, 1976, p. 257). Jobs that require using multiple skills and talents are often challenging and thereby engaging to perform. This is why many recreational activities, puzzles and games are considered highly meaningful even though they are not significant or of high importance in itself. They require a variety of skills that are important to the performer and therefore create enormous personal meaning (Hackman & Oldham, 1976).

Many individuals with a calling view their work as a source of purpose in itself (Dik & Duffy, 2009). This might be related to the skills their work requires and the opportunity they find in their work to develop these skills and talents. However, changes in the work context (e.g. digitalization,

standardization, protocols) can alter the need for certain skills and talents. When a job is less challenging and therefore less meaningful, the feeling of living a calling may decrease.

Imagine a nurse that is educated with a variety of skills, such as inserting catheters or providing medication, but also critical thinking and communication skills. Due to retrenchments and reorganizations however, the work that nurses have may become more specialized and monotonous. Or because of a growing bureaucracy in healthcare (Aarts, 2017a), nurses may also have to perform all kinds of documentation work which may demand much more basic skills and talents than they possess. These tasks could distract them from living their calling (caring for patients).

### **2.5.2 Task identity**

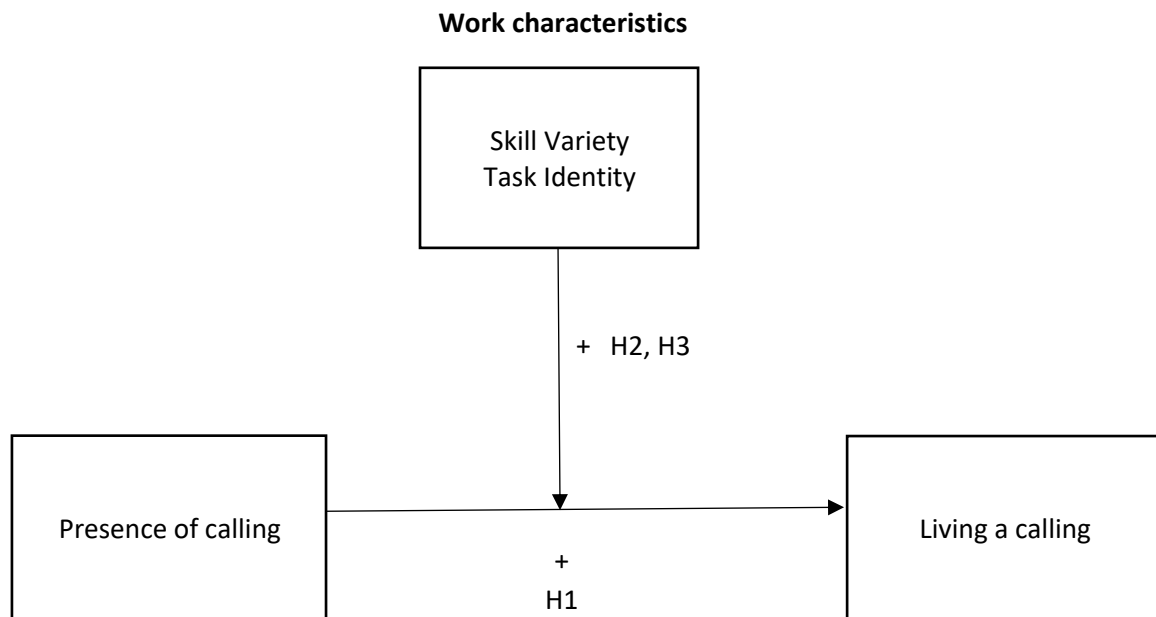
Task identity refers to “the degree to which the job requires completion of a “whole” and identifiable piece of work; that is, doing a job from beginning to end with a visible outcome.” (Hackman & Oldham, 1976, p. 257). For example, putting together an entire product (or providing a complete level of service) will contribute to a higher level of experienced meaningfulness than doing only a small piece of the job (Hackman & Oldham, 1976).

It may be possible that people are experiencing a sense of calling at some level, but feel that they are unable to live their calling because of the incomplete tasks they fulfill. As a calling is usually prosocial and aimed at helping others or serving a greater good, it might be that contributing to only a small piece of that greater good or helping others to only a certain level hinders individuals to living their calling up to its potential. If the current job design enables people to only carry out a small piece of work, their effect on others is less visible and less meaningful than completing a whole task.

Imagine a nurse that can only provide a limited amount of care to a patient, due to the current design of tasks or because of a lack of personnel. The job (design) may only allow someone to provide basic care, although the patient needs more. One’s calling (caring for patients) cannot fully be fulfilled in this manner.

## **2.6 Conceptual model**

In line with the above reasoning, I propose that depending on the level of skill variety and task identity a job has, the relationship between presence of calling and living a calling becomes either stronger or weaker. Therefore, task identity and skill variety are considered as moderators, determining the relationship between presence of calling and living a calling. This leads to the following conceptual model.



**Figure 1.** Conceptual model

## 2.7 Hypotheses

As I propose a moderating effect of skill variety and task identity, the following hypotheses will be tested.

Firstly will be established if presence of calling and living a calling are related in the sample. In order to be able to live a calling, one needs to feel a presence of calling. Therefore, in line with previous research (e.g. Hirschi et al., 2018; Duffy et al., 2012; Duffy & Autin, 2013), a positive relationship is expected.

**Hypothesis 1.** Presence of calling is positively correlated to living a calling

Secondly, once the original relationship is established, the moderating effects of task identity and skill variety will be tested. The relationship between having a calling and living a calling may become stronger or weaker, depending on the work characteristics of your job. This relationship might 'break' through low levels of skill variety and task identity and might strengthen once a job demands high levels of skill variety and task identity. Therefore, a positive moderation effect is expected.

**Hypothesis 2.** Task identity positively moderates the relationship between presence of calling and living a calling.

**Hypothesis 3.** Skill variety positively moderates the relationship between presence of calling and living a calling



## **2.8 Control variables**

Research has shown that the presence and the ability to live one's calling is related to a certain degree of privilege. Aspects of vocational privilege enable individuals to pursue a desired career path. Previous research has shown that such aspects, such as salary, educational level and leadership position are related to both presence of calling and living a calling (Hirschi et al., 2018; Duffy & Autin, 2013). It is likely that jobs that are high in task identity and skill variety demand higher levels of completed education and are more rewarding in terms of salary. Therefore, these variables are controlled for in the analyses. Other variables that might have confounding effects, such as age, working hours per week and working experience will also be controlled for.

### 3. Methodology

This chapter addresses the methods that are used to test the hypotheses formulated in section 2.7. Firstly, the research design will be introduced, as well as arguments why this is the most suitable research design considering the research question. The subsequent paragraph describes the participants and procedure of the research project. Next the measures are discussed: the translation method and the results of the factor and reliability analysis. The following paragraphs elaborate on the data analyzing techniques that were used. To conclude, ethical considerations are addressed.

#### 3.1 Research design

The research has a quantitative design as the theory development is fairly advanced and established measures are available, which enables the researcher to do theory testing.

#### 3.2 Participants and procedure

An online survey was conducted from a sample of Dutch employed nurses. Participants were invited to complete an online questionnaire via LinkedIn and Facebook groups for nurses. Nurses from the researchers' personal network, who were contacted by e-mail, were asked to share the questionnaire among their colleagues. This may be considered as a snowball sampling technique. Snowball or chain referral sampling produces a study sample through referrals made among individuals that share others who have characteristics that are of research interest (Biernacki & Waldorf, 1981), in this case their profession (nursing).

The population consists of 196.000 working nurses in the Netherlands (CBS, 2018). The formula presented in figure 1 was used for determining an accurate sample size to describe the population ( $N = 384$ ) (5% error margin, 95% confidence interval)(Field, 2013). The initial number of responses was  $n = 1078$ . 558 respondents were excluded due to several reasons (e.g. respondents were currently not working as a nurse or did not complete the questionnaire). This resulted in a final and proper sample of  $N = 520$ , which was used for all subsequent analyses.

$$\frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left( \frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

**Fig. 1.** Sample size formula (Field, 2013) ( $N=196.000$ ;  $e=5\%$ ;  $z=1,96$ ).

The sample was 96.7% female. The age of the participants ranged from 19 to 66, with a mean of 37.30 years ( $SD = 12.92$ ). On average, participants had experience in nursing of 8.3 years ( $SD = 10.08$ ), working in various institutions (e.g. (academic) hospitals, domiciliary care, mental health care institutions, nursing homes, municipal health services and military medical installations). The participants highest completed educational degree was (1) VMBO, for  $n = 1.5\%$ ; (2) HAVO for  $n = 3.1\%$ ; (3) VWO for  $n = .6\%$ ; (4) MBO for  $n = 48.3\%$ ; HBO for  $n = 40\%$  and WO for  $1.5\%$ . 5% of the respondents had a different educational background (e.g. Post HBO or MBO with HBO components). Participants worked on average 28.8 hours per week ( $SD = 6.48$ ). In terms of salary (gross monthly income),  $n = 5$  (1%) earned < 500 Euros;  $n = 13$  (2.5%) between 500 and 1.000 Euros;  $n = 41$  (7.9%) between 1000 and 1500 Euros,  $n = 176$  (33.8%) between 1500 and 2000 Euros,  $n = 156$  (30%) between 2000 and 2500 Euros,  $n = 81$  (15.6%) between 2500 and 3000 Euros,  $n = 30$  (5.8%) between 3000 and 3500 Euros,  $n = 7$  (1.3%) between 3500 and 4000 Euros and  $n = 11$  (2.1%) above 4000 Euros.  $n = 74$  (14.2%) respondents were currently working in a leadership position.

### **3.3 Measures**

#### *Translation method*

Measures from previous studies were translated into Dutch to prevent possible measurement errors. To secure that items were properly translated, the back-translation procedure was used (Maneesriwongul & Dixon, 2004). Items were translated from the original language, English, to the target language, Dutch. Then, the target language item was translated back to the source language by another translator. After the translation, two source language versions were compared. The benefit of this translation method is that semantic equivalence is verified. Direct comparison of the two source languages secures additional evidence of quality (Maneesriwongul & Dixon, 2004).

#### *Presence of calling*

To assess whether or not a calling was present for the respondent, a Dutch translation of the 12-item presence subscale of the Calling and Vocation Questionnaire (CVQ) (Dik, Eldridge, Steger & Duffy, 2012) was used (e.g. "I believe that I have been called to my current line of work"). The CVQ was developed based on Dik and Duffy's (2009) three part definition of calling. Items were measured on a Likert scale ranging from 1 (not at all true of me) to 4 (absolutely true of me). The items are presented in Appendix II.

A reliability analysis showed a high internal consistence between the 8 items ( $\alpha = .84$ ). Reliability refers to the consistency between multiple measurements of a variable, meaning that the survey will show the same results under consistent conditions (Hair et al., 2010).

### *Living a calling*

To assess the ability to live a calling, a Dutch translation of the six-item Living a Calling Scale (Duffy, Allan & Bott, 2012) was used (e.g., “I have regular opportunities to live out my calling”). A seven-point Likert response format ranging from 1 (strongly disagree) to 7 (strongly agree) was presented to the respondents, with an eighth option of “not applicable” for those who did not have a calling. This score was declared as a missing variable and not included in the subsequent analyses. The items are presented in Appendix II. A reliability analysis showed a high internal consistence between the items ( $\alpha = .9$ ).

### *Moderators: Job design characteristics*

A Dutch translation of the Work Design Questionnaire (WDQ) (Morgeson & Humphrey, 2006) was used to assess the level of **task identity** (four items; e.g., “The job involves completing a piece of work that has an obvious beginning and end”) and **skill variety** (four items; e.g., “The job requires a variety of skills.”) respondents had. Morgeson and Humphrey (2006) provided evidence for construct validity and high internal consistency reliability of the WDQ. All measures use a five-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items are presented in Appendix II. Both subscales had a Cronbach's alpha of .85.

### *Validity analysis*

An exploratory factor analysis was used to determine the validity of the measurement instruments. Factor analysis is a statistical approach that can be used in order to detect interrelationships among a number of variables and to explain those variables in terms of their underlying dimensions (factors) (Hair et al., 2010). Based on theoretical grounds, 4 items of the CVQ (measuring transcendent summons, e.g. I was drawn by something beyond myself to pursue my current line of work) were excluded from the analysis, as the initial factor analysis of all items showed ambiguous results.

A common factor analysis (CFA) was conducted on the residuary 22 items with oblimin rotation. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .88. Bartlett's test of sphericity  $\chi^2 (231) = 4812,71, p < .001$ , indicated that correlations between items were sufficiently large for CFA. Four components had eigenvalues over Kaisers' criterion of 1 and in combination explained 61.38% of the variance. The scree plot showed inflexions that would justify retaining four components. Those four components were selected and table 1 shows the factor loadings after oblimin rotation. The items that cluster on the same component suggest that component 1 represents presence of calling, component 2 represents skill variety, component 3 represents task identity and component 4 represents living a calling.

**Table 1.** Results of the CFA with oblimin rotation

Item	Factor Loading			
	1	2	3	4
Mijn werk helpt me mijn levensdoel te bereiken	.48			
Het belangrijkste aspect van mijn carrière is de rol bij het helpen in het voorzien van de behoeften van anderen	.47			
Het verschil maken voor anderen is de primaire motivatie in mijn carrière	.55			
Ik zie mijn carrière als een weg naar een doel in het leven	.69			
Mijn werk draagt bij tot het algemeen maatschappelijk welzijn	.58			
Mijn carrière is een belangrijk onderdeel van de betekenis van mijn leven	.56			
Ik probeer altijd te evalueren hoe nuttig mijn werk voor anderen is	.61			
Ik probeer mijn levensdoel waar te maken als ik op mijn werk ben	.64			
Ik heb regelmatig gelegenheden om mijn roeping waar te maken				-.61
Ik werk momenteel in een baan die nauw aansluit bij mijn roeping				-.91
Ik leef consequent mijn roeping na				-.77
Ik ben momenteel bezig met activiteiten die aansluiten bij mijn roeping				-.76
Ik realiseer nu mijn roeping in mijn werk				-.70
Ik werk in de functie waarvoor ik me geroepen voel				-.68
De baan vereist verschillende vaardigheden		.77		
De baan vereist dat ik een verscheidenheid aan verschillende vaardigheden gebruik om het werk te voltooien		.91		
De baan vereist dat ik een aantal complexe vaardigheden of vaardigheden van een hoog niveau gebruik		.69		
De baan vereist het gebruik van een aantal vaardigheden		.77		
De baan omvat het voltooien van een taak dat een duidelijk begin en einde heeft			.61	

De baan is zo geregeld dat ik van begin tot eind een volledige taak kan doen	.75
De baan biedt me de kans om taken die ik begin volledig af te maken	.87
De baan staat mij toe om werk waar in aan begin te voltooien	.85

### 3.4 Statistical analysis

The hypothesized model was tested using regression analysis in SPSS. Linear regression analysis is useful for testing direct and moderating effects. A moderating effect (or also called interaction effect) affects the direction and/or strength of the original relationship between the independent variable (presence of calling) and the dependent variable (living a calling). A moderator variable is typically introduced when there is an unexpectedly weak or inconsistent relation between the independent variable and a dependent variable. For instance, the relation holds in one setting (job with high levels of skill variety and task identity) but not in another (job with low levels of task identity and skill variety). The moderation model, as presented in figure 2, has three causal paths that determine the outcome variable. The impact of presence of calling as a predictor (Path a), the impact of the work characteristic as a moderator (Path b), and the interaction of these two (Path c). If the interaction (Path c) is significant, the moderator hypothesis is supported (Baron & Kenny, 1986). To use regression analysis, a minimum of 100 respondents are required (Field, 2013).

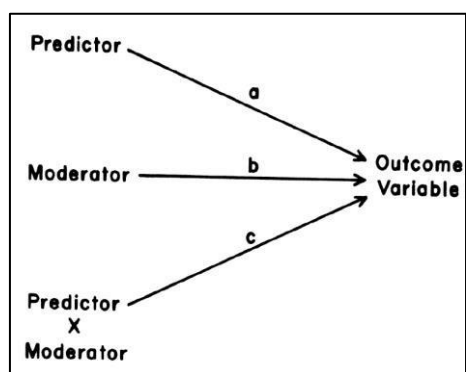


Fig. 2. Moderator model (Baron & Kenny, 1986)

### 3.5 Ethical considerations

While conducting the research, the author strived for acting ethically at all times. Respondents participated by filling in the questionnaire on a voluntary basis. Before participation, informed consent was secured. Participants were informed about the researcher, the goal of the research and its audience. The topic of the research was illustrated as interest in the work orientation and work characteristics of nurses. There was no information presented about their possible relationship and

in this manner, the hypotheses were not given away. Moreover, participants were informed about their anonymity and their freedom to withdraw from the research before starting the survey. Participants were presented two options: (1) I agree, move on with the survey and (2) I do not agree, I do not want to participate.

Data was handled confidentially and anonymously. The privacy of the participants was guaranteed, as no names were gathered during the data collection. There were no questions about the specific organizations participants worked for. The items in the questionnaire were formulated as clear and unambiguous as possible. Data was objectively analyzed and the results were presented as unambiguously as possible in the following chapter. Methods for securing valid and reliable results are described in section 3.3.

## 4. Results

### 4.1 Correlational analysis

Means, standard deviations, and correlations of the research variables are presented in Table 2. There was a moderate presence of calling (not very strong) among the participants ( $M = 2.77$ ,  $SD = .59$ ), measured on a Likert scale ranging from 1 (not at all true of me) to 4 (absolutely true of me). 14 of the 520 participants felt like they had no calling at all. They answered “not applicable” on one or more items measuring living a calling. The 506 residual respondents somewhat felt like they were able to live their calling in their work ( $M = 5.00$ ,  $SD = 1.30$ ), measured on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

A large proportion of the sample reported high levels of skill variety in their work ( $M = 4.75$ ,  $SD = .52$ ). The variable, containing 4 items, had a skewness of  $-4.08$  ( $SE = .11$ ) and kurtosis of  $22.50$  ( $SE = .21$ ). The distribution of the scores is presented in appendix III. These values exceed the criterion of normality and therefore the variable could not be included in the analysis. In order to test for a possible moderation effect of skill variety, a new dichotomous variable was made on a median split basis with two categories; low (below value of 5) ( $n = 194$ ) and high (value of 5) ( $n = 326$ ), which was included in the regression analysis.

Participants had various self-reported levels of task identity ( $M = 3.1$ ,  $SD = 1.00$ ). Task identity was non-normally distributed, with skewness of  $-.12$  ( $SE = .11$ ) and kurtosis of  $-.81$  ( $SE = .21$ ).

As presented in table 2, a significant positive relationship is found between presence of calling and living a calling ( $r = .60$ ,  $p < .01$ ). Presence of calling ( $r = .24$ ,  $p < .01$ ) and living a calling ( $r = .28$ ,  $p < .01$ ) were positively associated with task identity. Age correlates negatively with both presence of calling and living a calling ( $r = -.09$ ,  $p < .05$ ). There are no correlations higher than 0.8, meaning that there are no indications of multicollinearity between the independent variables (Field, 2009).



**Table 2.** Means, standard deviations and Pearson's correlations for the study variables

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1 Presence of calling	2.77	.59	-							
2 Living a calling	5.00	1.30	.60**	-						
3 Skill Variety	4.75	.52	.06	.06	-					
4 Task Identity	3.15	1.00	.24**	.28**	.03	-				
5 Age	37.30	12.92	-.09*	-.09*	.02	.13**	-			
6 Working hours per week	28.80	6.48	-.04	.01	.06	.03	-.12**	-		
7 Working experience (years)	8.30	10.08	-.06	-.04	.03	.07	.62**	-.12**	-	
8 Leadership position	-	-	-.09	.00	-.07	-.08	-.05	-.12**	.01	-

N = 520. N = 506 for living a calling

\*\* :  $p < 0.01$  ; \* :  $p < 0.05$  (two sided)

Before conducting the regression analysis several assumptions have been tested. Scatterplots (presented in appendix III) show that the assumption of linearity between the dependent and independent variables had been met. Additional analysis of collinearity statistics shows that the assumption of no multicollinearity is partly met, as VIF scores were below 10 and tolerance scores above 0.2. The Durbin-Watson statistic showed that the assumption of independent residuals is met, as the obtained value was close to 2 (Durbin-Watson = 1.97). Cook's Distance values were all under 1, suggesting that there were no influential cases biasing the model. Moreover, the residual plot showed no pattern of funnelling, suggesting no violation of the assumption of homoscedasticity. Moreover, the P-P plot for the model suggests no violation of the assumption of normality of the residuals. Both plots are presented in appendix III.

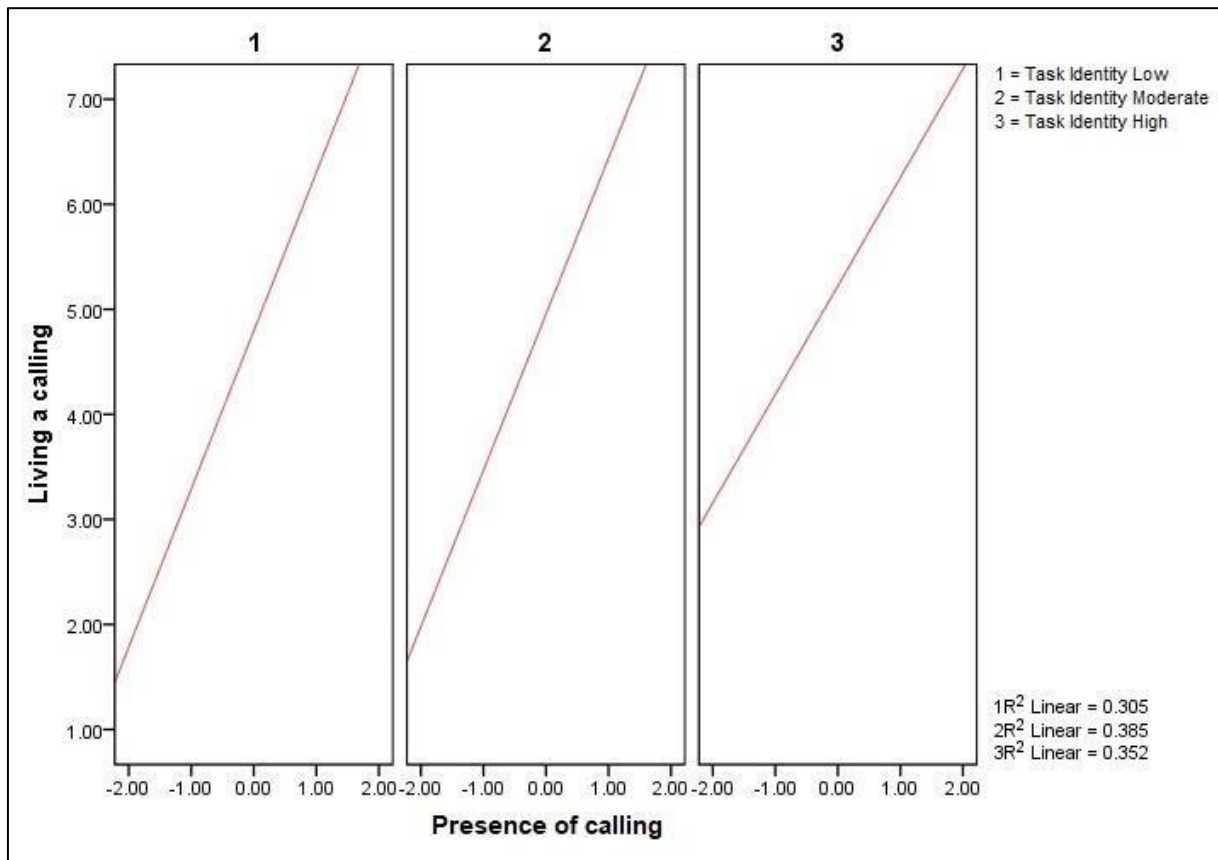
#### **4.2 Moderation analysis**

Table 3 presents the results (standardized regression coefficients,  $\beta$ ) of the multiple regression analysis. Four models are presented in the table. Model 1 represents the relationship between the dependent variable, living a calling, and the control variables. In model 2, presence of calling is added to this model. Model 3 represents an addition of task identity. Subsequently, the interaction of presence of calling and task identity is added in model 3a, which can demonstrate the hypothesized moderating effect. Variables are added to the model hierarchically.

Results of the multiple regression analysis are presented in table 3. There were no significant effects of the control variables, except for salary and educational level. Participants with an income between €1000 and €1500 expressed significantly higher levels of living their calling compared to participants with an income between €1500 and €2000, except for model 2 ( $\beta = .08, p < .1$ ). Only in model 1, individuals with an educational background of other ( $\beta = -.10, p < .5$ ) expressed lower levels of living their calling compared to individuals with MBO background of education.

The analysis revealed a significant positive relationship between presence of calling and living a calling ( $\beta = .60, p < .01$ ), fully supporting hypothesis 1. Moreover, a significant moderating effect of task identity ( $\beta = -.10^*, p < .05$ ) on the relationship between presence of calling and living a calling is found (table 3). However, this relationship is not in the hypothesized direction and therefore the results fail to support hypothesis 2. Instead of stronger, the relationship between presence of calling and living a calling becomes weaker as the level of task identity increases. In figure 1, this moderation effect is visualized. No significant moderating effect of skill variety on the relationship between presence of calling and living a calling was found. Therefore, also hypothesis 3 was not supported.

Furthermore the results show that model 3a from table 3 could explain most variance and therefore fits the data best. Model 3a explains significantly more variance than model 3 ( $R^2 = .41$ ;  $\Delta R^2 = .01$ ,  $p < .01$ ).



**Fig. 3.** Moderating effect of task identity on the relationship between presence of calling and living a calling

**Table 3.** Results of the multiple regression analysis with living a calling as dependent variable

	Model 1	Model 2	Model 3	Model 3a
<b>Control variables</b>				
Age	-.08	-.05	-.07	-.07
Working hours	.06	.06	.05	.05
Working experience	.03	.03	.03	.04
Leadership position	-.01	.06	.07	.06
Salary				
1. €0 – 500	.01	.04	.04	.04
2. €500 – 1000	.05	.01	.00	.00
3. €1000 – 1500	.11*	.08	.08*	.08*
5. €2000 – 2500	-.04	.00	.01	.00
6. €2500 – 3000	.04	.02	.02	.02
7. €3000 – 3500	-.01	.01	.01	.01
8. €3500 - 4000	-.02	.00	.00	-.01
9. €4000+	.02	.08*	.06	.04
Educational level				
1. VMBO	.06	.04	.03	.03
2. HAVO	-.04	-.02	-.02	-.02
3. VWO	-.07	-.03	-.02	-.02
5. HBO	-.04	.01	.01	.01
6. WO	-.03	-.03	-.03	-.02
7. Other	-.10*	-.06	-.05	-.06
Presence of calling		.60**	.57**	.63**
<b>Work characteristics</b>				

Task Identity			.13**	.12*
Skill Variety			.01	.30
Interaction with task identity				-.10*
Interaction with skill variety				-.30
R <sup>2</sup>	.05	.39**	.40**	.41**
Changes in R <sup>2</sup>		.34	.02	.01

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\*\* $p < 0.01$ ; \* $p < 0.05$

Note: Values are standardized ( $\beta$ )

Note: Reference Category for educational level = MBO

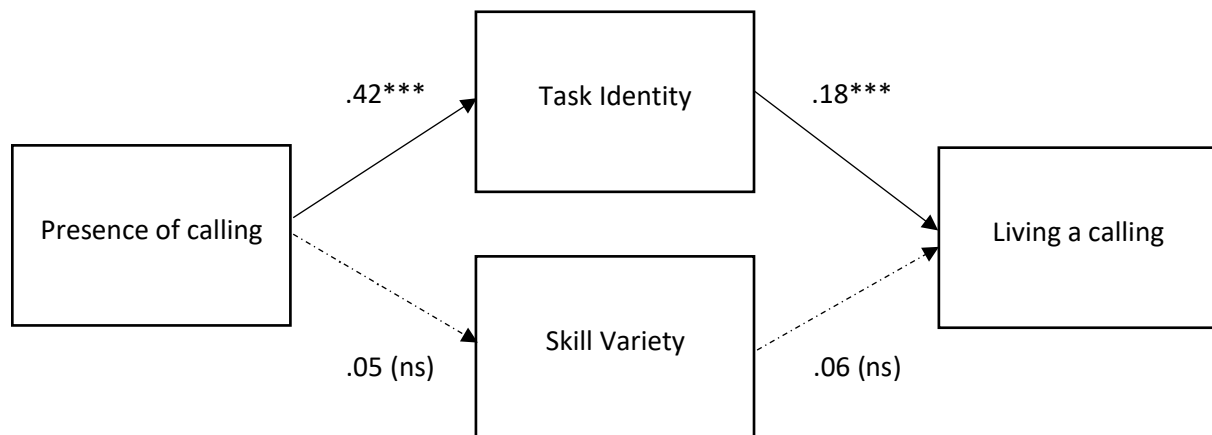
Note: Reference Category for salary = €1500 – 2000

#### 4.3 Post hoc mediation analysis

Additional explorative regression analyses, using the PROCESS macro (simple mediation) in SPSS were used to explore whether a mediation model would fit the data better. In line with previous reasoning of Hirschi et al. (2018), the hypothesis that task identity and skill variety mediate the effect of having a calling on living a calling was investigated.

Results indicated that presence of calling was a significant predictor of task identity ( $b = .42$ ,  $SE = .08$ ,  $p < .001$ ) and that task identity was a significant predictor of living a calling ( $b = .18$ ,  $SE = .05$ ,  $p < .001$ ). These results support the mediational hypothesis. Presence of calling was still a significant predictor of living a calling after controlling for the mediator, task identity,  $b = 1.28$ ,  $SE = .08$ ,  $p < .001$ ). The indirect effect was tested using a bootstrap estimation approach with 1000 samples. The indirect coefficient was also significant ( $b = .07$ ,  $SE = .03$ , 95% CI = .03, .14). The results indicate that task identity partly mediates the relationship between presence of calling and living a calling.

Regarding skill variety, presence of calling was not a predictor of the construct ( $b = .05$ ,  $SE = .04$ ,  $p = ns$ ), neither was skill variety was a predictor of living a calling ( $b = .06$ ,  $SE = .09$ ,  $p = ns$ ). The indirect coefficient was also not significant ( $b = .00$ ,  $SE = .01$ , 95% CI = -.004, .018). These results indicate that skill variety does not mediate the relationship between presence of calling and living a calling.



**Fig. 4** Results of the post hoc mediation analysis ( $N = 506$ ).  
\*\*\*  $p < .001$

## 5. Conclusion and discussion

The goal of the study was to establish the role of previously neglected work characteristics in explaining the linkage between having a calling and living a calling in order to enable individuals to live out their calling at work. A positive moderation effect of skill variety and task identity on the relationship between presence of calling and living a calling was expected based on the literature, i.e. jobs that demand higher levels of skill variety and task identity would strengthen the relationship between presence of calling and living it, whereas jobs with low levels of both work characteristics would 'break' this previously established relationship.

### 5.1 Calling, salary, education, leadership position and age

As argued in previous chapters, having a calling and living a calling are important distinctive subjects. Previous researchers (e.g. Duffy & Autin, 2013) assumed that the ability to live a calling is depending on one's degree of privilege or socio economic class that enables one to pursue a career of choice. Individuals with higher incomes and higher levels of education would therefore be more likely to feel that they are living their calling (Duffy & Autin, 2013). This was also confirmed by the findings of Hirschi et al (2018).

Contrasting with these findings, the present study found that participants with higher salaries expressed lower levels of living their calling. Secondly, educational level was unrelated to living a calling in the sample. Thirdly, findings of the study show no relationship between leadership position, having a calling and living a calling. This third finding was also not in line with the results of the study from Hirschi et al. (2018), who found evidence that individuals in leadership positions more strongly perceive a calling and feel more likely to live it.

A correlational analysis showed that age was negatively correlated with presence of calling and living a calling. This indicates that one's calling might erode over time, as well as the feeling of living it. However, in the second analyses, age appears to be unrelated to living a calling. Several researchers point the need for longitudinal research to investigate this in depth (e.g. Duffy & Dik, 2013; Hirschi et al. 2018). Two exceptional longitudinal studies already suggested that, for medical students (Duffy, Manuel, Borges & Bott's, 2011) and musicians (Dobrow & Tosti-Kharas, 2012), the perception of a calling may decrease over time.

### 5.2 Work characteristics, having a calling and living a calling

Nurses in the Netherlands do not have a very strong, nor a weak sense of calling. Only 2.7% of the participants reported to have no calling at all. Generally, nurses are able to live their calling at work, although there is room for improvement. It seems that the circumstances in the nursing profession that are

illustrated in chapter two can be considered less problematic than they are currently perceived by the public.

Nurses in the Netherlands reported very high levels of skill variety in their work. Results of the regression analysis established that the level of **skill variety** at work does not explain individual differences in having a calling, living a calling and the relationship between the two constructs. The level of skill variety that nurses have is unrelated to both having a calling and living it, neither does it have an effect on the strength of the relationship between both variables.

Regarding the influence of **task identity**, results were different. Correlational analyses showed that the level of task identity, which nurses among several institutions in the Netherlands on average reported as moderate ( $M = 3.15$ ), was related to both presence of calling and living a calling. Nurses with higher levels of task identity at work felt more presence of calling and also were more able to live their calling. Moreover, the regression analysis showed a positive direct effect of task identity on living a calling. However, higher levels of task identity do not strengthen the relationship between having a calling and living it. Results indicated that while the level of task identity grows, the relationship between having a calling and living a calling decreases. In other words; as the level of task identity decreases, the relationship between the constructs strengthens.

The results of correlational and regression analysis underline the idea that jobs that are high in task identity enable individuals to live their calling at work, as participants with higher levels of task identity also reported higher levels of living their calling. These outcomes led to a personal interest of the researcher to explore whether or not task identity would serve as a mediator instead of a moderator in the process of transforming a presence of calling into a state of actually living it. An additional post hoc analysis revealed that task identity was a significant mediator between the two constructs. Thereby the study extends previous findings of Hirschi et al. (2018) with additional evidence that not only are autonomy and task significance are critical factors in explaining the linkage between having a calling and living a calling, but also the level of task identity is an important condition in this regard. The process of transforming the presence of a calling into a state of actually living a calling flows partly indirect via this route.

The mediation effect of task identity can be explained by the fact that individuals that perceive some sense of calling most likely are going to look for opportunities to achieve a state of living this calling. They generally are more likely to work in professional jobs (Peterson, Park, Hall & Seligman, 2009) and those jobs tend to be higher in resources (e.g. task identity) (Morgeson & Humphrey, 2006; Humphrey et al., 2017). As Hirschi et al. (2018) already established, autonomy and task significance serve as facilitators in the process of achieving a state of living a calling. Now, task identity is proven to be another work characteristic that serves as a mediator in this relationship.



### 5.3 Recommendations for future research

However, more research is needed to discover if the results hold among other professions. The current study focused on professionals (in particular nurses). It could be interesting to explore the relationship between having a calling and living a calling at work for other professionals (e.g. lawyers, accountants) or individuals with different job types.

Moreover, future research could include other (organizational) aspects that were not covered the current study, in order to identify more possible factors that explain the link between having a calling and living a calling.

I would also encourage future researchers to perform a **longitudinal study** in which individuals with a calling will be investigated at work during a longer period of time. It might be valuable to measure their presence of calling and their ability to live it at different points in time to identify if (and how) a calling may erode.

Regarding the measurement of presence of calling, the study underlines the idea that the first component of Dik and Duffy's (2009) **three part definition** of callings, an external call, aligns more with the historical meaning of calling and therefore is not relevant anymore. Results of the factor analysis show that the 4 items measuring transcendent summons in the CVQ, appear unrelated to the other items that measured presence of calling. As individuals today expressed their calling to come from internal (interests, passion, skills, values) rather than external sources, I suggest that in future research, those items could be reformulated into items that measure internal sources of calling, e.g. "I was drawn by my personal interest, passion, skills and values to pursue my current line of work."

### 5.4 Limitations

The first limitation is that the study sample was rather **homogeneous** in terms of profession and educational background. This limits the possible variance in salary, education and work characteristics compared to a general working population. Moreover, the sample was 96.7% **female**, which is not an accurate representation of the actual population (CBS, 2018). Participants were mostly contacted through social media platforms (Facebook and LinkedIn). Nurses without access to these platforms had no chance of being included in the study sample. Only individuals who completely filled in the questionnaire were included in the study. These participants might have stronger connections towards their nursing profession and/or the study topic than participants who quit halfway through the survey.

Secondly, the analyses were based on **self-reported measures** that might have caused a common method bias. Common method variance is variance that is attributable to the measurement method rather than to the constructs that are measured. "Method effects might be interpreted in terms of response biases such as halo effects, social desirability, acquiescence, leniency effects or yea- and

may-saying.” (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Individuals tend to answer questions in a socially desirable manner. That bias might explain why almost every participant reported high levels of skill variety in their job. In modern society, where your job tells a lot about who you are (Hall & Chandler, 2005) is it **socially desirable** to state that your job isn’t challenging or engaging to perform? Societal pressures may have pushed participants into overstating the level of skill variety their job demands.

The score on having a calling is surprisingly modest for a profession that is generally more likely to be done from a calling orientation. A possible explanation is that the CVQ contained only four possible answering categories (1: not at all true of me; 2: somewhat true of me; 3: mostly true of me; 4: absolutely true of me) with no middle category. A bigger scale might have provided different outcomes.

The high scores on skill variety can also be explained by participants’ self-reported skills that are unrelated to their core tasks (caring for patients) but are more related to **administrative tasks** (documenting, check-lists etc.). That might also explain why no moderator/mediator effect was found: although participants’ variety of skills is high, these skills are linked to tasks that have nothing to do with the calling that nurses have. However, the finding that skill variety had no moderator/mediator role in explaining the linkage between having a calling and living it might also be due to the lack of variance in the scores. This resulted in difficulties with analyzing the data.

Thirdly, in order to draw well-grounded conclusions about the meaning of the research outcomes in practice, it is important to have a solid understanding of the **daily work practices** that Dutch nurses have. What do their tasks actually look like and what kind of skills do they need in order to perform these tasks? A mixed methods study design, where both quantitative and qualitative data are used, could have been a better suited research design for the current study as it enables the researcher to gather a more complete understanding of the studied phenomenon (Mertens & Hesse-Biber, 2012). Additional interviews or observations could have provided important insights about the daily working environment of Dutch nurses, which would make it easier to interpret the implications of the research for practice.

## 5.5 Implications for practice

The present study provides valuable insights for those who are interested in the current state of affairs in the nursing profession in the Netherlands. It seems that the circumstances and general satisfaction of nurses in the Netherlands are less problematic than is currently perceived by **the public**.

Secondly, this research provides a new perspective on the role of work characteristics in understanding what factors enable individuals with a calling to achieve a state of living it. Results

support the idea that in order to live out a calling, one should not just find a job that matches this calling but also work in an environment with opportunities to live out a calling at work. The study provides evidence that the level of **task identity** is a critical factor in this regard.

In the nursing sector, insights can be implemented immediately by **managers, consultants or designers**. By identifying possibilities for increasing the level of task identity, the organization can be properly redesigned in order to enable nurses to live their calling at work. **Nurses** will benefit from the positive effects that living their calling has on their well-being. **Healthcare organizations** will benefit in terms of a committed, satisfied workforce that is less likely to withdrawal (Duffy et al., 2011). **Patients** benefit in terms of better healthcare.

Moreover, the study provides relevant suggestions for **employees** with an unfulfilled calling as well as **career counselors** who help these individuals discover areas in their job that might prevent them from living their calling.

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## Appendix I: Instruments

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### Calling and Vocation Questionnaire (CVQ) (Dik, Eldridge, Steger & Duffy, 2012)

*Instructions: Please indicate the degree to which you believe the following statements describe you, using the following scale. Please respond with your career as a whole in mind. For example, if you are currently working part time in a job that you don't consider part of your career, focus on your career as a whole and not your current job. Try not to respond merely as you think you "should" respond; rather, try to be as accurate and as objective as possible in evaluating yourself. If any of the questions simply do not seem relevant to you, "1" may be the most appropriate answer.*

- 1 = Not at all true of me
- 2 = Somewhat true of me
- 3 = Mostly true of me
- 4 = Absolutely true of me

#### **CVQ-Presence-Transcendent Summons**

1. I believe that I have been called to my current line of work.
2. I do not believe that a force beyond myself has helped guide me to my career.
3. I was drawn by something beyond myself to pursue my current line of work.
4. I am pursuing my current line of work because I believe I have been called to do so.

#### **CVQ-Presence-Purposeful Work**

5. My work helps me live out my life's purpose.
6. I try to live out my life purpose when I am at work.
7. My career is an important part of my life's meaning
8. I see my career as a path to purpose in life.

#### **CVQ-Presence-Prosocial Orientation**

9. The most important aspect of my career is its role in helping to meet the needs of others.
10. Making a difference for others is the primary motivation in my career.
11. My work contributes to the common good.
12. I am always trying to evaluate how beneficial my work is to others.



### **Living a calling scale (Duffy, Allan & Bott, 2012).**

1 = Strongly disagree  
2 = Disagree  
3 = Somewhat disagree  
4 = Neither agree nor disagree  
5 = Somewhat agree  
6 = Agree  
7 = Strongly agree  
8 = Not applicable

1. I have regular opportunities to live out my calling
2. I am currently working in a job that closely aligns with my calling
3. I am consistently living out my calling
4. I am currently engaging in activities that align with my calling
5. I am living out my calling right now in my job
6. I am working in the job to which I feel called

### **Work Design Questionnaire (WDQ) (Morgeson & Humphrey, 2006)**

1 = Strongly disagree  
2 = Somewhat disagree  
3 = Neither agree nor disagree  
4 = Somewhat agree  
5 = Strongly agree

#### **Skill Variety**

1. The job requires a variety of skills.
2. The job requires me to utilize a variety of different skills in order to complete the work.
3. The job requires me to use a number of complex or high-level skills.
4. The job requires the use of a number of skills

#### **Task Identity**

5. The job involves completing a piece of work that has an obvious beginning and end.
6. The job is arranged so that I can do an entire piece of work from beginning to end.
7. The job provides me the chance to completely finish the pieces of work I begin.
8. The job allows me to complete work I start.

## Appendix II: Survey questions

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Q1 Welkom bij de onderzoeksstudie! Mijn naam is Iris Massop en ik studeer bedrijfskunde aan de Radboud Universiteit in Nijmegen. Voor mijn masterscriptie van de specialisatie Organisatieontwerp & Ontwikkeling ben ik geïnteresseerd in de werkoriëntatie en werkkarakteristieken van verpleegkundigen.

U krijgt informatie met betrekking tot deze thema's te zien en wordt gevraagd om enkele vragen hierover te beantwoorden. U kunt er zeker van zijn dat uw antwoorden volledig vertrouwelijk worden behandeld. De vragenlijst bevat geen vragen over uw persoonlijke gegevens of de organisatie waarvoor u werkt. Alleen het type organisatie wordt bevraagd. Bovendien zijn er geen goede of foute antwoorden.

De vragenlijst bevat 35 vragen en duurt ongeveer 15 minuten. Uw deelname aan dit onderzoek is vrijwillig. U hebt het recht om zich op elk moment tijdens het onderzoek, om welke reden dan ook en zonder vooringenomenheid terug te trekken. Door op de onderstaande knop te klikken, erkent u dat uw deelname aan de studie vrijwillig is, u ouder bent dan 18 jaar oud en dat u weet dat u uw deelname op elk moment en om welke reden dan ook kunt beëindigen.

- ☐ Ik ga akkoord, begin met de studie (1)
- ☐ Ik ga niet akkoord, ik wil niet deelnemen (2)

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Q2 Hoe oud bent u?

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Q3 Wat is uw huidige functie?

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Q4 Hoeveel jaar bent u ongeveer werkzaam in deze functie?

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Q5 In welke soort instelling/organisatie werkt u? (Bijv. ziekenhuis)

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Q6 De volgende vragen gaan over uw werkoriëntatie.

Instructies: geef aan in welke mate u denkt dat de volgende uitspraken u beschrijven, met behulp van de volgende schaal. Geef alstublieft antwoord met uw carrière als geheel in gedachten. Als u bijvoorbeeld parttime werkt in een baan, die u niet als een deel van uw carrière beschouwt, richt u dan op uw gehele loopbaan en niet op uw huidige baan. Probeer niet te antwoorden zoals u denkt dat u zou 'moeten' antwoorden; Probeer liever zo nauwkeurig en zo objectief mogelijk te zijn bij het evalueren van uzelf. Als één van de vragen eenvoudigweg niet relevant voor u lijkt, kan "Helemaal niet waar voor mij" het meest geschikte antwoord zijn.

Q7 Ik geloof dat ik ben geroepen tot mijn huidige werk

- ☐ Helemaal niet waar voor mij (1)
- ☐ Enigszins waar voor mij (2)
- ☐ Grotendeels waar voor mij (3)
- ☐ Absoluut waar voor mij (4)

---

Q8 Mijn werk helpt me mijn levensdoel te bereiken

- ☐ Helemaal niet waar voor mij (1)
- ☐ Enigszins waar voor mij (2)
- ☐ Grotendeels waar voor mij (3)
- ☐ Absoluut waar voor mij (4)

---

Q9 Ik geloof **niet** dat een kracht buiten mijzelf heeft geholpen om mij naar mijn carrière te leiden

- ☐ Helemaal niet waar voor mij (1)
- ☐ Enigszins waar voor mij (2)
- ☐ Grotendeels waar voor mij (3)
- ☐ Absoluut waar voor mij (4)

---

Q10 Het belangrijkste aspect van mijn carrière is de rol bij het helpen in het voorzien van de behoeften van anderen

- ☐ Helemaal niet waar voor mij (1)
- ☐ Enigszins waar voor mij (2)
- ☐ Grotendeels waar voor mij (3)
- ☐ Absoluut waar voor mij (4)

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Q11 Ik werd aangetrokken door iets buiten mezelf om mijn huidige werk voort te zetten

- ☐ Helemaal niet waar voor mij (1)
- ☐ Enigszins waar voor mij (2)
- ☐ Grotendeels waar voor mij (3)
- ☐ Absoluut waar voor mij (4)

---

Q12 Het verschil maken voor anderen is de primaire motivatie in mijn carrière

- ☐ Helemaal niet waar voor mij (1)
  - ☐ Enigszins waar voor mij (2)
  - ☐ Grotendeels waar voor mij (3)
  - ☐ Absoluut waar voor mij (4)
-

Q13 Ik zie mijn carrière als een weg naar een doel in het leven

- ☐ Helemaal niet waar voor mij (1)
  - ☐ Enigszins waar voor mij (2)
  - ☐ Grotendeels waar voor mij (3)
  - ☐ Absoluut waar voor mij (4)
- 

Q14 Mijn werk draagt bij tot het algemeen maatschappelijk welzijn

- ☐ Helemaal niet waar voor mij (1)
  - ☐ Enigszins waar voor mij (2)
  - ☐ Grotendeels waar voor mij (3)
  - ☐ Absoluut waar voor mij (4)
- 

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Q15 Mijn carrière is een belangrijk onderdeel van de betekenis van mijn leven

- ☐ Helemaal niet waar voor mij (1)
  - ☐ Enigszins waar voor mij (2)
  - ☐ Grotendeels waar voor mij (3)
  - ☐ Absoluut waar voor mij (4)
-

Q16 Ik probeer altijd te evalueren hoe nuttig mijn werk voor anderen is

- ☐ Helemaal niet waar voor mij (1)
  - ☐ Enigszins waar voor mij (2)
  - ☐ Grotendeels waar voor mij (3)
  - ☐ Absoluut waar voor mij (4)
- 

Q17 Ik zet mijn huidige werk voort omdat ik geloof dat ik daartoe ben opgeroepen

- ☐ Helemaal niet waar voor mij (1)
  - ☐ Enigszins waar voor mij (2)
  - ☐ Grotendeels waar voor mij (3)
  - ☐ Absoluut waar voor mij (4)
- 

Q18 Ik probeer mijn levensdoel waar te maken als ik op mijn werk ben

- ☐ Helemaal niet waar voor mij (1)
  - ☐ Enigszins waar voor mij (2)
  - ☐ Grotendeels waar voor mij (3)
  - ☐ Absoluut waar voor mij (4)
- 

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Q19 Ik heb regelmatig gelegenheden om mijn roeping waar te maken

- ☐ Zeer mee oneens (1)
  - ☐ Niet mee eens (2)
  - ☐ Enigszins mee oneens (3)
  - ☐ Niet mee eens of niet mee oneens (4)
  - ☐ Enigszins mee eens (5)
  - ☐ Mee eens (6)
  - ☐ Zeer mee eens (7)
  - ☐ Niet van toepassing (8)
- 

Q20 Ik werk momenteel in een baan die nauw aansluit bij mijn roeping

- ☐ Zeer mee oneens (1)
  - ☐ Niet mee eens (2)
  - ☐ Enigszins mee oneens (3)
  - ☐ Niet mee eens of niet mee oneens (4)
  - ☐ Enigszins mee eens (5)
  - ☐ Mee eens (6)
  - ☐ Zeer mee eens (7)
  - ☐ Niet van toepassing (8)
-

Q21 Ik leef consequent mijn roeping na

- ☐ Zeer mee oneens (1)
- ☐ Niet mee eens (2)
- ☐ Enigszins mee oneens (3)
- ☐ Niet mee eens of niet mee oneens (4)
- ☐ Enigszins mee eens (5)
- ☐ Mee eens (6)
- ☐ Zeer mee eens (7)
- ☐ Niet van toepassing (8)

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Q22 Ik ben momenteel bezig met activiteiten die aansluiten bij mijn roeping

- ☐ Zeer mee oneens (1)
  - ☐ Niet mee eens (2)
  - ☐ Enigszins mee oneens (3)
  - ☐ Niet mee eens of niet mee oneens (4)
  - ☐ Enigszins mee eens (5)
  - ☐ Mee eens (6)
  - ☐ Zeer mee eens (7)
  - ☐ Niet van toepassing (8)
-



Q23 Ik realiseer nu mijn roeping in mijn werk

- ☐ Zeer mee oneens (1)
  - ☐ Niet mee eens (2)
  - ☐ Enigszins mee oneens (3)
  - ☐ Niet mee eens of niet mee oneens (4)
  - ☐ Enigszins mee eens (5)
  - ☐ Mee eens (6)
  - ☐ Zeer mee eens (7)
  - ☐ Niet van toepassing (8)
- 

Q24 Ik werk in de functie waarvoor ik me geroepen voel

- ☐ Zeer mee oneens (1)
  - ☐ Niet mee eens (2)
  - ☐ Enigszins mee oneens (3)
  - ☐ Niet mee eens of niet mee oneens (4)
  - ☐ Enigszins mee eens (5)
  - ☐ Mee eens (6)
  - ☐ Zeer mee eens (7)
  - ☐ Niet van toepassing (8)
- 

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Q25 De volgende vragen gaan dieper in op de werkkarakteristieken van uw huidige baan.

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Q26 De baan vereist verschillende vaardigheden

- ☐ Zeer mee oneens (1)
  - ☐ Enigszins mee oneens (2)
  - ☐ Niet mee eens of niet mee oneens (3)
  - ☐ Enigszins mee eens (4)
  - ☐ Zeer mee eens (5)
- 

Q27 De baan vereist dat ik een verscheidenheid aan verschillende vaardigheden gebruik om het werk te voltooien

- ☐ Zeer mee oneens (1)
  - ☐ Enigszins mee oneens (2)
  - ☐ Niet mee eens of niet mee oneens (3)
  - ☐ Enigszins mee eens (4)
  - ☐ Zeer mee eens (5)
- 

Q28 De baan vereist dat ik een aantal complexe vaardigheden of vaardigheden van een hoog niveau gebruik

- ☐ Zeer mee oneens (1)
  - ☐ Enigszins mee oneens (2)
  - ☐ Niet mee eens of niet mee oneens (3)
  - ☐ Enigszins mee eens (4)
  - ☐ Zeer mee eens (5)
-

Q29 De baan vereist het gebruik van een aantal vaardigheden

- ☐ Zeer mee oneens (1)
  - ☐ Enigszins mee oneens (2)
  - ☐ Niet mee eens of niet mee oneens (3)
  - ☐ Enigszins mee eens (4)
  - ☐ Zeer mee eens (5)
- 

Page Break

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Q30 De baan omvat het voltooien van een taak dat een duidelijk begin en einde heeft

- ☐ Zeer mee oneens (1)
  - ☐ Enigszins mee oneens (2)
  - ☐ Niet mee eens of niet mee oneens (3)
  - ☐ Enigszins mee eens (4)
  - ☐ Zeer mee eens (5)
- 

Q31 De baan is zo geregeld dat ik van begin tot eind een volledige taak kan doen

- ☐ Zeer mee oneens (1)
  - ☐ Enigszins mee oneens (2)
  - ☐ Niet mee eens of niet mee oneens (3)
  - ☐ Enigszins mee eens (4)
  - ☐ Zeer mee eens (5)
-

Q32 De baan biedt me de kans om taken die ik begin volledig af te maken

- ☐ Zeer mee oneens (1)
  - ☐ Enigszins mee oneens (2)
  - ☐ Niet mee eens of niet mee oneens (3)
  - ☐ Enigszins mee eens (4)
  - ☐ Zeer mee eens (5)
- 

Q33 De baan staat mij toe om werk waar in aan begin te voltooien

- ☐ Zeer mee oneens (1)
  - ☐ Enigszins mee oneens (2)
  - ☐ Niet mee eens of niet mee oneens (3)
  - ☐ Enigszins mee eens (4)
  - ☐ Zeer mee eens (5)
- 

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Q34 Wat is uw geslacht?

- ☐ Man (1)
  - ☐ Vrouw (2)
-

Q35 Wat is uw hoogst afgeronde opleiding?

- ☐ VMBO (1)
  - ☐ HAVO (2)
  - ☐ VWO (3)
  - ☐ MBO (4)
  - ☐ HBO (5)
  - ☐ WO (6)
  - ☐ Anders, namelijk (7) \_\_\_\_\_
- 

Q36 Hoeveel verdient u bruto per maand?

- ☐ Tussen € 0-500 (1)
  - ☐ Tussen € 500-1000 (2)
  - ☐ Tussen € 1000-1500 (3)
  - ☐ Tussen € 1500 - 2000 (4)
  - ☐ Tussen € 2000 - € 2500 (5)
  - ☐ Tussen € 2500 - €3000 (6)
  - ☐ Tussen € 3000 - € 3500 (7)
  - ☐ Tussen € 3500 - € 4000 (8)
  - ☐ Meer dan € 4000 (9)
- 

Q37 Hoeveel uur werkt u gemiddeld per week?

\_\_\_\_\_

---

Q38 Werkt u momenteel in een leidinggevende functie?

☐ Ja (1)

☐ Nee (2)

---

Page Break

Q39 Dit is het einde van de vragenlijst.

Hartelijk dank voor uw medewerking!

Bent u geïnteresseerd in de resultaten van het onderzoek of heeft u andere vragen?

Dan kunt u contact opnemen met [iris.massop@student.ru.nl](mailto:iris.massop@student.ru.nl)

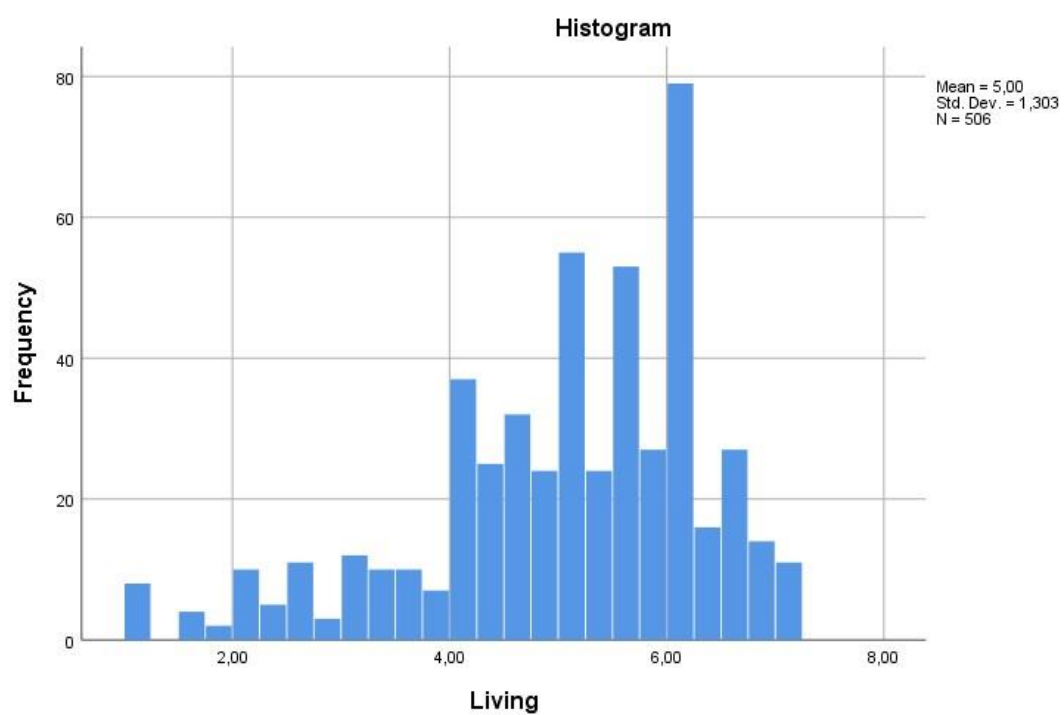
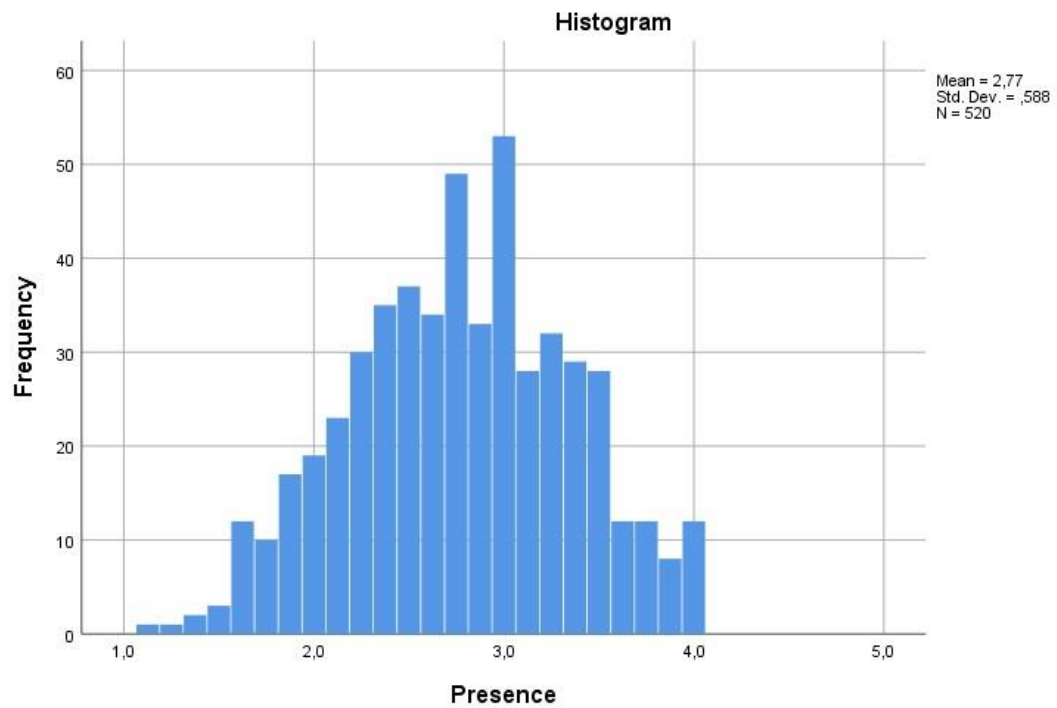
Kent u nog andere verpleegkundigen die mee zouden willen werken aan dit onderzoek?

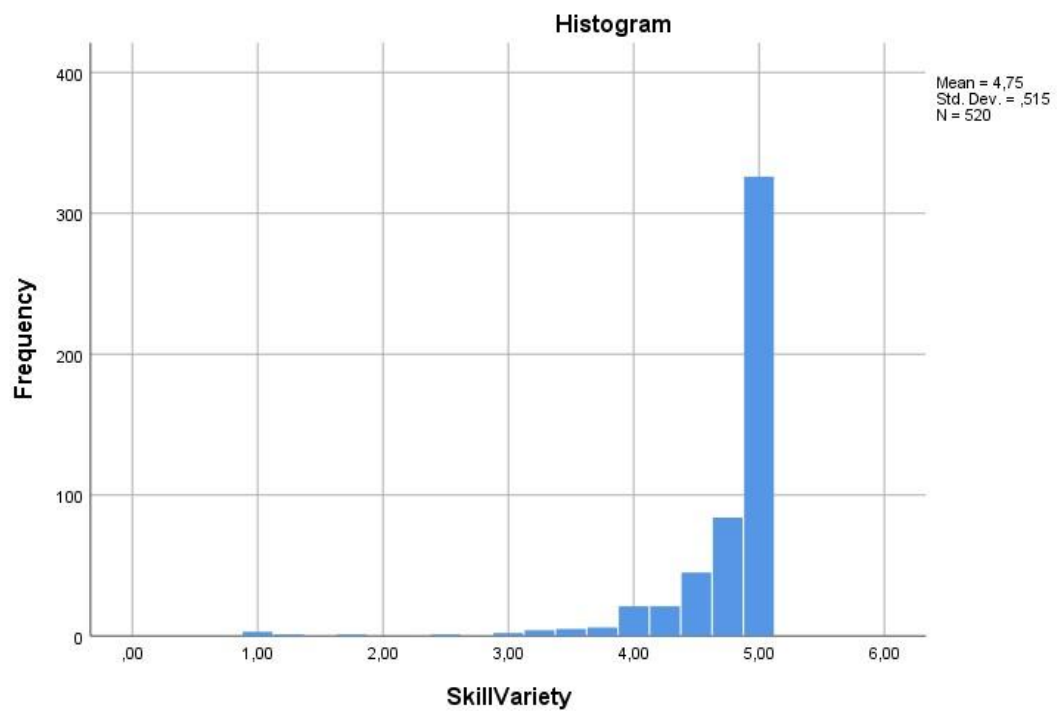
Het doorsturen van de link wordt ontzettend gewaardeerd!

## Appendix III: SPSS Output

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### Descriptives

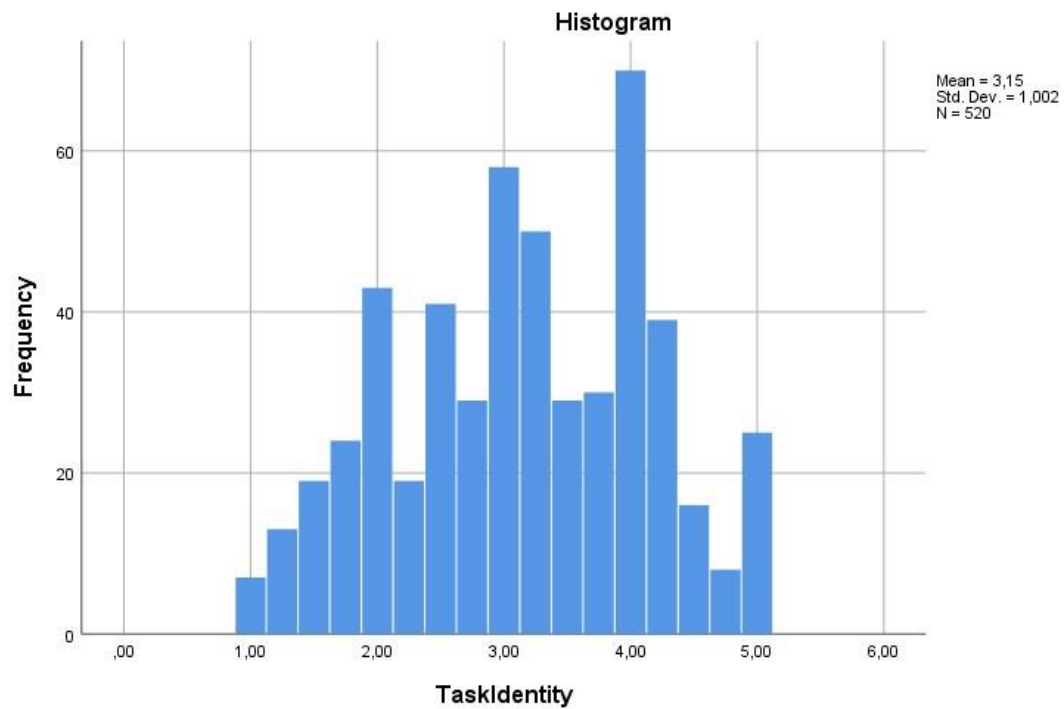




### Statistics

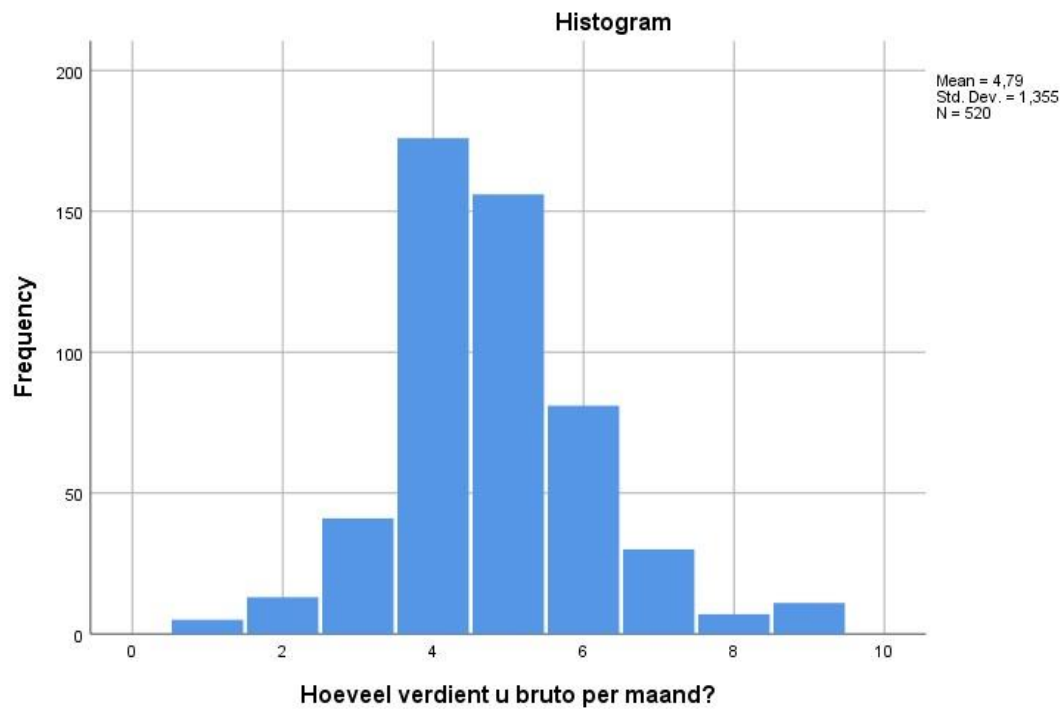
		SkillVariety
N	Valid	520
	Missing	0
Skewness		-4,082
Std. Error of Skewness		,107
Kurtosis		22,508 ,214
Std. Error of Kurtosis		





### Hoeveel verdient u bruto per maand?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tussen € 0-500	5	1,0	1,0	1,0
	Tussen € 500-1000	13	2,5	2,5	3,5
	Tussen € 1000-1500	41	7,9	7,9	11,3
	Tussen € 1500 - 2000	176	33,8	33,8	45,2
	Tussen € 2000 - € 2500	156	30,0	30,0	75,2
	Tussen € 2500 - €3000	81	15,6	15,6	90,8
	Tussen € 3000 - € 3500	30	5,8	5,8	96,5
	Tussen € 3500 - € 4000	7	1,3	1,3	97,9
	Meer dan € 4000	11	2,1	2,1	100,0
	Total	520	100,0	100,0	



## Exploratory Factor analysis

### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,882
Bartlett's Test of Sphericity	Approx. Chi-Square	4812,712
	df	231
	Sig.	,000

### Communalities

	Initial	Extraction
Mijn werk helpt me mijn levensdoel te bereiken	,474	,468
Het belangrijkste aspect van mijn carrière is de rol bij het helpen in het voorzien van de behoeften van anderen	,263	,254
Het verschil maken voor anderen is de primaire motivatie in mijn carrière	,376	,337
Ik zie mijn carrière als een weg naar een doel in het leven	,513	,557

Mijn werk draagt bij tot het algemeen maatschappelijk welzijn	,291	,296
Mijn carrière is een belangrijk onderdeel van de betekenis van mijn leven	,360	,324
Ik probeer altijd te evalueren hoe nuttig mijn werk voor anderen is	,362	,378
Ik probeer mijn levensdoel waar te maken als ik op mijn werk ben	,528	,577
Ik heb regelmatig gelegenheden om mijn roeping waar te maken	,536	,520
Ik werk momenteel in een baan die nauw aansluit bij mijn roeping	,628	,696
Ik leef consequent mijn roeping na	,660	,703
Ik ben momenteel bezig met activiteiten die aansluiten bij mijn roeping	,580	,613
Ik realiseer nu mijn roeping in mijn werk	,576	,603
Ik werk in de functie waarvoor ik me geroepen voel	,521	,513
De baan vereist verschillende vaardigheden	,571	,597
De baan vereist dat ik een verscheidenheid aan verschillende vaardigheden gebruik om het werk te voltooien	,683	,830

De baan vereist dat ik een aantal complexe vaardigheden of vaardigheden van een hoog niveau gebruik	,477	,490
De baan vereist het gebruik van een aantal vaardigheden	,527	,588
De baan omvat het voltooien van een taak dat een duidelijk begin en einde heeft	,428	,410
De baan is zo geregeld dat ik van begin tot eind een volledige taak kan doen	,544	,588
De baan biedt me de kans om taken die ik begin volledig af te maken	,711	,752
De baan staat mij toe om werk waar in aan begin te voltooien	,695	,716

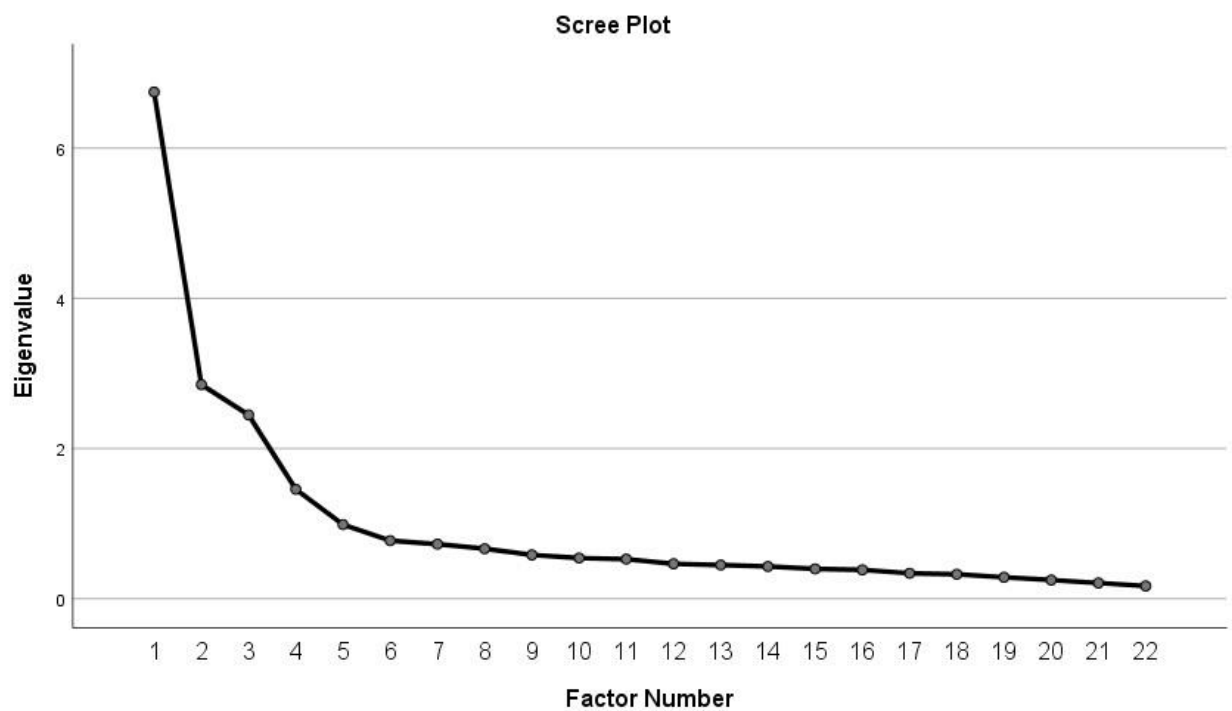
Extraction Method: Principal Axis Factoring.

Total Variance Explained							Rotation Sums of Squared Loadings <sup>a</sup>
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6,748	30,672	30,672	6,289	28,588	28,588	4,949
2	2,851	12,957	43,630	2,492	11,328	39,916	2,577
3	2,447	11,125	54,754	2,076	9,436	49,352	3,007
4	1,457	6,622	61,377	,952	4,327	53,680	5,411
5	,987	4,485	65,862				
6	,774	3,516	69,378				
7	,726	3,301	72,679				
8	,665	3,024	75,703				
9	,583	2,648	78,350				
10	,541	2,459	80,810				

11	,526	2,392	83,202				
12	,465	2,113	85,315				
13	,448	2,036	87,351				
14	,429	1,949	89,300				
15	,397	1,806	91,106				
16	,383	1,742	92,848				
17	,338	1,537	94,385				
18	,325	1,477	95,862				
19	,285	1,293	97,155				
20	,248	1,129	98,284				
21	,209	,948	99,232				
22	,169	,768	100,000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.



**Pattern Matrix<sup>a</sup>**

	Factor			
	1	2	3	4
Mijn werk helpt me mijn levensdoel te bereiken	,483			

Het belangrijkste aspect van mijn carrière is de rol bij het helpen in het voorzien van de behoeften van anderen	,468			
Het verschil maken voor anderen is de primaire motivatie in mijn carrière	,552			
Ik zie mijn carrière als een weg naar een doel in het leven	,694			
Mijn werk draagt bij tot het algemeen maatschappelijk welzijn	,584			
Mijn carrière is een belangrijk onderdeel van de betekenis van mijn leven	,556			
Ik probeer altijd te evalueren hoe nuttig mijn werk voor anderen is	,611			
Ik probeer mijn levensdoel waar te maken als ik op mijn werk ben	,641			
Ik heb regelmatig gelegenheden om mijn roeping waar te maken				-,612
Ik werk momenteel in een baan die nauw aansluit bij mijn roeping				-,907
Ik leef consequent mijn roeping na				-,774
Ik ben momenteel bezig met activiteiten die aansluiten bij mijn roeping				-,761
Ik realiseer nu mijn roeping in mijn werk				-,703
Ik werk in de functie waarvoor ik me geroepen voel				-,682

De baan vereist verschillende vaardigheden		,774		
De baan vereist dat ik een verscheidenheid aan verschillende vaardigheden gebruik om het werk te voltooien		,914		
De baan vereist dat ik een aantal complexe vaardigheden of vaardigheden van een hoog niveau gebruik		,693		
De baan vereist het gebruik van een aantal vaardigheden		,767		
De baan omvat het voltooien van een taak dat een duidelijk begin en einde heeft			,614	
De baan is zo geregeld dat ik van begin tot eind een volledige taak kan doen			,753	
De baan biedt me de kans om taken die ik begin volledig af te maken			,867	
De baan staat mij toe om werk waar in aan begin te voltooien			,849	

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 9 iterations.

## Reliability analysis

### Presence of calling

#### Case Processing Summary

		N	%
Cases	Valid	520	100,0
	Excluded <sup>a</sup>	0	,0
	Total	520	100,0

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's	
Alpha	N of Items
,837	8

### Living a calling

### Case Processing Summary

		N	%
Cases	Valid	444	85,4
	Excluded <sup>a</sup>	76	14,6
	Total	520	100,0

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's	
Alpha	N of Items
,899	6

### Skill Variety

### Case Processing Summary

		N	%
Cases	Valid	520	100,0
	Excluded <sup>a</sup>	0	,0
	Total	520	100,0

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's	
Alpha	N of Items
,846	4



## Task identity

### Case Processing Summary

		N	%
Cases	Valid	520	100,0
	Excluded <sup>a</sup>	0	,0
	Total	520	100,0

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	N of Items
,850	4

## Multiple regression analysis

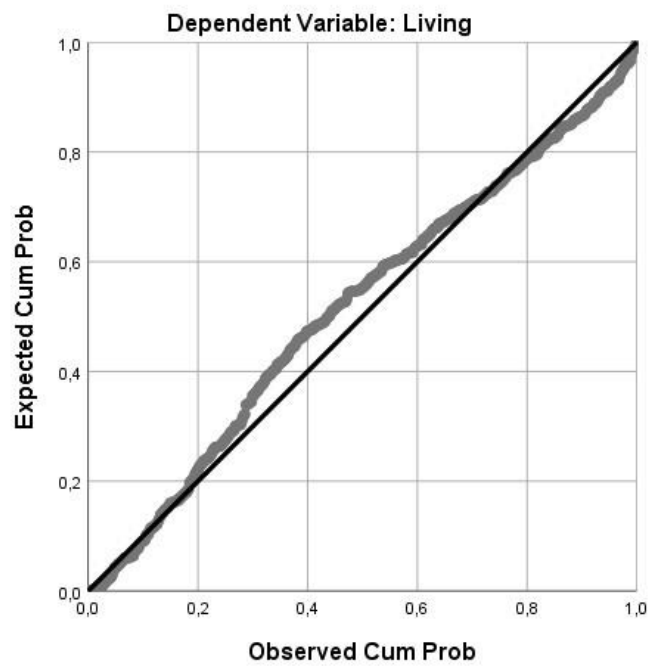
### Residuals

#### Residuals Statistics<sup>a</sup>

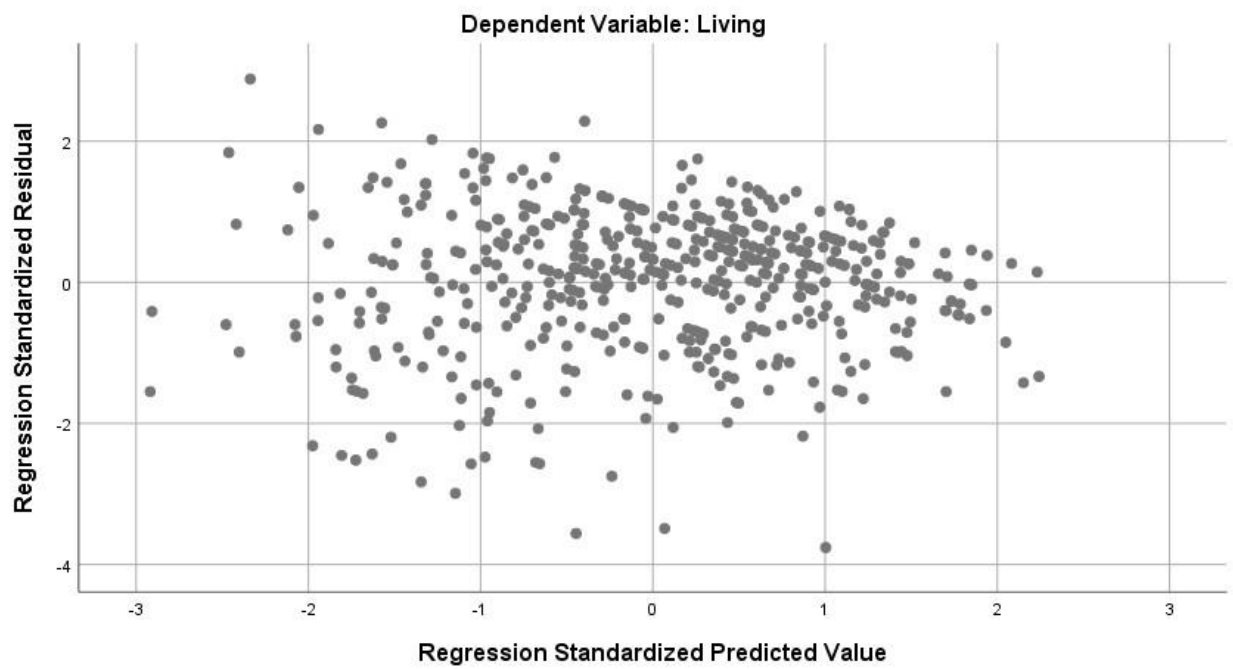
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2,5798	6,8606	5,0009	,82957	506
Residual	-3,83337	2,93801	,00000	1,00540	506
Std. Predicted Value	-2,918	2,242	,000	1,000	506
Std. Residual	-3,760	2,881	,000	,986	506

a. Dependent Variable: Living

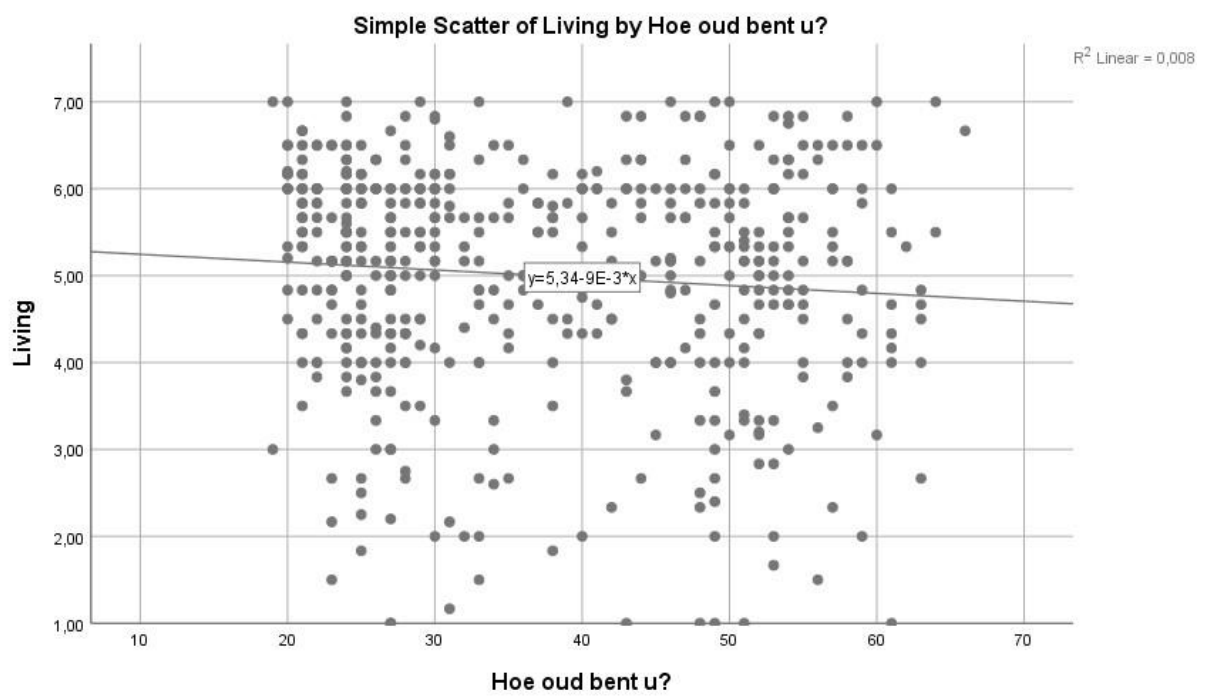
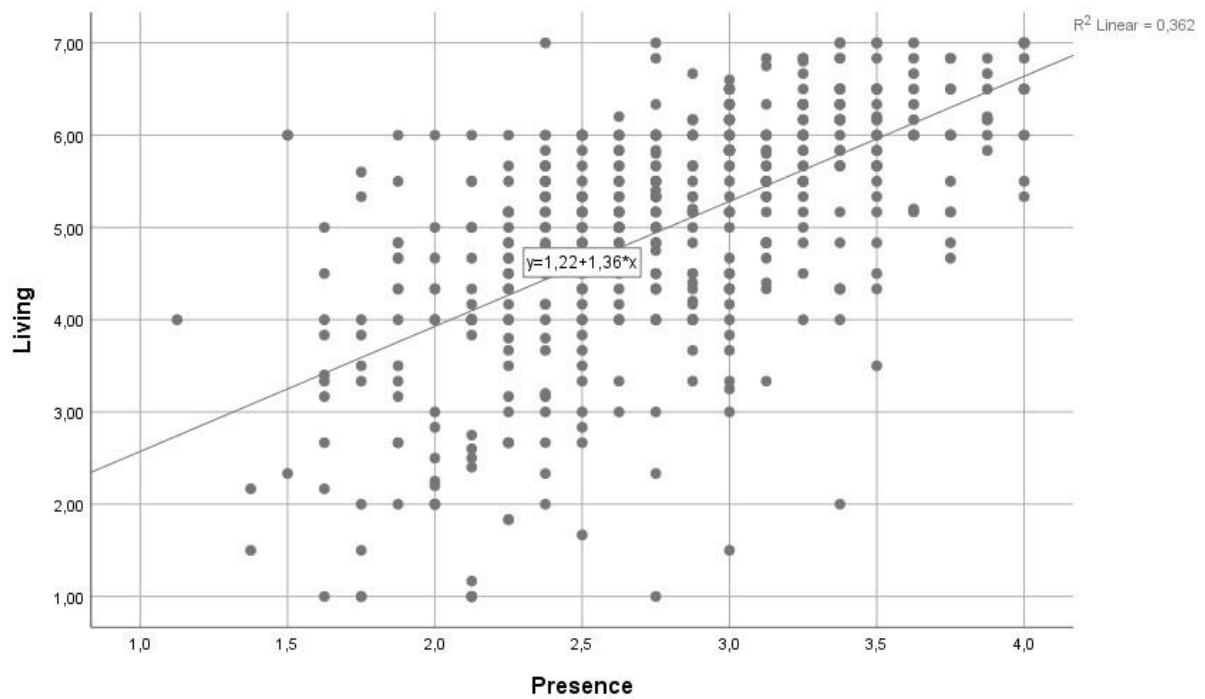
Normal P-P Plot of Regression Standardized Residual

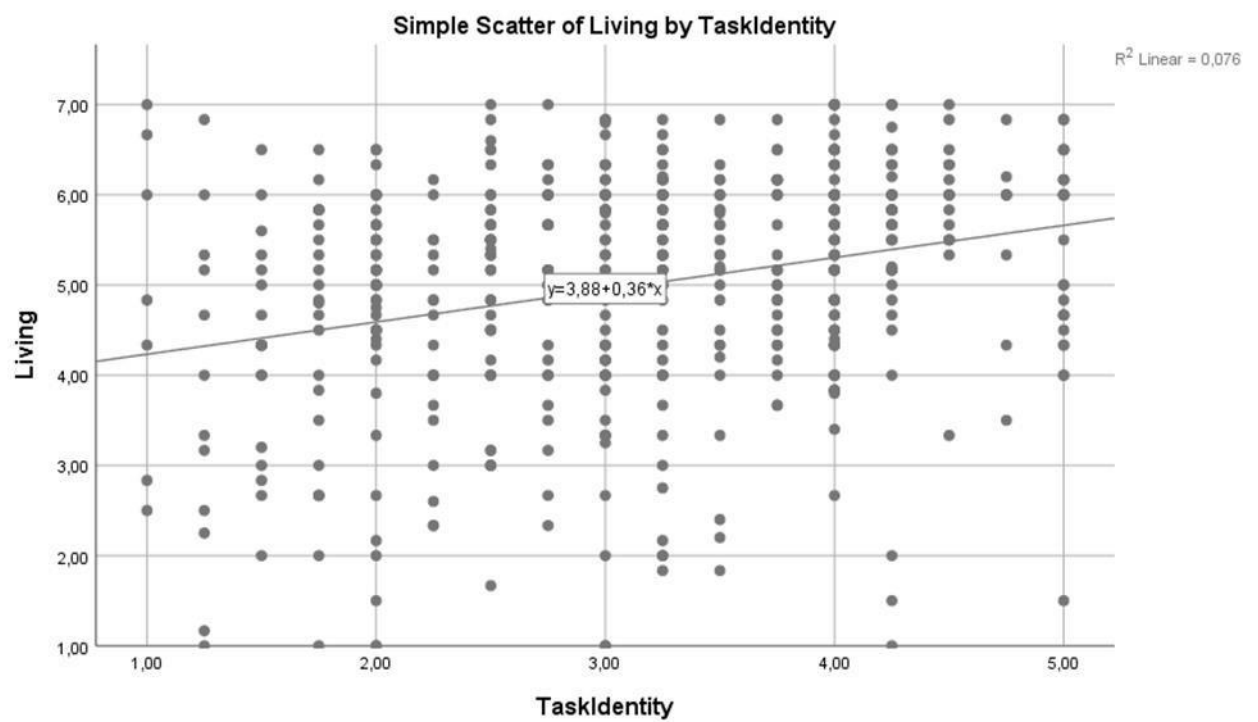
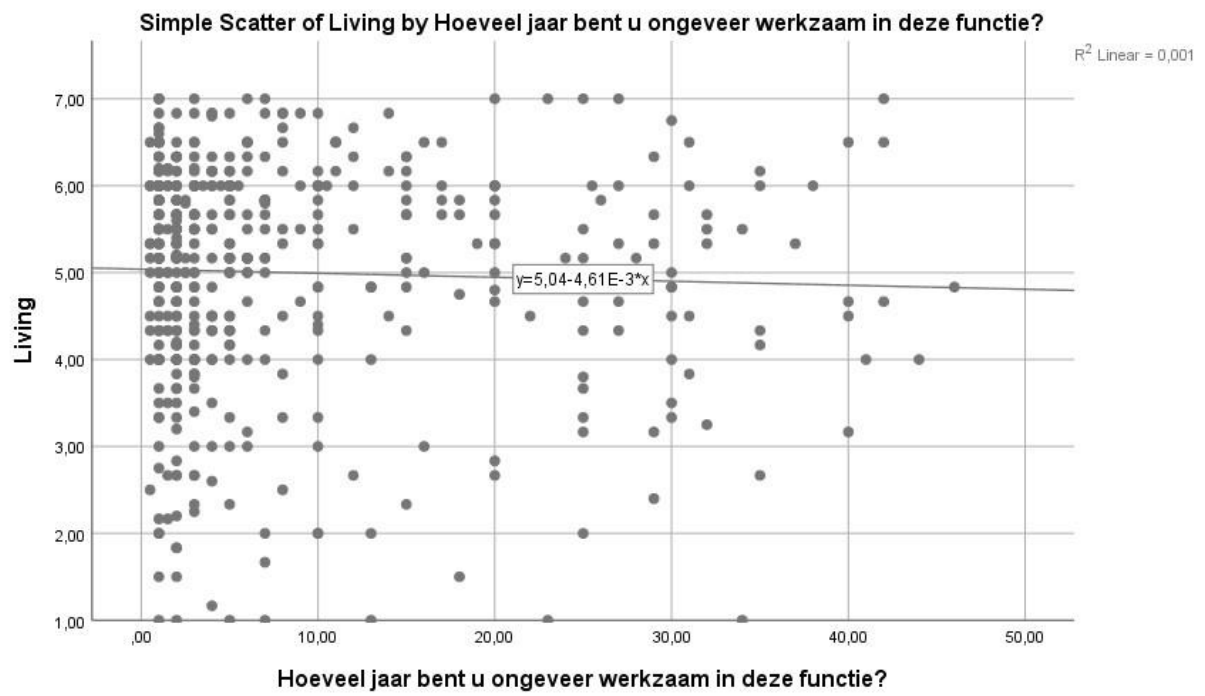


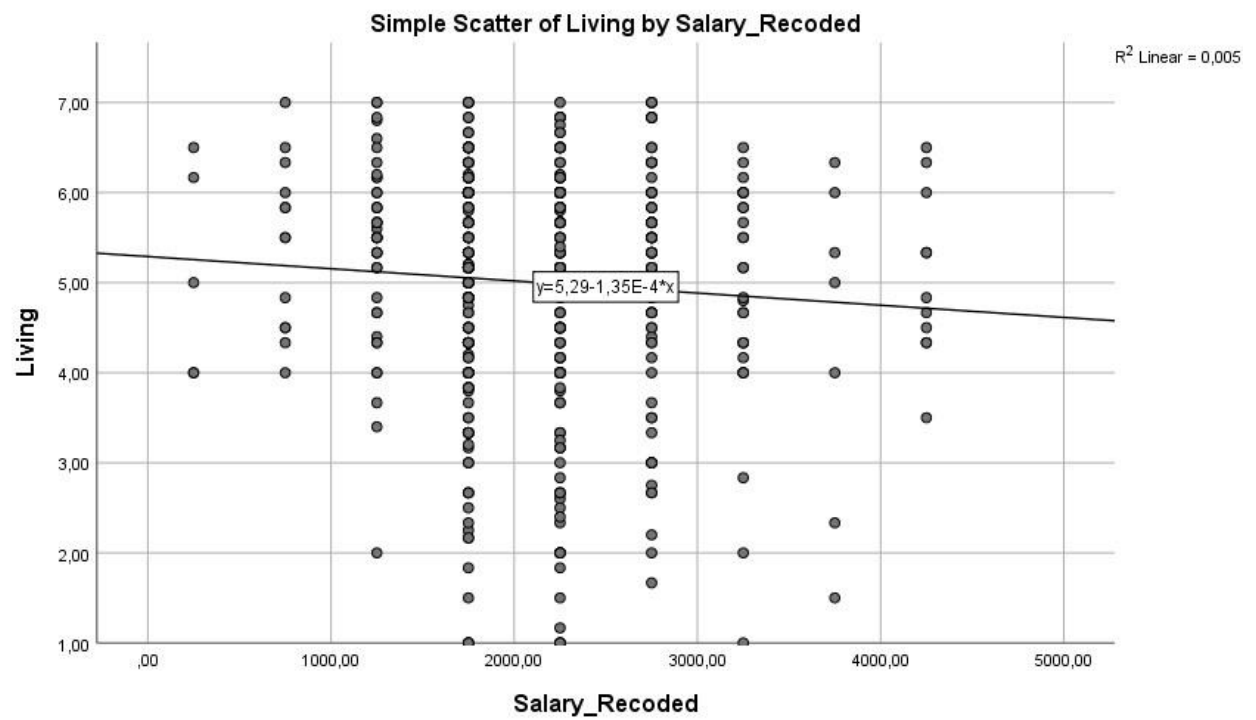
Scatterplot



Assumption of Linearity







## Moderation Analysis

### Variables Entered/Removed<sup>a</sup>

	Variables Entered	Variables Removed	
Model	Entered	Removed	Method

1	Other, Salary6, VWO, WO, Salary1, HAVO, VMBO, Salary7, Salary9, Salary3, Werkt u momenteel in een leidinggevende functie?, Salary2, Hoeveel jaar bent u ongeveer werkzaam in deze functie?, Salary8, HBO, Hoeveel uur werkt u gemiddeld per week?, Salary5, Hoe oud bent u? <sup>b</sup>	.	Enter
2	Presence <sup>b</sup>	.	Enter
3	SkillVariety_Cat, TaskIdentity <sup>b</sup>	.	Enter
4	Presence_TaskI dentity_Centere d, Presence_SkillV ariety <sup>b</sup>	.	Enter

a. Dependent Variable: Living

b. All requested variables entered.

### Model Summary<sup>e</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
						F Change	df1	df2		
1	,216 <sup>a</sup>	,047	,012	1,29591	,047	1,328	18	487	,165	
2	,624 <sup>b</sup>	,389	,365	1,03855	,342	272,276	1	486	,000	
3	,636 <sup>c</sup>	,404	,378	1,02766	,015	6,174	2	484	,002	
4	,644 <sup>d</sup>	,414	,386	1,02122	,010	4,064	2	482	,018	1,974

a. Predictors: (Constant), Other, Salary6, VWO, WO, Salary1, HAVO, VMBO, Salary7, Salary9, Salary3, Werkt u momenteel in een leidinggevende functie?, Salary2, Hoeveel jaar bent u ongeveer werkzaam in deze functie?, Salary8, HBO, Hoeveel uur werkt u gemiddeld per week?, Salary5, Hoe oud bent u?

b. Predictors: (Constant), Other, Salary6, VWO, WO, Salary1, HAVO, VMBO, Salary7, Salary9, Salary3, Werkt u momenteel in een leidinggevende functie?, Salary2, Hoeveel jaar bent u ongeveer werkzaam in deze functie?, Salary8, HBO, Hoeveel uur werkt u gemiddeld per week?, Salary5, Hoe oud bent u?, Presence

c. Predictors: (Constant), Other, Salary6, VWO, WO, Salary1, HAVO, VMBO, Salary7, Salary9, Salary3, Werkt u momenteel in een leidinggevende functie?, Salary2, Hoeveel jaar bent u ongeveer werkzaam in deze functie?, Salary8, HBO, Hoeveel uur werkt u gemiddeld per week?, Salary5, Hoe oud bent u?, Presence, SkillVariety\_Cat, TaskIdentity

d. Predictors: (Constant), Other, Salary6, VWO, WO, Salary1, HAVO, VMBO, Salary7, Salary9, Salary3, Werkt u momenteel in een leidinggevende functie?, Salary2, Hoeveel jaar bent u ongeveer werkzaam in deze functie?, Salary8, HBO, Hoeveel uur werkt u gemiddeld per week?, Salary5, Hoe oud bent u?, Presence, SkillVariety\_Cat, TaskIdentity, Presence\_TaskIdentity\_Centered, Presence\_SkillVariety

e. Dependent Variable: Living

### ANOVA<sup>a</sup>

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40,142	18	2,230	1,328	,165 <sup>b</sup>
	Residual	817,860	487	1,679		
	Total	858,002	505			
2	Regression	333,813	19	17,569	16,289	,000 <sup>c</sup>
	Residual	524,189	486	1,079		
	Total	858,002	505			
3	Regression	346,853	21	16,517	15,640	,000 <sup>d</sup>
	Residual	511,149	484	1,056		
	Total	858,002	505			
4	Regression	355,330	23	15,449	14,814	,000 <sup>e</sup>
	Residual	502,672	482	1,043		
	Total	858,002	505			

a. Dependent Variable: Living

b. Predictors: (Constant), Other, Salary6, VWO, WO, Salary1, HAVO, VMBO, Salary7, Salary9, Salary3, Werkt u momenteel in een leidinggevende functie?, Salary2, Hoeveel jaar bent u ongeveer werkzaam in deze functie?, Salary8, HBO, Hoeveel uur werkt u gemiddeld per week?, Salary5, Hoe oud bent u?

c. Predictors: (Constant), Other, Salary6, VWO, WO, Salary1, HAVO, VMBO, Salary7, Salary9, Salary3, Werkt u momenteel in een leidinggevende functie?, Salary2, Hoeveel jaar bent u ongeveer werkzaam in deze functie?, Salary8, HBO, Hoeveel uur werkt u gemiddeld per week?, Salary5, Hoe oud bent u?, Presence

- d. Predictors: (Constant), Other, Salary6, VWO, WO, Salary1, HAVO, VMBO, Salary7, Salary9, Salary3, Werkt u momenteel in een leidinggevende functie?, Salary2, Hoeveel jaar bent u ongeveer werkzaam in deze functie?, Salary8, HBO, Hoeveel uur werkt u gemiddeld per week?, Salary5, Hoe oud bent u?, Presence, SkillVariety\_Cat, TaskIdentity
- e. Predictors: (Constant), Other, Salary6, VWO, WO, Salary1, HAVO, VMBO, Salary7, Salary9, Salary3, Werkt u momenteel in een leidinggevende functie?, Salary2, Hoeveel jaar bent u ongeveer werkzaam in deze functie?, Salary8, HBO, Hoeveel uur werkt u gemiddeld per week?, Salary5, Hoe oud bent u?, Presence, SkillVariety\_Cat, TaskIdentity, Presence\_TaskIdentity\_Centered, Presence\_SkillVariety

Coefficients <sup>a</sup>								
		Unstandardized Coefficients		Standardized Coefficients			Collinear Statistic	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	5,048	,527		9,580	,000		
	Hoe oud bent u?	-,008	,006	-,081	-1,332	,184	,530	1,886
	Hoeveel uur werkt u gemiddeld per week?	,011	,011	,057	1,081	,280	,706	1,416
	Hoeveel jaar bent u ongeveer werkzaam in deze functie?	,004	,007	,030	,522	,602	,593	1,686
	Werkt u momenteel in een leidinggevende functie?	-,034	,171	-,009	-,200	,841	,918	1,090
	Salary1	,138	,590	,010	,233	,816	,973	1,027
	Salary2	,443	,399	,054	1,109	,268	,831	1,203
	Salary3	,532	,236	,110	2,248	,025	,815	1,226
	Salary5	-,104	,149	-,037	-,697	,486	,710	1,408
	Salary6	,148	,187	,041	,792	,429	,728	1,375
	Salary7	-,031	,287	-,005	-,107	,915	,770	1,298
	Salary8	-,264	,539	-,024	-,490	,624	,839	1,192
	Salary9	,188	,444	,021	,423	,672	,791	1,264
	VMBO	,616	,475	,059	1,297	,195	,947	1,056
	HAVO	-,309	,355	-,041	-,869	,385	,858	1,165



	VWO	-1,171	,761	-,069	-1,539	,124	,973	1,027
	HBO	-,106	,130	-,040	-,818	,414	,824	1,213
2	WO	-,353	,495	-,034	-,714	,476	,870	1,149
	Other	-,621	,281	-,103	-2,213	,027	,896	1,115
	(Constant)	,577	,502		1,151	,250		
	Hoe oud bent u?	-,005	,005	-,052	-1,066	,287	,530	1,889
	Hoeveel uur werkt u gemiddeld per week?	,012	,008	,058	1,378	,169	,706	1,416
	Hoeveel jaar bent u ongeveer werkzaam in deze functie?	,003	,006	,025	,543	,588	,593	1,686
	Werkt u momenteel in een leidinggevende functie?	,224	,138	,060	1,619	,106	,906	1,104
	Salary1	,580	,474	,044	1,223	,222	,970	1,031
	Salary2	,062	,321	,008	,193	,847	,827	1,209
	Salary3	,368	,190	,076	1,939	,053	,813	1,230
	Salary5	,004	,120	,002	,037	,971	,708	1,412
	Salary6	,059	,150	,016	,391	,696	,727	1,376
	Salary7	,061	,230	,011	,263	,793	,770	1,299
	Salary8	,011	,432	,001	,025	,980	,838	1,194
	Salary9	,706	,357	,079	1,976	,049	,785	1,273
	VMBO	,440	,381	,042	1,155	,249	,946	1,057
	HAVO	-,154	,285	-,021	-,541	,589	,858	1,166
	VWO	-,565	,611	-,033	-,926	,355	,970	1,031
	HBO	,015	,104	,005	,140	,889	,820	1,219
	WO	-,334	,397	-,032	-,841	,401	,870	1,149
	Other	-,377	,225	-,063	-1,670	,095	,893	1,120
	Presence	1,359	,082	,604	16,501	,000	,939	1,065
3	(Constant)	,289	,505		,571	,568		
	Hoe oud bent u?	-,007	,005	-,073	-1,505	,133	,518	1,930
	Hoeveel uur werkt u gemiddeld per week?	,011	,008	,054	1,281	,201	,705	1,418

	Hoeveel jaar bent u ongeveer werkzaam in deze functie?	,004	,006	,029	,638	,524	,593	1,687
	Werkt u momenteel in een leidinggevende functie?	,242	,138	,065	1,763	,079	,894	1,118
	Salary1	,510	,471	,039	1,082	,280	,962	1,040
	Salary2	,037	,318	,004	,116	,908	,823	1,215
	Salary3	,373	,188	,077	1,987	,048	,813	1,230
	Salary5	,015	,119	,005	,128	,898	,708	1,413
	Salary6	,084	,149	,023	,568	,571	,725	1,380
	Salary7	,065	,228	,011	,287	,774	,770	1,299
	Salary8	,007	,427	,001	,017	,986	,837	1,194
	Salary9	,511	,359	,057	1,426	,155	,764	1,310
	VMBO	,307	,379	,029	,810	,418	,933	1,071
	HAVO	-,153	,282	-,021	-,542	,588	,857	1,167
	VWO	-,397	,607	-,023	-,655	,513	,962	1,040
	HBO	,029	,104	,011	,280	,780	,808	1,238
	WO	-,339	,393	-,032	-,863	,389	,867	1,153
	Other	-,326	,224	-,054	-1,457	,146	,887	1,127
	Presence	1,285	,085	,571	15,173	,000	,870	1,149
	TaskIdentity	,173	,049	,133	3,509	,000	,853	1,173
	SkillVariety_Cat	,028	,098	,011	,289	,773	,926	1,080
4	(Constant)	,075	,523		,143	,887		
	Hoe oud bent u?	-,007	,005	-,066	-1,351	,177	,517	1,936
		,010	,008	,048	1,149	,251	,701	1,426
	Hoeveel uur werkt u gemiddeld per week?							
	Hoeveel jaar bent u ongeveer werkzaam in deze functie?	,005	,006	,036	,796	,426	,591	1,692

Werkt u momenteel in een leidinggevende functie?	,211	,137	,057	1,540	,124	,888	1,126
Salary1	,493	,469	,037	1,051	,294	,959	1,043
Salary2	,006	,316	,001	,019	,985	,822	1,216
Salary3	,371	,187	,077	1,989	,047	,812	1,231
Salary5	,009	,118	,003	,078	,938	,707	1,414
Salary6	,080	,148	,022	,542	,588	,725	1,380
Salary7	,078	,227	,014	,346	,730	,768	1,302
Salary8	-,129	,428	-,012	-,302	,763	,826	1,211
Salary9	,396	,361	,044	1,097	,273	,744	1,343
VMBO	,351	,378	,034	,930	,353	,928	1,077
HAVO	-,130	,281	-,017	-,464	,643	,854	1,171
VWO	-,405	,604	-,024	-,671	,503	,960	1,042
HBO	,038	,103	,014	,368	,713	,804	1,244
WO	-,237	,393	-,023	-,603	,547	,859	1,164
Other	-,362	,223	-,060	-1,623	,105	,883	1,132
Presence	1,406	,102	,625	13,764	,000	,590	1,694
TaskIdentity	,161	,049	,124	3,277	,001	,843	1,186
SkillVariety_Cat	,797	,501	,296	1,591	,112	,035	28,492
Presence_TaskIdentity_Centered	-,203	,079	-,096	-2,570	,010	,865	1,156
Presence_SkillVariety	-,285	,178	-,297	-1,598	,111	,035	28,462

a. Dependent Variable: Living

Mediation analysis

```

GET
  FILE="C:\Users\Gebruiker\Desktop\Nieuw databestand.sav".
DATASET NAME DataSet1
WINDOW=FRONT. /* PROCESS for SPSS
2.15 */. /* Written by Andrew F.
Hayes */.
/* www.afhayes.com */. /*
Copyright 2012-2016 */.
/* Online distribution other than through */.
/* www.afhayes.com or processmacro.org is not authorized */.
/* Please read the documentation */.
/* available in Appendix A of */.
/* Hayes (2013) prior to use */.
/* www.guilford.com/p/hayes3 */.

/* Documentation available in Appendix A of
http://www.guilford.com/p/hayes3 */.
  preserve. set
  printback=off.
  * Encoding: windows-1252.

DATASET NAME Origineel.
DATASET COPY Kopie. DATASET
ACTIVATE Kopie. DATASET
CLOSE Origineel.

*****
* *****

RENAME VARIABLES Living=Y.
RENAME VARIABLES Presence=X.
RENAME VARIABLES TaskIdentity=M.
ADD FILES FILE * /KEEP Y X M.
EXECUTE.

*****
*
*****

* Simple mediation.
  process vars=Y X
M
  /y=Y
  /x=X
  /m=M
  /model=4
  /total=1
  /effsize=1
  /normal=1
  /boot=1000.

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.15 *****

```

Model = 4  
Y = Y  
X = X  
M = M

Sample size  
506

\*\*\*\*\*  
Outcome: M

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,2427	,0589	,9513	31,5323	1,0000	504,0000
	,0000					

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,9754	,2137	9,2423	,0000	1,5555	2,3954
X	,4210	,0750	5,6154	,0000	,2737	,5683

\*\*\*\*\*  
Outcome: Y

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,6165	,3801	1,0574	154,2215	2,0000	503,0000
	,0000					

Model

	coeff	se	t	p	LLCI	ULCI
constant	,8653	,2437	3,5509	,0004	,3865	1,3441
M	,1780	,0470	3,7903	,0002	,0857	,2703
X	1,2805	,0815	15,7164	,0000	1,1204	1,4405

\*\*\*\*\* TOTAL EFFECT MODEL \*\*\*\*\*  
Outcome: Y

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	,6020	,3624	1,0854	286,4792	1,0000	504,0000
	,0000					

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,2169	,2283	5,3302	,0000	,7684	1,6655
X	1,3554	,0801	16,9257	,0000	1,1981	1,5127

\*\*\*\*\* TOTAL, DIRECT, AND INDIRECT EFFECTS \*\*\*\*\*  
Total effect of X on Y

	Effect	SE	t	p	LLCI	ULCI
	1,3554	,0801	16,9257	,0000	1,1981	1,5127

Direct effect of X on Y

	Effect	SE	t	p	LLCI	ULCI
	1,2805	,0815	15,7164	,0000	1,1204	1,4405

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
M	,0749	,0262	,0349	,1404

Partially standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
M	,0575	,0198	,0257	,1051

Completely standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
M	,0333	,0114	,0155	,0623

Ratio of indirect to total effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
M	,0553	,0195	,0245	,1037

Ratio of indirect to direct effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
M	,0585	,0221	,0251	,1158

R-squared mediation effect size (R-sq\_med)

	Effect	Boot SE	BootLLCI	BootULCI
M	,0580	,0174	,0310	,1009

Preacher and Kelley (2011) Kappa-squared

	Effect	Boot SE	BootLLCI	BootULCI
M	,0433	,0136	,0203	,0742

Normal theory tests for indirect effect

	Effect	se	Z	p
	,0749	,0241	3,1079	,0019

\*\*\*\*\* ANALYSIS NOTES AND WARNINGS \*\*\*\*\*

Number of bootstrap samples for bias corrected bootstrap confidence intervals:

1000

Level of confidence for all confidence intervals in output:

95,00

NOTE: Some cases were deleted due to missing data. The number of such cases was:

14

----- END MATRIX -----