Master Thesis

Not my role, not my problem:
voicing, solving or neglecting problems at work.

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Abstract

The purpose of this study is to investigate whether occupational role perceptions influence the problem-solving strategies employees choose through psychological ownership in the workplace. To investigate this, the following research question was formulated: *What is the impact of occupational role perceptions on problem-solving strategies through psychological ownership of the problems?* Within this study, occupational role perceptions consist of role clarity, work engagement and work pressure. Psychological ownership indicates the extent to which employees feel a problem is their problem. And finally, there are three described problem-solving strategies: proactivity, voice and disengagement.

To answer the research question, a survey (n = 314) was conducted among working people. To gain an insight on the relationships between role clarity, work engagement and work pressure through psychological ownership on problem-solving strategies. Here, people were asked about real problems that occurred in the workplace.

Survey responses showed that occupational role perceptions have a strong relationship with psychological ownership, but that psychological ownership has almost no relationship with problem-solving strategies. Based on this, employers know that they need to provide more job resources rather than focus on psychological ownership to make their organization more resilient.

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1. Introduction

It is inevitable that organizations experience problems today. For example, the five most common problems that occur everyday within an organization according to Stowell (n.d.) are: absence of clear direction, poor communication and feedback, difficulty blending multiple personalities into a cohesive and unified team, failure to develop key competencies and behaviors and lack of awareness. When left unresolved, these problems can threaten organizational performance (Sofijanova & Zabijakin-Chatleska, 2013). In addition, problems within organizations reduce job satisfaction and customer satisfaction (Latif et al., 2013; Randall Brandt & Reffett, 1989).

Preventing problems is obviously preferable than solving them but this is not always possible. Therefore, it is important for an organization to be able to solve a problem itself these days. To solve a problem itself, an organization must have organizational resilience. Organizational resilience is referred to as the ability of an organization to anticipate, prepare for, respond to and adapt to gradual changes and sudden disruptions in order to survive and thrive (Denyer, 2017). Accordingly to Worley and Jules (2020), organizations should be resilient in volatile, uncertain, complex and ambiguous (VUCA) environments to solve their problems.

An example of an everyday problem as mentioned in the study of Verhoeven (2019) is the problem of a train conductor and how he solves it. He gives a couple traveling without a valid train ticket a warning instead of a fine. The couple is unaware of the invalid tickets and feel bad when they find out their ticket is invalid. They even never want to travel by train after this incident. Because the train conductor himself seeks a solution to the problem, he acts proactively. However, because the train conductor solved this problem himself, the NS management does not get a view of the problem of invalid tickets.

According to economist Albert O. Hirschman (1970), there are two different ways of dealing with a problem within an organization. They are known as problem-solving strategies. These are strategies that convert a current situation into a goal situation through the cognitive process when there is no obvious solution (Mayer, 2006). There are two possible responses when an employee

encounters a problem in an organization: leave without seeking a solution (i.e., exit) or discussing the problems and trying to deal with them (i.e., voice). However, according to Bateman and Crant (1993), there is a third response where proactive employees are part of the problem-solving within the organization and provide environmental change (i.e., proactivity).

The train conductor may choose to issue a fine. This solution strategy costs him the least extra energy, he is trained for this and this is the standard way of approach. Because he follows his employer's problem-solving strategy and has no input into the strategy himself, it is also called disengaged.
By engaging with the couple and asking questions, the train conductor comes up with a solution to the problem himself. He gives them a warning and asks them to still check in when changing trains to make sure that they pay for the trip, without experiencing the shame of receiving a fine. By solving the problem with his own interpretation, the conductor is solving the problem proactive.
This above situation indicates that an employee has the ability to choose between different problem-solving strategies. In addition, the employee's choice therefore also has different outcomes for the problem. Proactive problem solving also has drawbacks. Because after the train conductor solves the problem, the management of NS is still unaware of the unclear information on the tickets.

It is important for the functioning of an organization to understand which problem-solving strategy an employee chooses. For instance, the problem-solving strategy exit leads to failure to solve the problem (Hirschman, 1970). And silencing a problem raises several organizational problems (Milliken, Morrison & Hewlin, 2003). Excessive voice behavior will lead to management overload, where too much proactive behavior will lead to employee overload (Ghitulescu, 2018). Internal problems can damage the company's reputation as well as the company's performance. Therefore, the management of organizations should encourage employees to voice problems in order to prevent unethical actions of the organization that may lead to a crisis (Mayer, Nurmohamed, Treviño, Shapiro & Schminke, 2013). In addition, proactivity would also not contribute to an ethical work environment, since problems are solved by employees, but the management knows nothing about the problems. This is because

employees often do not feel competent to report a problem to their boss or management (Morrison, 2014). Besides, employees should also not report all minor problems to management.

The choice of which problem-solving strategy the employee takes depends on how they perceive their professional role (i.e., role perceptions). Behavior within organizations is driven by role perceptions: employees will ignore a problem when they think it is not their job to solve it (psychological ownership), they are too busy, or they are not involved (McShane & Von Glinow, 2011). Within this study the occupational role perceptions that could influence problem-solving strategies are investigated. As previously reported, it is important that problems are voiced and ultimately resolved to maintain a good reputation and ethical work climate of the organization (Mayer et al., 2013; Qi & Liu, 2017). Furthermore, employee involvement such as problem-solving would ensure higher organizational performance (Sofijanova & ZabijakinChatleska, 2008).

As stated above, different factors can affect the problem-solving strategies that employees adopt. Within this study, it is examined whether occupational role perceptions (role clarity, work engagement and work pressure) affect psychological ownership which in turn affects problem-solving. According to Pierce, Kostova and Dirks (2001) psychological ownership reflects the relationship between a person and target, where there is a close connection between the target and the person itself. In this study, the target is immaterial as it is about the extent to which an employee considers a problem of the organization to be his own. Thereby, an employee's role perception affects psychological ownership (Olckers & Du Plessis, 2012). To investigate this, the following research question is formulated:

What is the impact of occupational role perceptions on problem-solving strategies through psychological ownership of the problems?

This research is scientifically relevant because it adds knowledge to existing knowledge about problem-solving strategies, since research has been done on the effect of role clarity on an employee's proactivity (Wang, Wang & Xu, 2022) and on the relationship between role clarity and job performance (Whitaker, Dahling & Levy, 2007), but not on the effect that role clarity has on problem-solving strategies and the influence of psychological ownership. Research has also been conducted on the relationship of work engagement and job performance (Zhang, Qiu, Zhang & Li, 2019), but it did not address problem-solving strategies and the psychological processes of role perception and psychological ownership that may explain these choices. Lastly, research has shown that when an employee experiences a high work pressure, they become less creative in problem-solving (Michie, 2002). But again, no research has been done on the relationship between work pressure and problem-solving strategies. Additionally, this study includes the effect of role-clarity, work engagement and work pressure through psychological ownership on problem-solving strategies.

In addition, this research is of social relevance as it enhances problem-solving capabilities within organizations, and it helps to understand why some employees manage to solve problems and others fail. When an employee has the opportunity to discuss problems with the management, this will contribute to job performance and thus ultimately to problem-solving performance within the organization (Constantin & Baias, 2015). However, the self-solving of problems is effective when the problems are also reported to the management. When problems are silenced, it will negatively affect the performance of the organization and communication will deteriorate (Beheshifar, Borhani & Moghadam, 2012). When this does not happen, proactivity can have a dark side, such as emotional problems and workload for the employee or problems for the organization (Parker & Bindl, 2017). Therefore, it is important to find a balance between voicing a problem towards the management and having a proactive work attitude, in which this research will provide more insight. Based on a study by Ayres and Malouff (2007), problem-solving training caused employees to be better at solving problems (e.g. proactivity), naming their problems (e.g. voice) and being more engaged with problems (e.g. psychological ownership) which increased their level of job satisfaction. This will ultimately lead to improved resilience in

an organization. Finally, this research provides insight to organizations facing problems, allowing problem-solving to be detected and resolved more quickly in the future. And conversely, this gives employees a better understanding of how to deal with problem-solving within an organization.

2. Theoretical framework

The beginning of this chapter addresses problem-solving, followed by a section dealing with problem-solving strategies. In the third section, the independent variable will be discussed, occupational role perceptions. Finally, the proposed underlying process, psychological ownership, will be discussed. Hereafter, the different (sub)hypotheses will be substantiated using literature and theories. Lastly, the conceptual model for this study is presented.

Problem-solving

Problem-solving is a cognitive process that occurs when someone does not have a good solution to a problem (Mayer, 2006). In addition, he says problem-solving has four main characteristics: It is cognitive because it takes place in a person's thought process; It is a process because knowledge is invoked and manipulated in a person's mind; It is directed because the solution is guided by one's goal. Finally, problem-solving is personal, because everyone has different knowledge, different motivations, and abilities to overcome the obstacles of problems. Problem-solving of employees within an organization depends on satisfaction and motivation. When an employee's job satisfaction is high, they will work more productively, which will lead to more problem solving, which will ultimately improve organizational performance. In other words, there is a relationship between job satisfaction and organizational performance (Latif et al., 2013). It can therefore be said that problem-solving is an important element within organizations, because when it is not or not properly performed it can have a negative impact on organizational performance.

Problem-solving strategies

To overcome problems, the solver should use a problem-solving strategy (voice, proactivity or disengagement). This can be either a choice of one of the strategies, or sometimes a combination of different strategies is made.

As Hirschman (1970) described it, problem-solving strategies are strategies that shape a current situation to a goal situation through the cognitive process, when there is no proper solution. Although Hirschman (1970) only distinguishes between exit and voice, within his study, voice is split into two different problem-solving strategies. Firstly, voice is reporting a problem to the

boss or manager. Secondly, voice may also involve the proactive management of the problem which will be called proactivity within this study as in the study by Bateman and Crant (1993). In addition, within this study, the term exit will be referred to as disengagement. For the purposes of this study, the three following problem-solving strategies will be discussed:

A. Proactivity: taking initiative oneself to improve current or future situations and solve the problem (Crant, 2000; Frese & Fay, 2001).
B. Voice: upwards expressing a problem or dissatisfaction both verbally and in writing (Zuindeau, 2009; Tangirala & Ramanujam, 2012).
C. Disengagement: avoiding an unpleasant situation or distancing oneself from the problem or its cause (Hirschmann, 1970; Zuindeau, 2009).

Proactivity

Proactivity refers to proactive work behavior, which is goal-driven behavior that allows for change (Urbach, Den Hartog, Fay, Parker & Strauss, 2020). To achieve this change, employees must make proactive goals such as; they must feel they can achieve their proactive goals, they must have a good reason to take the risk and they must feel activated to become proactive (Urbach et al., 2020).

Different employees initiate proactive problem solving to a varying degree, because proactive behavior is initiated by a person himself and is linked to personal values and interests. In addition, proactive behavior is a tool for achieving goals, such as improving your career or work effectiveness (Wu, Parker, Wu, & Lee, 2018).

Findings from research by Joo and Bennett (2018) show that proactivity is a very important behavior within an organization that ensures many positive outcomes for both the organization and the employee. They argue that a proactive employee would have more organizational commitment (psychological ownership) and higher in-role job performance (Bakker, Tims & Derks, 2012).

Voice

Voice was first linked with union representation, as someone represented the voice of the people. But today, voice is widely used in the workplace as employee voice. Employee voice refers to how employees communicate with managers, the influence employees have on decision-making in the organization and the opportunity employees have to express their concerns about their work (Wilkinson, Donaghey, Dundon & Freeman, 2014).

There are many benefits to employee voice when executed in the right way. For example the top of the organization gets more feedback (Ruck, Welch & Menara, 2017). Research by Ruck et al. (2017) found a positive relationship between upward employee voice and emotional organizational engagement (psychological ownership). In addition, employees who choose voice strategies have been found to have higher job satisfaction and organizational commitment, and lower intention to exit the organization (Astvik, Welander & Hellgren, 2019). Following, there is a relationship between job satisfaction and organizational performance according to Latif et al. (2013). So an employee's use of more voice strategies will ultimately lead to higher organizational performance.

When voice is not handled well by managers, there can also be a whole range of negative consequences, like employees not feeling heard, resigning or the organization's reputation being damaged. In extreme cases, employees can now become whistleblowers in which they bring out negative information about the organization and damage its reputation even more (Shahinpoor & Matt, 2006).

Employees still often choose to remain silent on issues also known as silence rather than voice. This can be explained by various studies. For instance, Hirschman (1970) argues that loyal employees stay and suffer even though they are dissatisfied, because they believe that everything will get better soon. Organ (1990) argues that sportsmanship is the explanation of silence, as employees withhold work-related ideas, information and opinions. Gao, Janssen & Shi (2011) argue that the more trust an employee has in their leader the more voice behavior is encouraged. Deter and Edmondson (2011) say that research has shown employees take voice for granted because they find it risky or inappropriate.

While there are many theories about why employees stay silent, it is in fact important for the organization that they adopt voice behavior. Not only are important issues left unaddressed but

both human and economic cost can be held back. Poor choices are made, ideas are not realized and critical assumptions remain unanswered (Wilkinson et al., 2014).

Disengagement

Almost a quarter (24%) of global workers are disengaged (Imperatori, 2016). There are several reasons why employees are disengaged. For example external environmental reasons, such as government instability. Psychological reasons, for instance lack of identification with the organization. Organizational causes, such as poor working conditions. And other reasons, for instance illness, laziness or conflicts (Govindarajo & Ramulu, 2014).

When an employee is unable to identify with the organization or feels meaningfulness at work it leads to disengagement, according to research by Pech and Slade (2006). An employee's disengagement is additionally found to increase when there is no trust in the manager. Disengagement of an employee leads to reduced productivity of the employee as well as damage to the organization (Rastogi, Pati, Krishnan & Krishnan, 2018). Furthermore, disengagement within the organization reduces productivity and profitability and causes stress (Wolff, 2019). Disengagement in this study means the absence of voice and proactivity, which means an employee is distancing himself from the problem.

Occupational role perceptions

Organizational behavior, such as problem-solving is, to a large extent, driven by role perceptions (McShane & Von Glinow, 2011). Role perceptions become clearer according to McShane and Von Glinow (2011) when employees understand what tasks they are responsible for, know their performance expectations and understand the procedures for tasks. After all, roles consist of expectations. People are primarily motivated at work to meet those expectations (Dierdorff & Morgeson, 2007). The term role indicates the expectations that other people have of the holder of that role. Those expectations create perceptions for the role holder and the perceptions guide the role holder's behavior. Role perceptions can thus be defined as general expectations that exist among others, which the role holder considers acceptable and which influence their behavior at work (Donsbach, 2008).

In addition, an employee's role describes their responsibility (McShane & Von Glinow, 2011). Having a sense of responsibility is according to Jussila, Tarkiainen, Sarstedt and Hair (2015) associated with psychological ownership. The role of an employee thus determines whether a person feels responsible for a problem in the organization.

Within this study the following occupational role perceptions that could influence problem-solving strategies are investigated:

1. Role clarity: involves role-relevant information present or absent (Lyons, 1971), or in other words whether an employee clearly understands what responsibilities they have within their role (Bray & Brawley, 2002).
2. Work engagement: adding the employee's own identity to the work role, as the employee can express themselves in their work role. But also, that the work role gives freedom and consent to express themselves in their work role (Kahn, 1990; Kahn, 1992).
3. Work pressure: the sense of high job demand that never seems to go away, including strict deadlines that employees must adhere to (Carayon & Zijlstra, 1999).

Psychological ownership

Psychological ownership will be defined within this study as the extent to which an employee considers a problem of the organization as his or her own (Shukla & Singh, 2015).
As described earlier, higher psychological ownership among employees creates a greater sense of responsibility, which in turn leads to higher job performance (Olcker & Plessis, 2012).
One who has work-based psychological ownership will not withhold knowledge (Peng & Pierce, 2015), so will not silence problems and will not be disengaged. Namely, psychological ownership at work is a key driver of voice behavior (Andiyasari, Matindas & Riantoputra, 2017).
In addition, greater sense of responsibility associated with psychological ownership will lead to proactivity in the form of extra role behavior of employees (Vandewalle, Van Dyne & Kostova, 1995).

Because disengagement is understood as absence of voice and proactivity, no hypothesis (H1c, H2c and H3c) will be compiled about the relationship between occupational role perceptions and disengagement.

The relationship of role clarity with problem-solving strategies through psychological ownership

In the first place, a proactive employee ensures a higher job performance (Crant, 1995). Role clarity ensures that employees know what their responsibilities are (McShane & Von Glinow, 2011). According to Jussila et al. (2015), responsibility is associated with psychological ownership in general. In addition, Vanderwalle et al. (2016) argue that a sense of responsibility accompanied by psychological ownership is more likely to lead to proactive actions.
Van Dyne and Pierce (2004) argue that possessive feelings create proactive behavior among employees. In this case, those possessive feelings of an employee may be the ownership of problems within the organization. In addition, the research of Peng and Pierce (2015) reinforces this as they say there is a negative relationship between psychological ownership and counterproductive work. Which means that psychological ownership actually ensures productivity. Furthermore, according to research by Vanderwalle et al. (2016), psychological ownership is a predictor of extra-role behavior. Based on the aforementioned studies, the following hypothesis was established:

H1a: Role clarity leads to more proactive behavior through psychological ownership

According to Bhuian, Menguc and Borsboom (2005), when there is a lack of role clarity, employees perform more poorly within an organization. Role ambiguity, the opposite of role clarity, causes a lack of commitment and involvement within an organization (Jackson & Schuler, 1985). The results from previous studies are confirmed by research by Bray and Brawley (2002), who states that an employee's higher role clarity ensures better job performance. According to Pierce et al. (2001), an employee's sense of psychological ownership creates a feeling of responsibility to devote time and energy to the organization. As a consequence, psychological ownership has a positive impact on an employee's job performance (Md-Sidin,

Sambasivan & Muniandy, 2009). Within this study, problem-solving is a component of job performance. As described earlier, a clear role creates more responsibility (McShane & Von Glinow, 2011), which in turn leads to more psychological ownership (Vanderwalle et al., 2016). Research by (Zheng, Jiang, Zhao & Lyu, 2022) shows that psychological ownership has a mediating role on the relationship between role ambiguity and job performance of employees. The ability to voice problems to management, creates higher job engagement (Rees, Alfes & Gatenby, 2013). According to research by Rich, Lepine and Crawford (2010), higher job engagement in turn improves employee job performance. In addition, higher job performance ensures that an employee is more likely to voice a problem (Ng & Feldman, 2011). Based on the above studies, the following hypothesis was established:

H1b: Role clarity leads to more voice behavior through psychological ownership

The relationship of work engagement with problem-solving strategies through psychological ownership

Work engagement is seen as something positive as it has many good outcomes both for employees and the organization (Bakker & Albrecht, 2018). Employees who are engaged with their work have better in-role tasks performance and are of a higher probability to innovate (Bakker & Albrecht, 2018). When employees are engaged in their work and the organization feels like an extension of themselves (strong psychological ownership) they are more likely to take initiative or improve things (Kwon, Farndale & Park, 2016). Psychological ownership, according to Liu, Chow, Zhang and Huang (2017), has a positive relationship with an individual's innovative behavior. Based on this, it can be argued that an engaged employee is more innovative, leading to a higher sense of psychological ownership.

In addition, psychological ownership creates feelings of "mine" and this in turn creates proactive behavior (Peng & Pierce, 2015). A consequence of the sense of psychological ownership is to protect the target and thus encourage proactive behavior on the part of the employee (Pierce & Jussila, 2012). Thereby, psychological ownership encourages the employee to expand their territory and thus be more proactive and work engaged (Chen et al., 2022). Furthermore, Bakker and Albrecht (2018) shows that employees who are engaged are more likely to help colleagues. Based on the above literature, the following hypothesis was established:

H2a: Work engagement leads to more proactive behavior through psychological ownership

Research by Schaufeli and Bakker (2004) states that lacking job resources, such as not having job control also referred to as not being able to give voice is associated with disengagement. Voice that is direct to management and thus upwards has a positive relationship with work engagement, according to the study by Kwon et al. (2016). Which implies that when an employee has more voice they will be more engaged with their work. In addition, research by Rees et al. (2013) states that there is a positive relationship between employee voice and work engagement, and that it is mediated by the trust the employee has in management.
Voice behavior can be risky because it can lead to face loss for the employee, because voicing a problem can be seen as not maintaining harmony according to Ward, Ravlin, Klaas, Ployhart and Buchan (2016). Work engagement increases arousal, activation, persistence, alertness, and action readiness (Gorgievski, Antonio Moriano & Bakker, 2014). In other words, only when an employee is engaged would they dare to risk to voice a problem for the sake of the organization. Evidence has shown that there is a positive relationship between psychological ownership and extra-role behavior (Andiyasari et al., 2017). In addition, O'driscoll, Pierce & Coghlan (2006) confirmed this with his study showing that there is a positive relationship between psychological ownership and voice behavior. Based on these studies mentioned above, the following hypothesis was established:

H2b: Work engagement leads to more voice behavior through psychological ownership

The relationship of work pressure with problem-solving strategies through psychological ownership

A high work pressure can make an employee feel insecure about whether they will get all their work done. This can cause frustration and anxiety (Gudermann, 2011). In addition, a high workload can cause a blockage towards the employee's goal, as they have to leave work unfinished due to the workload (Gudermann, 2011). Research by him shows that employees who experience a high work pressure are less committed to the organization. And employee commitment is precisely important for psychological ownership, the more committed an employee is the more ownership they feel (Olcker & Du Plessis, 2012).

In addition, research indicates that job stressors such as high workload show low psychological detachment in employees (Sonnentag & Fritz, 2014). Thereby, hindrance stressors such as problems occurring in the workplace cause negative job performance of the employee (Liu et al., 2013).

When an employee has psychological ownership it will lead to more organizational commitment (Mayhew, Ashkanasy, Bramble & Gardner, 2007). A passive employee is not interested in doing their job to achieve the right outcome (Lazar, Alphonse & Paul, 2018). It can thus be argued that by having less psychological ownership, there is less organizational commitment which makes an employee more passive. In addition, according to Lazar et al. (2018), passive employees are not assertive and direct towards their managers, for example, they do not ask questions because they are afraid of coming under pressure. With insight into previous studies, the following hypothesis is established:

H3a: Work pressure leads to less proactive behavior through psychological ownership

An employee with a high work pressure is less committed to the organization (Gudermann, 2011), the less commitment an employee has the less psychological ownership they will feel (Olcker & Du Plessis, 2012).

A response to high workload among employees is stress. This stress in turn causes poorer performance among employees within the organization (Rana & Munir, 2011).

Research by Ng and Feldman (2011) shows that there is a negative relationship between workplace stress and voice. A high workload therefore leads to workplace stress, which in turn leads to less psychological ownership, which results in less voice behavior.

When an employee experiences high work pressure, they only have little spare time (Reid & Nygren, 1988). They will no longer take on extra-role behavior, such as problem solving as employees no longer have time to do this. In addition, the lower sense of psychological ownership also ensures that employees do not engage in extra-role behavior (Vanderwalle et al., 2016). Based on the above literature, the following hypothesis was established:

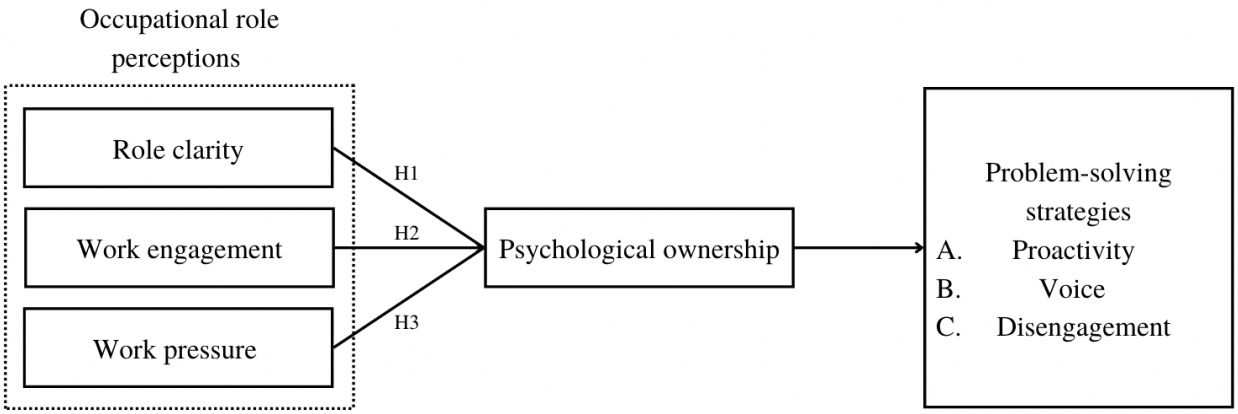
H3b: Work pressure leads to less voice behavior through psychological ownership

Conceptual framework

The conceptual model prepared for this study is shown below (Figure 1). Here, the independent variables are occupational role perception (role clarity, work engagement and work pressure). The mediator is psychological ownership. The dependent variable is problem-solving strategies, which can be divided into voice, proactivity and disengagement.

Figure 1

Conceptual model



3. Method

In order to study in the case of which problems respondents used which problem-solving strategy, a survey was conducted with three independent variables (role clarity, work engagement and work pressure), a mediating variable (psychological ownership) and three dependent variables (problem-solving strategies: disengagement, voice and proactivity). This research has a cross-sectional design. For this study, a survey was distributed to 314 respondents to gain an insight on the relationships between role clarity, work engagement and work pressure through psychological ownership on problem-solving strategies. The survey can be found in appendix 1 in which participants answer questions about real problems in the workplace .

Sample

Participant selection was a convenience sample and respondents were recruited using snowballing. The survey was sent out through different channels such as WhatsApp, email, Twitter, LinkedIn and Facebook to collect as many different respondents as possible. In addition, a poster was created with a QR code. For this study, 314 participants were collected so that the sample would provide a reliable representation of the population.

To outline the research population, there were a number of requirements that had to be met to participate in the study. First, participants had to be working within an organization, all occupations were included. In addition, they had to have experienced a problem in the workplace in the past. Participants had to be at least 18 years or older to participate in this study, so only adults were included. As a final requirement, the participant had to work 8 hours per week within the same organization.

Demographic data

The survey was started by 314 respondents, of which 119 completed the survey in entirety and were therefore included in the study (n = 119). There are 195 dropouts, as they opted out while filling in the survey. These either stopped completing a particular question themselves, so they did not complete the entire survey. Or they were led to the end of the survey by giving an

unwanted answer, which meant that the respondent did not fulfill the requirements to participate in the survey. Apparently, participants had difficulties identifying problems.

The mean age of the participants was 35 (*SD* = 14.1) with the youngest respondent being 20 and the oldest 68 (range = 48). In addition, 52.9% of the respondents were women and 47.1% were men. No one identified themselves as 'other' or preferred not to say so. The majority of respondents entered scientific education as their highest level of education (58%). After which 31.9% of respondents filled in university of applied sciences, 8.4% vocational education and only 1.7% high school.

On average, respondents worked 30 hours and 48 minutes per week (*SD* = 13.1). The sectors the respondents work in will be shown below in a frequency table to create a clear overview. Most respondents worked in the health and welfare sector (21%). The largest group after this filled in 'other' (16.8%). Some examples of which sectors respondents filled in here were; consultancy, photography and the events sector.

Table 1

The percentage of respondents in each sector

Sector	Frequency
Health and welfare	21%
Trade and services	15.1%
Education, culture and science	15.1%
Tourism, recreation and hospitality	8.4%
Engineering, manufacturing and construction	7.6%
Transport and logistics	6.7%
CIT	5%
Media and communication	5%
Justice, security and public administration	4.2%
Agriculture, nature and fisheries	0%
Other	16.8%

Procedure

The data of this study were collected through a survey. The survey consisted of 10 different blocks that collected all necessary data, with all variables operationalized separately. The survey was created through the Qualtrics program, so that it could be taken online within a maximum of 7 minutes. Before the survey, participants were given a brief explanation, but the exact purpose of the survey was not named to avoid bias.

First, some demographic data were requested from the participant. Such as gender, age and highest level of education. Here, age was a necessary question, as participants had to be 18 years or older to participate in this study.

In the following block participants were asked whether they were employed (paid work) at the time of filling in. In addition, the sector in which the participant works was asked. The average number of hours per week the participant worked within this organization was also asked. These questions were asked at the beginning of the survey, so participants who did not meet the requirements were filtered out after this first block.

In a subsequent block, the problem was indicated. There was first a short explanation of what problems are meant within this study and brief examples were given. The participant was then asked to think back about the situation and describe the problem in as much detail as possible. The participant was then asked to write down in as much detail as possible how they solved this problem. They then were asked how long ago the problem took place.

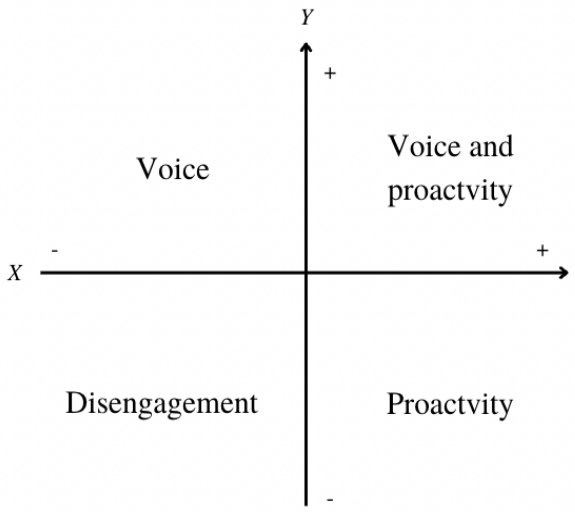
Measures

After identifying and retrieving the problem in the participant's mind, problem-solving strategies were measured: voice, proactivity and disengagement. The participants were asked what they did when this problem occurred within their team within the organization where the participant was working at that time. The response options consisted of two scales on voice (reporting the problem to the management but not solving it yourself) and proactivity (solving the problem yourself without reporting it to the management). To measure voice, they were asked to what extent they agreed with the following statement "I reported this problem to my supervisor before it was resolved.", this could be answered using a 7-point scale (1 = strongly disagree; 7 =

strongly agree). To measure proactivity, they were asked to what extent they agreed with the following statement “I have solved this problem myself.”, this could be answered using a 7-point scale (1 = strongly disagree; 7 = strongly agree). In this way, an XY model (Figure 2) emerged in which voice, proactivity, disengagement (nor voicing or solving the problem) or a combination between voice and proactivity (reporting the problem to the management and solving it yourself) arise from the model.

Figure 2

XY model of proactivity and voice



X: Proactivity
Y: Voice

Thereafter, it was measured how much psychological ownership the participant felt about the organization they worked for. This was measured using a scale similar to that used in research by Shukla and Singh (2015). This scale consisted of 12 statements that measured affection, connectedness and obligation in relation to the organization the participant worked at. Participants were able to respond to the statements using a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree).

In the next block, the independent variable role clarity was measured using a scale similar to that used in the study of Rizzo, House, and Lirtzman (1970). Within their research, 15 statements were listed that identified a participant's role ambiguity; these were not all adopted in this study. Only 6 of them were adopted in this study to measure role clarity, because they were used as a scoring factor. The participant was asked to answer the statements using a 7-point Likert scale (1 = Strongly disagree; 7 = strongly agree).

Following this, the independent variable work engagement was measured using Schaufeli, Bakker and Salanova (2006) Utrecht Work Engagement Scale (UWES). This original scale consisted of 17 statements. But only 9 statements of the shortened version (UWES-9) were adopted in this study to measure the participant's work engagement. The participant was asked if they ever had to deal with the described statement in the workplace, if the answer was ‘No’ they filled in ‘0’ (= never). When they did deal with the described statement they filled in '1' (= almost never) to '6' (= always).

Finally, the independent variable work pressure was measured using the subjective workload assessment technique (SWAT). This scale consisted of 3 questions about time load, mental effort load and psychological stress load (Reid & Nygren, 1988). These were measured by the participant choosing an already written answer (a, b or c) for each of these levels which best fits their situation when the participant thinks about their situation in the workplace.

At the final block, participants were thanked for their participation in this study. in addition, they were given the opportunity to leave their email address, if interested in a summary of the results.

Table 2

Overview measures, items, Cronbach's alpha and source of the scale

Measures	#Items	Item example *x* =	Cronbach's alpha	Source scale
Voice	1	I reported this problem to my supervisor before it was resolved.		
Proactivity	1	I solved this problem myself.		
Psychological ownership	12	I feel that I belong to this organization.	α = .896	Shukla & Singh (2015)
Role clarity	6	I know exactly what is expected of me.	α = .676	Rizzo, House & Lirtzman (1970)
Work engagement (UWES)	9	I am excited about my job.	α = .943	Schaufeli, Bakker & Salanova (2006)
Work pressure (SWAT)	3	a. I often have leisure time. b. I have leisure time occasionally. c. I almost never have leisure time.	α = .557	Reid & Nygren (1988)

Statistical analysis

The independent variables were analyzed by a multiple regression. In this, role clarity and work engagement were ordinal scales and work pressure nominal. The mediating variable was measured with SPSS Process Macro. Psychological ownership has an ordinal scale. Finally, the dependent variables were analyzed with Pearson's correlation. Both voice and proactivity were ordinal scales.

4. Results

This chapter shows the results of this study. First, it described what problems respondents experienced, using a frequency table. Then a correlation table is shown, to show the strength of any correlations between variables. Finally, hypothesis testing was carried out through a multiple regression analysis and SPSS Process Macro.

Problem indication

In the survey, respondents (n= 119) formulated their problem in as much detail as possible. The researcher analyzed the problems and assigned them to different categories in order to get a clear overview. Several problems fall within the categories. For instance, most respondents noted a technical problem (33.6%) in the survey. Technical problems include problems such as computers not working, equipment failing or servers not working. For example, one respondent reported; "My computer stopped working, so I did not meet my deadline".

There were also many interpersonal problems (26.9%) reported by respondents. Interpersonal problems include problems with colleagues or managers in the workplace. An example of an interpersonal problem mentioned by one respondent was; "I did not receive feedback on my questions asked through the mail".

The problem category unforeseen circumstances (23.5%) include problems such as bad weather conditions, public transport problems or illness. As an example, one respondent cited the following problem as an unforeseen circumstance; "The train was delayed which made me late for work".

For this category the problems are divided into is staffing shortage (10.1%). This includes problems that cause an increased workload due to shortage of staff. For instance, one respondent described; "Due to understaffing, I developed burnout symptoms which made me unable to do my job".

The fewest respondents reported a logistical problem (5.9%). Logistical problems included things such as problems with transport or materials not being located in the right place. An example of a logistics problem one respondent mentioned in the survey was; "We had too much stock in the warehouse, so it got in the way and we were unable to find other items".

Table 3

Definitions of problem categories with examples and frequencies

Problem category	Definition	Source definition	Example	Frequency
Technical problems	“A problem involving the way a machine or system works.”	Longman, n.d.	"My computer stopped working, so I did not meet my deadline"	33.6%
Interpersonal problems	“Problems that result from a difference in people's values and morals, personality clashes, or poor communication.”	Indeed, 2022	"I did not receive feedback on my questions asked through the mail"	26.9%
Unforeseen circumstances	“If something was not expected to happen or known about beforehand.”	Collins Dictionary, n.d.	"The train was delayed which made me late for work"	23.5%
Staffing shortage	“A shortage of people to work at a particular business.”	Longman, n.d	"Due to understaffing, I developed burnout symptoms which made me unable to do my job"	10.1%
Logistic problems	“The overall process of managing how resources are acquired, stored and transported to their final destination.”	Business Tech, 2022	"We had too much stock in the warehouse, so it got in the way and we were unable to find other items"	5.9%

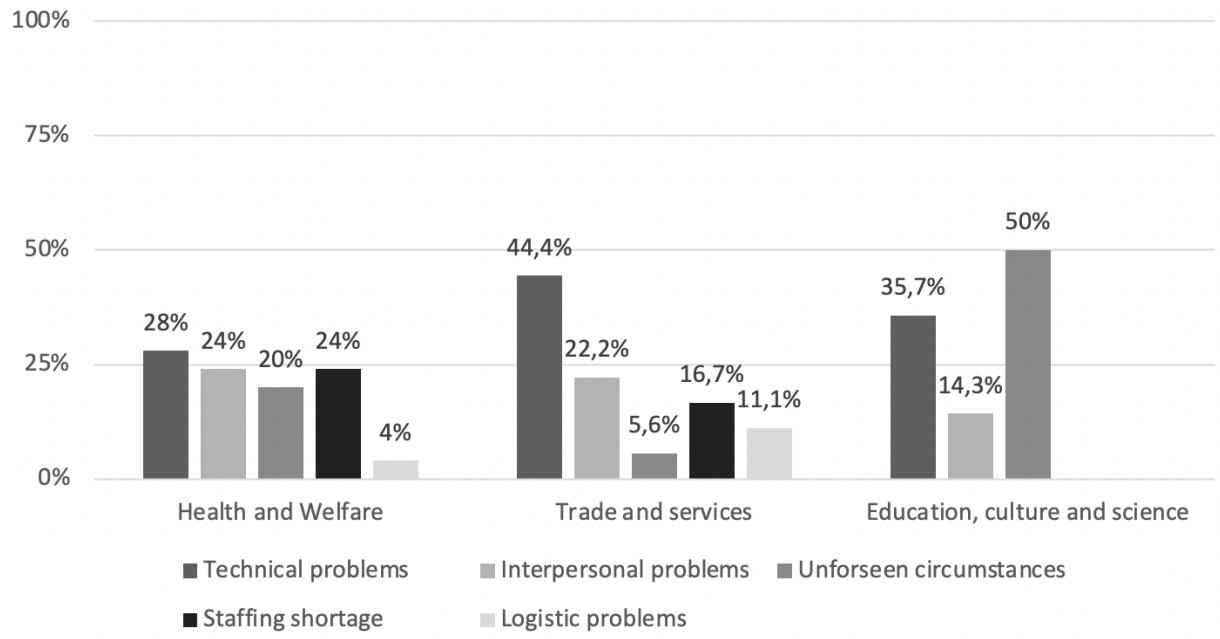
In addition, the study looked at the reported problems of respondents from the three most frequently cited sectors within the survey (as shown in figure 2). In this, it was noticeable that problems within the health and welfare sector were more evenly distributed across problem categories, except for logistical problems. While the trade and services sector had a real outlier, experiencing the most technical problems and the fewest unforeseen circumstances. Within the education, culture and science sector, it was noticeable that all problems only fell into three

problem categories and that these respondents mainly faced unforeseen circumstances and numerous technical problems.

In addition, it was found that half of the staffing shortage problems stem from respondents working in the health and welfare sector. Appendix 2 shows the percentage of each sector affected by each problem category.

Figure 3

Percentage of problems in three major sectors



Correlations table

Besides the hypothesis, this study also measured the interrelatedness of the variables. This was done using Pearson's correlation. This created an overview to see which variables have strong, moderate or weak correlation. Thus, variables with a correlation coefficient between 0.9 and 1 are very highly correlated, between 0.7 and 0.9 highly correlated, between 0.5 and 0.7 moderately correlated, between 0.3 and 0.5 low correlated and everything between 0.3 and 0 is little if any correlated (Field, 2018).

The values that test significantly are shown by an asterisk. Thus, psychological ownership has little to no correlation with proactivity (r = .187, p = .042). Role clarity has a low correlation

with psychological ownership (r = .439, p = .002). Work engagement was highly correlated with psychological ownership (r = .704, p < .001) and a low correlation on role clarity (r = .356, p < .001). Finally, work pressure is little if any correlated with psychological ownership (r = .234, p < 0.05) and work engagement (r = .290, p = .003).

Table 4

Correlations table with mean and standard deviation

Scale	*M*	*SD*	1	2	3	4	5	6
Voice (1)	4.41	2.377						
Proactivity (2)	4.13	2.044	-.128					
Psychological ownership (3)	5.26	.932	-.019	.187*				
Role clarity (4)	5.56	.685	-.007	.116	.439**			
Work engagement (5)	5.43	1.273	-.062	.091	.704**	.356**		
Work pressure (6)	1.87	.480	-.023	.037	.234*	-.002	.290*	

Note. * P < 0.05 ** P < 0.01

Hypothesis testing

The hypotheses were tested using multiple regression analysis; in addition, mediation was tested via SPSS Process Macro.

Hypothesis 1a

H1a: Role clarity leads to more proactive behavior through psychological ownership

Using a multiple regression analysis, H1a was tested. This showed that there was no significant effect of role clarity on proactivity (β = .292, p = .330). However, there was a significant effect of role clarity on psychological ownership (β = .303, p = .002). There was also a significant

effect of psychological ownership on proactivity (β = .408, p = .042). As a result, it can be said that there is an indirect relationship between role clarity and proactivity through psychological ownership, but no direct one.

The mediation model was tested using SPSS Process Macro to examine if psychological ownership mediated the relationship between role clarity and proactivity. First, the results of the regression analysis show that role clarity (independent variable) was a significant predictor of psychological ownership (β = .598, t = 5.266, p < .001). Thereafter, the results of the regression analysis show that psychological ownership (mediator) was not a significant predictor of proactivity (dependent variable) (β = .368, t = 1.656, p = .101). In the next step of the mediation model, the regression of role clarity on proactivity, ignoring the mediator psychological ownership, was not significant, β = .345, t = 1.258, p = .211. Next, while controlling for psychological ownership (mediator), the results of the second regression analysis show that role clarity was not a significant predictor of proactivity (β = .125, t = .411, p = .682). The results of the indirect effect based on 5000 bootstrap samples show a not significant indirect relationship between role clarity and proactivity mediated by psychological ownership ($a*b$ =.220, Bootstrap CI 95% = -.021 and .171).

Hypothesis 1b

H1b: Role clarity leads to more voice behavior through psychological ownership

Using a multiple regression analysis, H1b was tested. This revealed that role clarity has no significant effect on voice behavior (β = -.133, p = .703). However, there is a significant relationship between role clarity and psychological ownership (β = .303, p = .002). In addition, psychological ownership has no significant effect on voice behavior (β = -.048, p = .838).

The mediation model was tested using SPSS Process Macro to examine if psychological ownership mediated the relationship between role clarity and voice. First, the results of the regression analysis show that role clarity (independent variable) was a significant predictor of

psychological ownership (β = .598, t = 5.266, p < .001). Thereafter, the results of the regression analysis show that psychological ownership (mediator) was not a significant predictor of voice (dependent variable) (β = -.050, t = -.189, p = .849). In the next step of the mediation model, the regression of role clarity on voice, ignoring the mediator psychological ownership, was not significant, β = -.024, t = -.076, p = .939. Next, while controlling for psychological ownership (mediator), the results of the second regression analysis show that role clarity was not a significant predictor of voice (β = .006, t = .0158, p = .987). The results of the indirect effect based on 5000 bootstrap samples show a not significant indirect relationship between role clarity and voice mediated by psychological ownership ($a*b$ = -.030, Bootstrap CI 95% = -.356 and -.265).

Hypothesis 2a

H2a: Work engagement leads to more proactive behavior through psychological ownership

Using a multiple regression analysis, H2a was tested. This showed that there was no significant effect of work engagement on proactivity (β = .068, p = .688). However, there was a significant effect of work engagement on psychological ownership (β = .443, p < .001). And there was also a significant effect of psychological ownership on proactivity (β = .408, p = .042). As a result, it can be said that there is an indirect relationship between work engagement and proactivity through psychological ownership.

The mediation model was tested using SPSS Process Macro to examine if psychological ownership mediated the relationship between work engagement and proactivity. First, the results of the regression analysis show that work engagement (independent variable) was a significant predictor of psychological ownership (β = .516, t = 10.687, p < .001). Thereafter, the results of the regression analysis show that psychological ownership (mediator) was not a significant predictor of proactivity (dependent variable) (β = .533, t = 1.895, p = .061). In the next step of the mediation model, the regression of work engagement on proactivity, ignoring the mediator psychological ownership, was not significant, β = .145, t = .984, p = .327. Next, while controlling for psychological ownership (mediator), the results of the second regression analysis

show that work engagement was not a significant predictor of proactivity (β = .129, t = -.629, p = .531). The results of the indirect effect based on 5000 bootstrap samples show a not significant indirect relationship between work engagement and proactivity mediated by psychological ownership ($a*b$ =.275, Bootstrap CI 95% = -.0002 and .569).

Hypothesis 2b

H2b: Work engagement leads to more voice behavior through psychological ownership

Using a multiple regression analysis, H2b was tested. This showed that there was no significant effect between work engagement and voice behavior (β = .184, p = .351). However, there was a significant effect of work engagement on psychological ownership (β = .443, p < .001). No significant effect was found of psychological ownership on voice behavior (β = -.048, p = .838).

The mediation model was tested using SPSS Process Macro to examine if psychological ownership mediated the relationship between work engagement and voice. First, the results of the regression analysis show that work engagement (independent variable) was a significant predictor of psychological ownership (β = .516, t = 10.687, p < .001). Thereafter, the results of the regression analysis show that psychological ownership (mediator) was not a significant predictor of voice (dependent variable) (β = -.316, t = -.949, p = .345). In the next step of the mediation model, the regression of work engagement on voice, ignoring the mediator psychological ownership, was not significant, β = .115, t = .666, p = .507. Next, while controlling for psychological ownership (mediator), the results of the second regression analysis show that work engagement was not a significant predictor of voice (β = .278, t = 1.041, p = .256). The results of the indirect effect based on 5000 bootstrap samples show a not significant indirect relationship between work engagement and voice mediated by psychological ownership ($a*b$ = -.163, Bootstrap CI 95% = -.505 and .161).

Hypothesis 3a

H3a: Work pressure leads to less proactive behavior through psychological ownership

Using a multiple regression analysis, H3a was tested. This showed that there was no significant effect of work pressure on proactivity (β = .107, p = .797). There was also no significant effect of work pressure on psychological ownership (β = .114, p = .383). However, there was a significant effect of psychological ownership on proactivity (β = .408, p = .042).

The mediation model was tested using SPSS Process Macro to examine if psychological ownership mediated the relationship between work pressure and proactivity. First, the results of the regression analysis show that work pressure (independent variable) was a significant predictor of psychological ownership (β = .455, t = 2.587, p = .011). Thereafter, the results of the regression analysis show that psychological ownership (mediator) was not a significant predictor of proactivity (dependent variable) (β = .397, t = 1.920, p = .057). In the next step of the mediation model, the regression of work pressure on proactivity, ignoring the mediator psychological ownership, was not significant, β = .159, t = .402, p = .688. Next, while controlling for psychological ownership (mediator), the results of the second regression analysis show that work pressure was not a significant predictor of proactivity (β = -.022, t = -.055, p = .956). The results of the indirect effect based on 5000 bootstrap samples show a not significant indirect relationship between work pressure and proactivity mediated by psychological ownership ($a*b$ =.181, Bootstrap CI 95% = -.018 and .446).

Hypothesis 3b

H3b: Work pressure leads to less voice behavior through psychological ownership

Using a multiple regression analysis, H3b was tested. This showed that there was no significant effect of work pressure on voice behavior (β = -.255, p = .602). In addition, there was also no significant effect of work pressure on psychological ownership (β = .114, p = .383). And also no significant effect of psychological ownership on voice behavior (β = -.048, p = .838).

The mediation model was tested using SPSS Process Macro to examine if psychological ownership mediated the relationship between work pressure and voice. First, the results of the regression analysis show that work pressure (independent variable) was a significant predictor of psychological ownership (β = .455, t = 2.587, p = .011). Thereafter, the results of the regression analysis show that psychological ownership (mediator) was not a significant predictor of voice (dependent variable) (β = -.014, t = -.057, p = .955). In the next step of the mediation model, the regression of work pressure on voice, ignoring the mediator psychological ownership, was not significant, β = -.113, t = -.245, p = .807. Next, while controlling for psychological ownership (mediator), the results of the second regression analysis show that work pressure was not a significant predictor of voice (β = -.106, t = -.224, p = .824). The results of the indirect effect based on 5000 bootstrap samples show a not significant indirect relationship between work pressure and voice mediated by psychological ownership ($a*b$ = -.006, Bootstrap CI 95% = -.249 and .248).

Conceptual model

Below figure 3,4 and 5 show the conceptual model with the regression coefficient of the hypotheses.

Figure 4

Conceptual model with regression coefficients of H1a and H1b

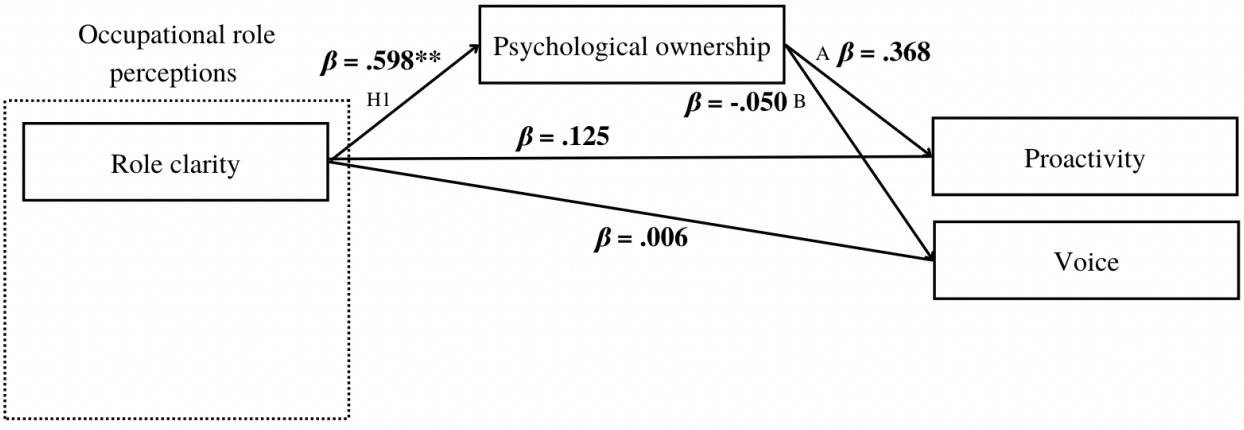


Figure 5

Conceptual model with regression coefficients of H2a and H2b

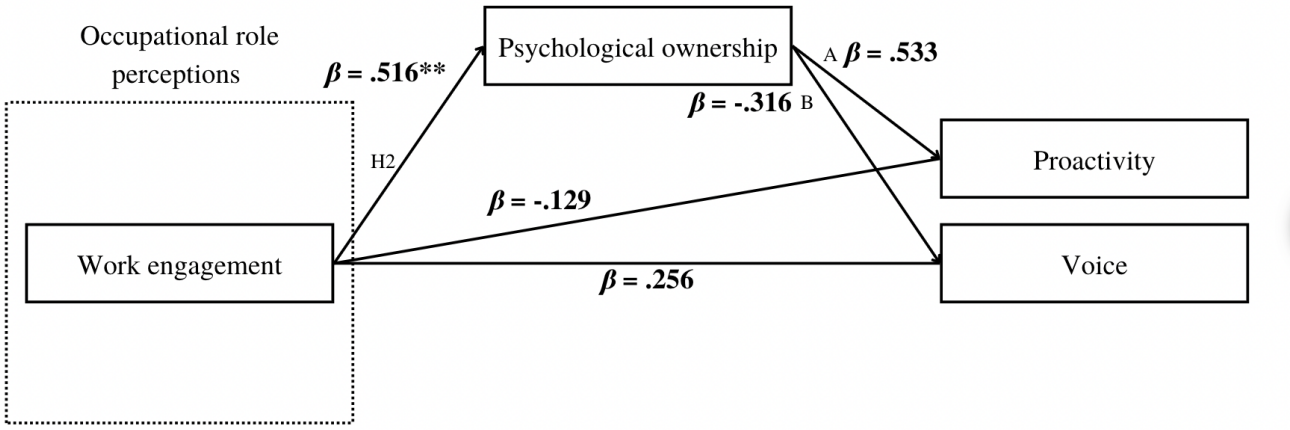
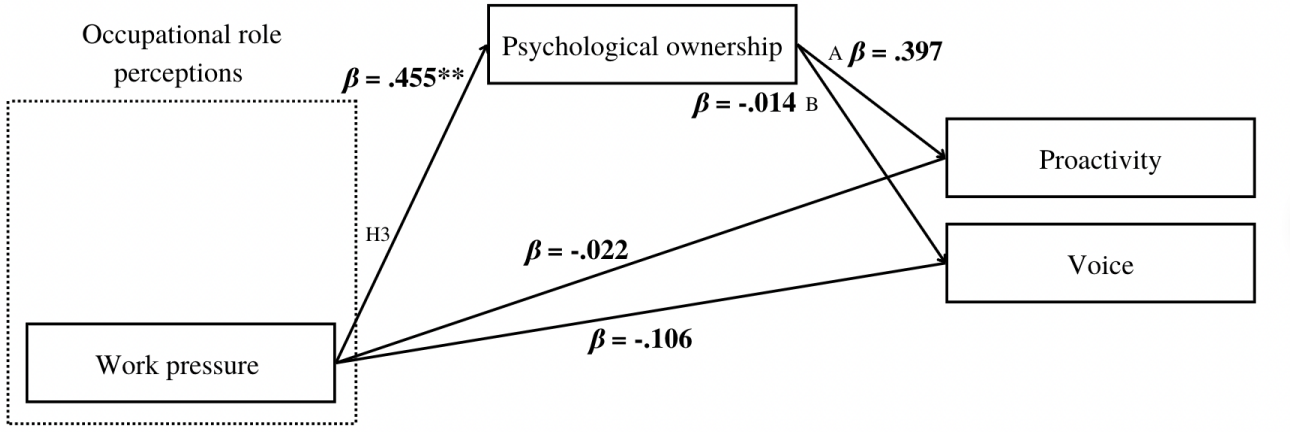


Figure 6

Conceptual model with regression coefficients of H3a and H3b



5. Conclusion and discussion

In this chapter, the conclusion will answer the research question. In addition, the discussion will interpret the results, mention limitations, make recommendations for follow-up research and mention implications.

Conclusion

This study investigated the following research question: '*What is the impact of occupational role perceptions on problem-solving strategies through psychological ownership of the problems?'*
To investigate this research question, a survey was conducted with three independent variables (role clarity, work engagement and work pressure), a mediating variable (psychological ownership) and three dependent variables (problem-solving strategies: disengagement, voice and proactivity).
This study found that occupational role perceptions have no relationship with problem-solving strategies through psychological ownership. All hypotheses were rejected. From this, it can be concluded that occupational role perceptions of employees have no effect on the problem-solving strategies they use through psychological ownership. Which means, therefore, that the role people play at work does not directly determine how an employee solves problems. However, this research did show that problem ownership depends on their role. This shows that problem situations at work are unruly, the solution someone chooses may depend on all sorts of other things that were not included in this study.

Discussion

This study found that occupational role perceptions have a strong relationship with psychological ownership, but that psychological ownership has almost no relationship with problem-solving strategies. The relationship between role clarity and psychological ownership has previously been confirmed by research by McShane and Von Glinow (2011) and Jussila et al. (2015) who argue that a clear role creates more responsibility, and responsibility is associated with psychological ownership. It can therefore be assumed that if roles in organizations are clearly

demarcated, employees will probably also know which colleague is responsible for the problem. However, feeling psychological ownership has consequences. There are positive consequences to feeling. psychological ownership, e.g. job satisfaction would increase, an employee will be more committed to the organization, the employee will initiate and drive change himself and the employee will dare to take more responsibility (Peck & Shu, 2018). According to Peck and Shu (2018), not only will the sense of responsibility be increased but also stewardship behavior. Stewardship means that the employee makes an effort for the well-being of the goal (Peck & Shu, 2018). In this case, the employee makes an effort to solve the problem. Stewardship helps employees stay connected to the purpose of their work, promoting commitment (Simpkins & Lemyre, 2018). Besides, more employee commitment improves organizational performance (Bhatti & Qureshi, 2007).

But in addition, an employee may also feel the negative consequences of psychological ownership. These can be things such as resisting organizational change, hoarding information and knowledge, experiencing stress and feeling the responsibility as a burden (Peck & Shu, 2018). Based on this, it can also be argued that owning a problem can be perceived as negative. This can be explained using the job demands and resources model (Bakker & Demerouti, 2007). When an employee experiences a problem as their problem (problem ownership), this represents a job demand. These would not be problems as long as employees have the job resources to deal with them. According to Bakker and Demerouti (2007), these job demands can cause stress or even burnout symptoms because there are no or too few job resources such as support, time or money.

A clear role creates clear responsibilities, so the employee knows which responsibilities are within the role and which are not (Nandal & Krishnan, 2000). According to Sias and Duncan (2019), it is important that an employee knows the limits of his or her role, otherwise job creep or role expansion may occur. By this they mean that employees feel pressure to do more than the job requirements. So, an employee should set a clear boundary on what they feel responsible for.

Because an employee has a clear role, feels more responsibility it could be thought that they would also solve or report problems. But this turns out not to be the case. A possible explanation for employees' failure to solve problems may be a low self-efficacy (Behjoo, 2013). For example, Behjoo (2013) argues that self-confidence is a characteristic of self-efficacy and indicates a person's ability to handle and solve problems. In this case, employees are likely to have low self-confidence about performing the task or solving the problem (Dedahanov, Abdurazzakov, Fayzullaev & Sun, 2021). In such cases, employees may refrain from solving these problems, even though they may experience problem ownership.

That work engagement and psychological ownership have a relationship has previously been shown in the study of Liu et al. (2017) who stated that an engaged employee is more innovative which will lead to a higher sense of psychological ownership. Since employees are engaged with their work and have a sense of psychological ownership, they may solve or report problems themselves. However, this is not always the case: relationship between problem ownership and problem-solving strategies are weak at best. A possible explanation for why workers then still do not report or solve their problems may be social factors. For example, research by Goa et al. (2011) shows that when an employee does not trust their leader, they are much less likely to report their problem than when they trust their leader. This is because when employees trust their leader, they feel secure about how their leader is going to respond to reporting the problem. This can also be approached using the job demands and resources model (Bakker & Demerouti, 2007). When someone experiences little support from the management but feels responsibility over problems, this is extra burdening as there are many demands but few resources to solve the problem (in this case support).
In addition, a high-power distance hierarchy can also cause a culture of silence and fear in which employees will not report a problem to management because they fear the consequences that come with reporting problems (Hsiung & Tsai, 2017).

That work pressure and psychological ownership have a relationship has previously been demonstrated by research by Gudermann (2011) and Olcker and Du Plessis (2012) who argue

that employees who experience a high work pressure are less committed to the organization, and commitment is important for psychological ownership to develop. Employees who are not committed to their career or their organization, may not feel involved in problems at work (Somers & Birnbaum, 2000). In addition, the problem must be within the responsibility of their role and not outside it (extra-role behavior), otherwise it is someone else's responsibility e.g. that of a colleague (Nandal & Krishnan, 2000; Sias & Duncan, 2019). In other words, employees only experience psychological ownership over a problem when they have some level of commitment to their work (Gudermann, 2011; Olcker & Du Plessis, 2012), and when the problem falls within their responsibilities of their role (Nandal & Krishnan, 2000).

Within this study, it has been assumed that employees experience problems, that challenge them. There are also workers who do not experience (much) problems at work. An example of this is the bore-out phenomenon, this implies an employee is bored and has nothing to do or that work activities cause boredom (Poirier, Gelin & Mikolajczak, 2021). Boredom makes people feel unchallenged because they think the situation and their actions are meaningless (van Tilburg & Igou, 2011). Solving some problems actually makes employees feel challenged (Rushton & Larkin, 2001). According to the flow theory of Nakamura and Csikszentmihalyi (2009), employees experience a pleasant workflow when the degree of challenges matches their skills. To avoid boredom, management must ensure that employees with more skills also experience sufficient challenges and problems as their problem.
In addition, some people are not aware of any problems. This is because they simply do not detect the problems, which also prevents proceeding to action such as problem-solving (Klein, Pliske, Crandall & Woods, 2004).

Limitation

A limitation within this study was the problem description within the survey. Many respondents dropped out here because they probably thought only major problems should be reported. As a result, out of 314 respondents, only 119 were included in the study. Later, the description of the question was modified by giving examples of problems. This made people realize that it could

also be smaller problems and there were fewer dropouts. So, within this study, it was assumed that respondents detect problems, whereas according to research by (Klein et al., 2004), this need not be the case at all.

In addition, a limitation of this study is that the reliability of the scale work pressure is very low, resulting in poor internal consistency. Namely, the Cronbach's alpha of the work pressure scale is $\alpha = .557$. The scale consisted of only 3 questions, so it would have been better to have used another scale to measure work pressure.

Finally, a limitation is that disengagement was eliminated because no voice of proactivity as a problem-solving strategy automatically meant disengagement.

Suggestions for follow-up research

A follow-up study might better use an interview instead of a survey to collect data on descriptions of problems. This would be because people would be more likely to tell more extensively about their problem and are more likely to report a problem.

In addition, it could also be investigated whether years worked at an organization and salary will affect the choice in problem-solving strategies.

Implications

The result of this research is that employers have a clearer view that occupational role perceptions do not influence problem-solving strategies through psychological ownership. For example, an employer now knows that higher role clarity, work engagement or work pressure does not affect the problem-solving strategy employees choose. As a result, they know that they therefore do not need to contribute extra to improving occupational role perceptions to get employees to report more problems or solve them themselves.

As a result, an employer knows that they should actually provide more resources to make the organization more resilient rather than aiming for more psychological ownership (Bakker & Demerouti, 2007).

In addition, this research ensures that employers know that there should be a good balance between reporting and silencing problems. If too many problems are reported, management will

be overburdened. While if no problems are reported, employees will be overburdened. According to Elsaied (2019), employee training can ensure a good balance between employee voice and proactive behavior.

This research bridges the gap between role theory and problem-solving. On the one hand, this is promising because problem ownership depends on one's role, but role perceptions also appear to be insufficient to explain problem-solving behavior.

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Appendix

Appendix 1. Survey

Beste meneer/mevrouw,

Bedankt voor uw deelname aan dit onderzoek! Ik ben Barbara Streppel, masterstudent Communicatie- & Informatiewetenschappen aan Tilburg University. Voor mijn scriptie doe ik onderzoek naar de manier waarop medewerkers problemen oplossen op de werkvloer. Aan de hand van een aantal vragen probeer ik hier inzicht in te krijgen. Er zijn geen goede en slechte antwoorden. Ik ben geïnteresseerd in uw perspectief. De enquête duurt hoogstens 7 minuten en de antwoorden zijn volledig anoniem. De resultaten zullen enkel gebruikt worden voor dit onderzoek.

Mocht u vragen hebben of contact met mij op willen nemen kan dat via onderstaand e-mailadres: b.e.s.streppel@tilburguniversity.edu

Geslacht Wat is uw geslacht?

- o Man (1)
- o Vrouw (2)
- o Anders (3)
- o Wil ik liever niet zeggen (4)

Leeftijd Wat is uw leeftijd?
Noteer uw antwoord in jaren

_____

Opleidingsniveau Wat is uw hoogst genoten opleidingsniveau?

- o Middelbare school (VMBO, Havo, VWO etc.) (1)
- o Middelbaar Beroeps Onderwijs (MBO) (2)
- o Hoger Beroeps Onderwijs (HBO) (3)
- o Wetenschappelijk Onderwijs (WO) (4)

Werkzaam Bent u werkzaam op dit moment?
(betaald werk)

- o Ja (1)
- o Nee (2)

Sector In welke sector bent u werkzaam?

- ☐ Gezondheidszorg en welzijn (1)
- ☐ Handel en dienstverlening (2)
- ☐ ICT (3)
- ☐ Justitie, veiligheid en openbaar bestuur (4)
- ☐ Landbouw, natuur en visserij (5)
- ☐ Media en communicatie (6)
- ☐ Onderwijs, cultuur en wetenschap (7)
- ☐ Techniek, productie en bouw (8)
- ☐ Toerisme, recreatie en horeca (9)
- ☐ Transport en logistiek (10)
- ☐ Anders, namelijk… (11) _

_____

Aantal uur Hoeveel uur per week werkt u gemiddeld?
Noteer uw antwoord in uren

_____

Dit onderzoek gaat over de problemen die u wel eens heeft ervaren op het werk. Dat kan gaan om omstandigheden waarin u uw werk niet goed kon uitvoeren, of waarin het welzijn van uzelf, klanten of collega's werd bedreigd.

Probleem vraag Denk terug aan een probleem op de werkvloer binnen de organisatie waar u op dit moment werkzaam bent en beschrijf het zo gedetailleerd mogelijk.
Dit hoeft geen groot probleem te zijn het kan gaan over situaties waarin u uw werk niet goed kon uitvoeren. Het kan bijvoorbeeld gaan over technische problemen of onvoorziene omstandigheden (computerproblemen, extreem weer, brand alarm etc). Denk aan problemen die ervoor zorgen dat een organisatie minder goed functioneert, dus geen onderlinge conflicten met uw baas of

collega's. Als er verschillende problemen zijn waar u aan denkt, neem dan de meest recente situatie.

_____

_____

_____

_____

_____

Probleem opgelost Beschrijf zo gedetailleerd mogelijk hoe u dit probleem heeft opgelost.

_____

_____

_____

_____

_____

Probleem wanneer Wanneer speelde dit probleem?

- o Afgelopen maand (1)
- o Afgelopen halfjaar (2)
- o Afgelopen jaar (3)
- o Langer dan een jaar geleden (4)

Voice: Geef aan in hoeverre u het eens bent met de volgende stelling

	Volledig oneens (1)	Oneens (2)	Enigszins oneens (3)	Niet mee eens of oneens (4)	Enigszins mee eens (5)	Eens (6)	Volledig mee eens (7)

Ik heb dit probleem aan mijn leidinggevende gemeld voordat het was opgelost. (1)	o	o	o	o	o	o	o

Proactivity: Geef aan in hoeverre u het eens bent met de volgende stelling

	Volledig oneens (1)	Oneens (2)	Enigszins oneens (3)	Niet mee eens of oneens (4)	Enigszins mee eens (5)	Eens (6)	Volledig mee eens (7)
Ik heb dit probleem zelf opgelost. (1)	o	o	o	o	o	o	o

De volgende stellingen gaan over de manier waarop u uw werk ervaart. Het gaat dus niet specifiek over het probleem waar u net over nadacht.

Psychological ownership: Geef aan in hoeverre u het eens bent met de volgende stellingen

	Volledig oneens (1)	Oneens (2)	Enigszins oneens (3)	Niet mee eens of oneens (4)	Enigszins mee eens (5)	Eens (6)	Volledig mee eens (7)
Ik voel dat ik bij deze organisatie hoor. (1)	o	o	o	o	o	o	o
Ik voel me prettig in mijn organisatie. (2)	o	o	o	o	o	o	o

Ik werk met passie in mijn organisatie. (3)	o	o	o	o	o	o	o
Mijn organisatie is als een tweede thuis voor mij. (4)	o	o	o	o	o	o	o
Mijn welzijn is gekoppeld aan het welzijn van mijn organisatie. (5)	o	o	o	o	o	o	o
Ik vertegenwoordig mijn organisatie graag op verschillende plaatsen. (6)	o	o	o	o	o	o	o
Ik beschouw problemen op het werk als mijn problemen. (7)	o	o	o	o	o	o	o
Een positieve opmerking over mijn organisatie klinkt als een persoonlijk compliment. (8)	o	o	o	o	o	o	o
Ik neem eventuele corrigerende maatregelen als er iets misgaat in mijn organisatie. (9)	o	o	o	o	o	o	o

Ik voer mijn inzet op als en wanneer mijn organisatie daarom vraagt. (10)	o	o	o	o	o	o	o
Ik gedraag me tegenover 'buitenstaanders' op een manier die het juiste imago van mijn organisatie uitstraalt. (11)	o	o	o	o	o	o	o
Ik streef ernaar verbeteringen aan te brengen in mijn organisatie. (12)	o	o	o	o	o	o	o

Role clarity: Geef aan in hoeverre u het eens bent met de volgende stellingen die betrekking hebben op uw werk

	Volledig oneens (1)	Oneens (2)	Enigszins oneens (3)	Niet mee eens of oneens (4)	Enigszins eens (5)	Eens (6)	Volledig mee eens (7)
Ik weet wat mijn verantwoordelijkheden zijn. (1)	o	o	o	o	o	o	o
Ik weet precies wat er van me verwacht wordt. (2)	o	o	o	o	o	o	o

Er wordt duidelijk uitgelegd wat er moet gebeuren. (3)	o	o	o	o	o	o	o
Ik weet dat ik mijn tijd goed heb verdeeld. (4)	o	o	o	o	o	o	o
Ik heb duidelijke, geplande doelen en doelstellingen voor mijn werk. (5)	o	o	o	o	o	o	o
Ik voel me zeker over hoeveel ik te zeggen heb op het werk. (6)	o	o	o	o	o	o	o

Work and well-being: Geef aan hoe vaak u de onderstaande stellingen ervaart

	Nooit (1)	Een paar keer per jaar of minder (2)	Een keer per maand of minder (3)	Een paar keer per maand (4)	Een keer per week (5)	Een paar keer per week (6)	Elke dag (7)
Op mijn werk barst ik van de energie. (1)	o	o	o	o	o	o	o
Op mijn werk voel ik me sterk en krachtig. (2)	o	o	o	o	o	o	o
Ik ben enthousiast over mijn baan. (3)	o	o	o	o	o	o	o

Mijn baan inspireert me. (4)	o	o	o	o	o	o	o
Als ik 's morgens opsta, heb ik zin om te gaan werken. (5)	o	o	o	o	o	o	o
Ik voel me gelukkig als ik intensief werk. (6)	o	o	o	o	o	o	o
Ik ben trots op het werk dat ik doe. (7)	o	o	o	o	o	o	o
Ik ga op in mijn werk. (8)	o	o	o	o	o	o	o
Ik laat me meeslepen als ik aan het werk ben. (9)	o	o	o	o	o	o	o

Selecteer de antwoordoptie die het meest toepasselijk is op uw situatie binnen de organisatie waar u werkzaam bent

Tijd belasting

o Ik heb vaak vrije tijd. Onderbrekingen of overlappingen van activiteiten komen niet of nauwelijks voor. (1)

o Ik heb af en toe vrije tijd. Onderbrekingen of overlappingen van activiteiten komen vaak voor. (2)

o Ik heb bijna nooit vrije tijd. Onderbrekingen of overlappingen van activiteiten zijn zeer frequent, of komen voortdurend voor. (3)

Mentale inspanning belasting

- o Er is zeer weinig bewuste mentale inspanning of concentratie vereist. Activiteit is bijna automatisch. Vereist weinig of geen aandacht. (1)
- o Er is matige bewuste mentale inspanning of concentratie vereist. De complexiteit van de activiteit is matig hoog door onzekerheid, onvoorspelbaarheid of onbekendheid. Aanzienlijke aandacht vereist. (2)
- o Uitgebreide mentale inspanning en concentratie zijn noodzakelijk. Zeer complexe activiteit die totale aandacht vereist. (3)

Psychologische stress belasting

- o Er is weinig verwarring, risico, frustratie of angst en er kan gemakkelijk op worden ingespeeld. (1)
- o Er is matige stress als gevolg van verwarring, frustratie of angst en deze zorgt voor een merkbare toename van de werkdruk. Aanzienlijke compensatie is nodig om adequaat te blijven presteren. (2)
- o Er is hoge tot zeer intense stress door verwarring, frustratie of angst. Hoge tot extreme vastberadenheid en zelfcontrole vereist. (3)

Bedankt voor uw deelname!

Mocht u geïnteresseerd zijn in de resultaten, vul dan uw e-mailadres in en dan ontvangt u een samenvatting.

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Appendix 2. Overview of each sector affected by each problem category

Problem category	Frequency	Frequency of sectors facing problem per category	
Technical problems	33.6%	Health and welfare	17.5%
		Trade and services	20%
		Justice, security and public administration	7.5%
		Education, culture and science	12.5%
		Engineering, manufacturing and construction	5%
		Tourism, recreation and hospitality	10%
		Transport and logistics	7.5%
		Other	20%
Interpersonal problems	26.9%	Health and welfare	21.9%
		Trade and services	12.5%
		CIT	9.4%
		Justice, security and public administration	3.1%
		Media and communication	6.2%
		Education, culture and science	6.2%
		Engineering, manufacturing and construction	9.4%
		Tourism, recreation and hospitality	9.4%
		Transport and logistics	12.5%
		Other	9.4%
Unforeseen circumstances	23.5%	Health and welfare	17.9%
		Trade and services	3.6%
		CIT	10.7%
		Justice, security and public administration	3.6%
		Media and communication	10.7%
		Education, culture and science	25%
		Engineering, manufacturing and construction	7.1%
		Tourism, recreation and hospitality	7.1%
		Transport and logistics	3.6%
		Other	10.7%
Staffing shortage	10.1%	Health and welfare	50%
		Trade and services	25%
		Media and communication	8.3%
		Tourism, recreation and hospitality	8.3%
		Other	8.3%
Logistic problems	5.9%	Health and welfare	14.3%
		Trade and services	28.6%
		Engineering, manufacturing and construction	14.3%
		Tourism, recreation and hospitality	14.3%
		Other	28.6%