

“When No One Can Do Your Job, No One Does It Better”

The Impact of Irreplaceability Perceptions on Role Enactment in a Tight Labor Market



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January 2023

Abstract

The labor market is currently very tight in almost all occupational groups, at all (educational) levels, and in all regions in the Netherlands. Employees, therefore, seem to be in a stronger position. However, there has been little to no prior research on what perceived irreplaceability does to employees and whether this knowledge affects role performance and organizational loyalty. This study uses an online survey with a convenience sample to investigate whether people are aware of their current position in the labor market and how they act on this. The following research question was formulated: how does perceived irreplaceability affect employees' organizational loyalty, sportsmanship, and job crafting? To answer this question, several simple regressions and PROCESS mediation analyses were conducted to investigate how employees enact. The results showed that employees are aware of their more powerful position in the labor market. However, irreplaceability for employees seems pleasant and results in more loyalty, which was not expected. This effect can be explained by job crafting and suggests that organizations must facilitate opportunities to engage in job crafting. Using communication theories such as Leader-Member Exchange (LMX) and transformational leadership can strengthen the sense of irreplaceability, which has positive outcomes for the organization. Future research could investigate what employees prefer to change about their jobs and could perform longitudinal research about irreplaceability.

Keywords: irreplaceability, organizational loyalty, job crafting, sportsmanship, tight labor market, fear of unemployment, organizational commitment.

“When No One Can Do Your Job, No One Does It Better”

The labor market tension in the Netherlands is currently at its highest point since 2012 (Centraal Bureau voor de Statistiek, 2022a). Uitvoeringsinstituut Werknemersverzekeringen (2022a) reported that the tight labor market is tight in almost all occupational groups, at all (educational) levels, and in all regions in the Netherlands. This tension has even increased further by the second quarter of 2022. In fact, for every 100 unemployed people, there are currently about 143 job openings. In the second quarter of 2022, there are 11,445 thousand employed and self-employed jobs (Centraal Bureau voor de Statistiek, 2022b).

Whereas unemployment is at its lowest point since 2012, the number of vacancies is currently at 467 thousand. The labor demand exceeds the supply, which results in a tight labor market and a cry for employees (Centraal Bureau voor de Statistiek, 2022b). The biggest tightness is among engineering, manufacturing and construction, electricians, healthcare, and IT industries. In addition, more than half of the vacancies in 2021 were hard to fill, and 61 percent of employers forecast filling vacancies to become even more challenging (Uitvoeringsinstituut Werknemersverzekeringen, 2022a). Since the labor force in the Netherlands is rapidly aging (Tertoolen, 2022), the labor market is expected to become tighter (Charmes, 2021), and this situation might continue for several years. Organizations not only try to recruit scarce talents to fill their vacancies, but they also try to prevent current employees from leaving (Jothi & Savarimuthu, 2022). They focus more on flexible working conditions and pay more attention to employee training and career development (Berenschot management consultancy, 2022).

Because vacancies remain unfilled, employees have many opportunities to transfer to another job. According to the economic theory of supply and demand (Smith, 1776), this situation should empower employees at the expense of the employer's power. In fact, one in three employers expects that retaining employees will become more difficult in the future (Uitvoeringsinstituut Werknemersverzekeringen, 2022b). A higher salary or permanent

contracts are often used to attract talent, but that no longer seems sufficient (Uitvoeringsinstituut Werknemersverzekeringen, 2022a). Furthermore, hiring and training a new employee costs about 50 percent of the employee's annual salary, including a drop in organizational performance (Johnson et al., 2000). These factors suggest that employees are harder to replace and, therefore, in a better position to negotiate better job conditions (Silver, 2003).

Irreplaceable employees believe they have skills that will be challenging for the organization to replace (Balz & Schuller, 2018). Turnley & Feldman (1999) support that employees who feel they perform a crucial organizational task will struggle with replacing them. In addition, employees with unusually high-performance levels and critical relationships within politics and with key stakeholders are difficult to replace. According to Anderson & Pontusson (2007), employable employees are less worried about losing their jobs. The prospect of attractive new jobs elsewhere makes employees feel less dependent on the organization (Turnley & Feldman, 1999). However, a job search requires time, psychological and financial resources (Dickerson & Green, 2012), which can be defined as switching costs (Linden, 2018). The amount of time and energy people have to invest in looking for a new job could be one of the reasons people accept their current work situation and avoid uncertainty.

Research by Prentice et al. (2018) suggests that employees working in the frontline are likely replaceable as their job seems to require few complex skills. However, they are critical in organizational performance since they are the first contact for customers. In addition, when employees are committed, they perform their jobs much better, resulting in customers becoming more engaged, affecting business profitability (Prentice et al., 2018). Thus, this shows that employees may demand better working conditions when irreplaceable since they play an essential role within the organization.

However, it may be that the meaning of work and the employee-employer relationship is so culturally entrenched that people do not start thinking differently about their position of power when the job market is tighter for six months. Max Weber's (1930) Protestant work ethic is an example of this, which represents how people act economically irrationally. It is a set of beliefs and a set of norms that are communicated in raising from generation to generation. His work ethic is like a cultural norm in which people are supposed to be grateful for the opportunity to work somewhere, which includes staying committed to their employer. In Weber's Protestant work ethic (1930), working hard is necessary to become successful. This includes not giving up their jobs and remaining loyal when things are better elsewhere. In addition, economic markets do not work perfectly because of "bounded rationality": people have imperfect information and do not act rationally (Simon, 1990). Therefore, people may not be aware of their increased economic value. Of course, it is also possible that people do not follow the labor market.

Although several studies make assumptions about the relationship between perceived irreplaceability, role performance, job insecurity, and organizational loyalty (e.g., Simons, 2001; Balz & Schuller, 2018), such relationships have not been empirically established. Relationships between organizational commitment, organizational loyalty, and sportsmanship have been studied several times (e.g., Chang et al., 2011; Otto & Mamatoglu, 2014; Pourgaz et al., 2015; Dwomoh et al., 2019). However, information is still lacking on what perceived irreplaceability does to employees' empowerment, role performance, and organizational loyalty. Based on this study, data can be collected on the extent to which an employee feels irreplaceable in the organization during a tight labor market. The findings of this study bridge the gap between economic theory and psychology theory. This provides a better understanding of whether the labor market works according to the economic laws of supply and demand.

Therefore this study aims to answer the following research question: *how does perceived irreplaceability affect employees' organizational loyalty, sportsmanship, and job crafting?*

Theoretical framework

Irreplaceability is defined by Balz & Schuller (2018) as the perception of an employee possessing specific skills that are challenging for the current organization to replace. The economic theory of Smith (1776), named “the law of supply and demand,” also plays a role in understanding this concept. Because when demand is high, low supply causes the price to rise. This means that in the case of labor, price refers to salary and intangible assets such as autonomy and flexibility (Homans, 1958). When there is much demand but little supply, labor supply can be considered inelastic: there are few people with the necessary skills (Strielkowski, 2019).

According to the scarcity principle, opportunities seem more valuable to people when availability is limited (Cialdini, 1994). As options become less available, people are threatened with their freedom and do not like losing their freedoms. Consequently, when the item, product, or service becomes less available, we experience an increased desire. Based on Cialdini’s theory of scarcity (1994), it is expected that employees who perceive themselves as irreplaceable consider their labor as valuable because the skills they possess are scarce. Besides, the prospect of attractive new jobs elsewhere makes employees feel less dependent on the organization (Turnley & Feldman, 1999).

Loyalty

The success of organizations depends on their employees. They can make a difference in terms of innovation, organizational performance, and competitiveness (Bakker & Schaufeli, 2008). So, the organization's performance and longevity depends on employees' commitment to the organization, their emotional effort, and their regularity of employment (Bakker & Schaufeli, 2008). *Therefore, Employee-Organization Relationships (EORs) play*

an important role in the organization's performance. These relationships are also described as the totality of interactions and interpersonal dynamics between the employee and the organization (Coyle-Shapiro & Shore, 2007).

Adams' (1965) equity theory, Blau's (1964) social exchange theory, and the norm of reciprocity (Gouldner, 1960) propose that the relationship between employee and employer should be balanced for the longer term. *Equity theory* assumes that there should be an equal balance between an employee's inputs (e.g., effort, loyalty, skills) and outputs (e.g., salary, responsibility, job security) (Adams, 1965). The problem with an imbalance is that the employee will demand more, and when not fulfilled, the employee may choose to become disloyal, possibly resulting in resignation. *Social exchange theory* (Blau, 1964) states that individuals engage in social interaction based on the expectation that it will lead to social rewards such as approval, status, and respect. In doing so, they control the value and quantity of resources exchanged to ensure balance. It involves the social behavior of two parties related to cost-benefit analysis (Blau, 1964). In an exchange relationship, one party is willing to give benefits to the other because it expects to receive benefits of comparable value or has provided benefits in the past or is expected to do so in the future. A party receiving benefits incurs an obligation or debt to return the favor (Grunig & Hon, 1999).

Working for an employer is an economic exchange. Employees give time, knowledge, effort, and energy and, in return, receive money, satisfaction, success, meet new people and develop skills (Adams, 1965). So, employees seek a balance between the incentives offered by the organization and the contributions made in return. Therefore, based on the theories discussed before, in a tight labor market where a specific employee possesses skills that are difficult to replace, the employee's work (input) becomes more valuable. This, in turn, results in the employee demanding more from the employer in terms of output since such improvements may restore the balance that was disturbed because of the changes in the labor market. This can be expressed in a salary raise, more status, or, for example, more

opportunities to develop themselves (Adams, 1965). Therefore, it is not surprising that when the job market is tight, it is rational for workers to demand more from their employer and look elsewhere for a better place to work when the imbalance is not restored (Balz & Schuller, 2018).

A framework that can explain employees' responses to an unbalanced employment relationship more clearly is Hirschman's (1970) theory of exit, voice, and loyalty. Hirschman's theory focuses on businesses and the market. Specifically on the degradation of consumer products and how consumers may respond. When you relate this theory to organizations and employees, they can respond to unsatisfactory working conditions in three ways: stepping out of the organization (exit), communicating their worries to correct the problem and taking action (voice), or some employees choose neither exit nor voice but remain loyal to the organization regardless of the problem. Instead, they "suffer in silence, confident that things will soon get better" (Hirschman, 1970, p. 38).

In addition, Hirschman (1970) described *loyalty* as several elements that keep the employee tied to the organization, making an exit costly and voice problematic. Hirschman (1970) shows that the more loyal customers are, the more likely they are to express troubles and, therefore, less likely to leave. However, power and hierarchy must be considered in the context of employee and employer relationships, as these could cause the outcome to be different (M. M. C. Allen, 2014). However, when an organization provides outstanding socioeconomic benefits, individuals are more likely to return the favor. This includes engaging in behaviors that protect the organization and enhance its reputation (Graham, 1991).

There are several definitions regarding loyalty to an organization (e.g., Hirschman, 1970; Graham, 1991). This study defines *organizational loyalty* as "the identification with and allegiance to organizational leaders and the organization as a whole, transcending the parochial interests of the individual, work groups, and departments" (Van Dyne et al., 1994,

p. 767). So, as labor becomes scarce and more valuable, employees also tend to expect to get more from their employers. This leads to an unbalanced relationship. To restore the balance, employees are likely to become less loyal to the organization unless the organization itself restores the imbalance in other ways. The exit is an ultimate way out if the balance is not restored. Based on this information, the following hypothesis is suggested:

H1a: High irreplaceability leads to less loyalty to the organization.

The mediation role of organizational commitment

The relationship between irreplaceability and organizational loyalty could be mediated by organizational commitment. Allen and Meyer (1990) define *organizational commitment* as "a psychological state that a) characterizes the employee's relationships with the organization, and b) has implications for the decision to continue membership in the organization." This process is continuous. Employees express their commitment in three components: affective commitment scale (ACS), continuance commitment scale (CCS), and normative commitment scale (NCS). In normative commitment, employees experience an *obligation* to stay with the organization. Also, in contrast, in affective commitment, employees are emotionally attached to an organization. They *desire* to belong to the organization. Finally, continuance commitment concerns employees' investment costs and risks regarding quitting, so they *need* to stay with the organization (Allen & Meyer, 1991). Research by Yao et al. (2019) shows that organizational commitment impacts attitudinal and behavioral loyalty. Specifically, affective, normative, and continuance commitment positively affect employees' attitudinal loyalty. In addition, attitudinal loyalty promotes behavioral loyalty.

Social exchange theory (Blau, 1964) also discusses the psychological contract of Rousseau (1995), which is defined by Rousseau (1995: 9) as "individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organizations." So this includes unwritten mutual expectations. A psychological contract

violation occurs when one party in a binding agreement fails to deliver according to the terms of the agreement (Robinson et al., 1994). According to social exchange theory (Blau, 1964), how employees perceive psychological contracts directly impacts their organizational commitment, which in turn affects the overall performance and competitiveness of the organization (Khandelwal, 2009; Passarelli, 2010). In addition, relationships with high levels of mutually reciprocal obligations of both employee and employer lead to higher levels of perceived organizational support and high levels of affective commitment (Shore & Barksdale, 1998). However, when there is a psychological breach of contract, it leads to employee dissatisfaction and imbalance (Robinson, 1996). The imbalance will probably lead to lower levels of support and commitment. Therefore, the following hypothesis is formulated:

H1b: Organizational commitment mediates the relationship between irreplaceability and organizational loyalty, such that higher irreplaceability leads to less organizational commitment which leads to less loyalty to the organization.

Sportsmanship

Individuals who see themselves as irreplaceable may be more likely to respond when there is a psychological contract breach (between themselves as an employee and their employer) because there are many new attractive jobs in the labor market for them (Turnley & Feldman, 1999). Moreover, as mentioned earlier, when employees see themselves as valuable, the employer is expected to balance the employee's input and output (Adam, 1965; Blau, 1964). It is therefore expected that when an employee perceives a violation of the psychological contract, it will lead to greater dissatisfaction which will probably negatively influence their ability to endure the organization's problems and complications without complaining. The latter is labeled sportsmanship, which is part of organizational citizenship behavior (OCB).

Podsakoff et al. (2000) define *sportsmanship* as:

Good sports are people who not only do not complain when they are inconvenienced by others but also maintain a positive attitude even when things do not go their way, are not offended when others do not follow their suggestions, are willing to sacrifice their personal interest for the good of the work group, and do not take the rejection of their ideas personally. (p. 517)

Besides, Coyle-Shapiro and Kessler (2002) found a positive relationship between the dimensions of the psychological contract and organizational citizenship behavior. Dulac et al. (2008) found that violation of the psychological contract harms the employer-employee relationship in terms of both behavior and attitude. This manifests itself in multiple areas, such as a reduction in trust, OCB, affective commitment, and loyalty, as well as increased turnover intentions (Abela & Debono, 2019; Cassar & Briner, 2011; Coyle-Shapiro & Kessler, 2000; Robinson et al., 1994; Robinson & Morrison, 1995; Robinson, 1996; Turnley & Feldman, 2000). As mentioned before, sportsmanship is part of OCB. Therefore the following hypothesis is formulated:

H2a: High irreplaceability leads to low sportsmanship.

The mediation role of organizational commitment

Based on the scarcity principle (Cialdini, 1994), one would expect that irreplaceable employees consider their contribution valuable, which may shift the balance in their relationship. They no longer feel like the relationship is balanced because their input has become more valuable while the output has not changed. This also indicates that there is a violation of the psychological contract (Rousseau, 1989). Previous research by Cassar and Briner (2011) has shown that psychological contract violation correlated significantly and negatively with affective commitment to the organization. As mentioned earlier, organizational commitment impacts attitudinal and behavioral loyalty (Yao et al., 2019), and sportsmanship is a form of behavioral loyalty. Therefore, the following is hypothesized:

H2b: Organizational commitment mediates the relationship between irreplaceability and sportsmanship, such that higher irreplaceability leads to less organizational commitment which leads to less sportsmanship.

The mediation role of fear of unemployment

Employee behavior is not entirely rationally reasoned but is also emotionally driven. A meta-analysis by De Witte et al. (2012) showed that job insecurity among employees leads to adverse well-being outcomes such as less job dissatisfaction, a decrease in mental well-being, and less physical health outcomes. In addition, they struggle with negative feelings such as perceived threat, stress, and powerlessness, which also lowers the well-being of the people close to them (Chou, 2014). Moreover, this, in turn, leads to negative outcomes for the organization itself, such as less trust, less involvement in the job, increased urge to quit, less organizational commitment, and lower performance (De Witte et al., 2012). According to Chou (2014), the perception or fear of job loss can vary by age, income level, and profession. In addition, job loss fear is also described as a function of the interaction between the objective situation (labor market prospects, organizational change, union representation, level of uncertainties) and subjective characteristics such as perceived employability, perceived control, family responsibility, and personal characteristics (Chou, 2014).

Based on previous research by Balz and Schuller (2018), we can assume that people with specific skills that are difficult to replace may also be considered highly employable workers. In addition, in a tight job market, the switching costs (i.e., the costs associated with an employee switching from one organization to another; Burnham et al., 2003) are considered very low for employees since employers are coming to you as an employee. Therefore, switching to another organization is less insecure, and the chances of unemployment are low. Irreplaceable workers are less threatened by demand loss because it can be assumed that they will be among the last ones to be fired.

In addition, employees who feel irreplaceable tend to be well-integrated into intra-organizational networks and communications, giving them better access to further opportunities (Spurk et al., 2016). They can afford to wait since they expect their eventual job loss to be followed by short job search periods (Balz & Schuller, 2018). According to psychological contract theory (Rousseau, 1989) and research by Spurk et al. (2016), employees who feel irreplaceable due to having acquired organization-specific skills may consider feelings of job insecurity to be especially unfair. Based on this information, the following hypothesis is suggested:

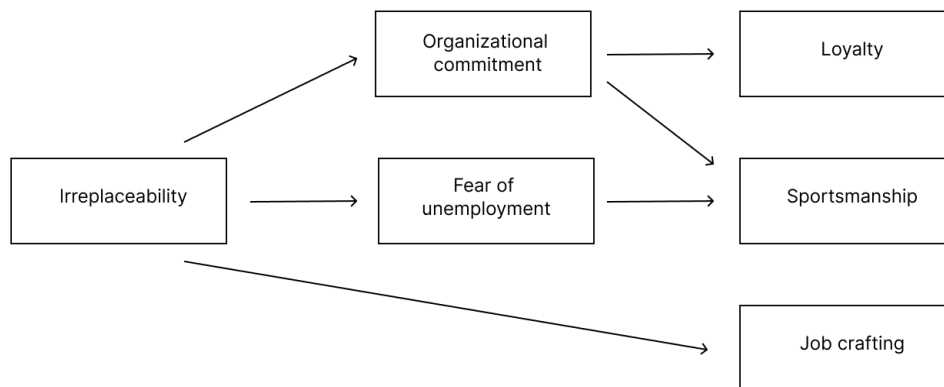
H2c: Fear of unemployment mediates the relationship between irreplaceability and sportsmanship, such that higher irreplaceability leads to less fear of unemployment which leads to less sportsmanship.

Job Crafting

Based on equity theory (Adam, 1965) and social exchange theory (Blau, 1964) explained earlier, there should be a balance between employee and employer. A way to correct the breach of the psychological contract is by revising the contract, in which expectations are adjusted and changed (Schalk & Roe, 2007). Employees can react in three potential ways when there is an imbalance, according to Hirshman's theory (1970): exit, voice, or loyalty. Employees will probably use the option voice to express unsatisfactory working conditions. This way, the employee allows the employer to restore the balance while allowing the employee to demand more autonomy when it concerns their job. The freedom to shape their role could be seen as a privilege that may restore balance. Wrzesniewski & Dutton (2001) define it as "the process by which employees can define and structure their tasks and work environment in a way that they find meaningful." Also called *job crafting*. Therefore, the following is hypothesized:

H3: High irreplaceability leads to high levels of job crafting.

Figure 1 presents a conceptual framework for analyzing the impact of irreplaceability.

Figure 1*Conceptual model***Method****Design**

A cross-sectional online survey was used to investigate the relationship between employees' perceived irreplaceability and organizational loyalty, sportsmanship, and job crafting. In order to obtain insight into this phenomenon and the attitudes and ratings from an employee's perspective, a survey was conducted.

Participants

The total population was a convenience and snowball sample of 248 people. After deleting respondents who did not give permission, did not finish, or did not completely fill in the survey, 170 participants remained. One person answered the question 'Are you working more than 8 hours a week?' with 'no,' and one did not live in the Netherlands. Five people were not doing paid work, whereas N was 163.

Participants varied in demographic profile. Respondents were between 18 and 73 years old ($M = 34.36$; $SD = 15.17$). Overall, there were more female (57%) than male (43%) respondents in the sample. In addition, the most common household was 'living with a partner without children' (28%). Most participants worked in engineering, manufacturing, and construction (20%), followed by media and communications (15%). On average, participants worked 30.82 hours ($SD = 13.21$) a week, and on average, they worked 20.57 ($SD = 13.24$)

hours of their work behind the computer. In addition, 77% of the respondents were highly educated (bachelor's or master's degree), and 23% were lower educated (MBO or lower educated). Finally, work experience differed from 1 year to 57 years ($M = 15.23$, $SD = 13.68$).

Procedure

Individuals were invited to participate in the study via social media from the researcher. A link was shared via the researcher's social media, and data were collected electronically via Qualtrics. Before the survey was published, two individuals pre-tested the questionnaire. According to the pre-testers, some response options for the factual and demographic questions were changed and added because they were incomplete. The survey took approximately 15 minutes. First, respondents needed to consent to participate in the study and fill out if they were working more than 8 hours a week, doing paid work, living in the Netherlands, and were older than 18 years old. If this was not the case, they were directed to the end of the study.

After these questions, other demographic questions were asked, followed by questions concerning the current job and industry the participant is working in, irreplaceability, organizational commitment, organizational loyalty, sportsmanship, job crafting, and fear of unemployment. The purpose of the study was communicated to participants after the survey. The respondents received no reward for participating in this survey. Participation was voluntary, and anonymity and confidentiality of information provided by all individuals participating in the study were maintained.

Measures

The questionnaire consisted of 76 questions and was administered in Dutch or English (see Appendix A). To ensure comparability in language, the scales were translated into Dutch and English and checked by a professional translator. All respondents were asked to rate themselves regarding irreplaceability, fear of unemployment, organizational commitment,

organizational loyalty, sportsmanship, and job crafting. Measures were based on respondents' perceptions. The entire questionnaire (i.e., informed consent, questions and statements, debriefing) can be found in Appendix A.

Irreplaceability

Irreplaceability was measured using six items based on the replaceability scale from Shore et al. (2000). An example of an item of this scale was, 'quitting would cause hardship for my manager.' The items were measured on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The reliability of this scale was acceptable ($\alpha = 0.66$). The mean score of these six items was used to measure the participant's perceived irreplaceability. A higher score on irreplaceability represents a higher perception of being irreplaceable.

Organizational commitment

Organizational commitment was measured using 14 items based on the commitment scale developed by Allen and Meyer (1990) and renewed by Jak and Evers (2010). An example of an item of this scale was, 'I really feel as if this organization's problems are my own.' The items were measured on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The reliability of this scale was excellent ($\alpha = .87$). The mean score of these 14 items was used to measure the participant's commitment to the organization. A higher score on organizational commitment represents a higher attachment to the organization.

Fear of unemployment

Fear of unemployment was based on the job insecurity scale developed by Vander Elst et al. (2013) and measured using four items, of which the item 'I am sure I can keep my job' was recoded. Another example of an item of this scale was, 'I think I might lose my job in the near future.' The items were measured on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). This scale contained few affective items. Therefore

two additional items were added to the existing scale by Vander Elst et al. (2013). The factor structure of six items measuring fear of unemployment was assessed by performing a Principal Component Analysis with a Varimax Rotation. The analysis revealed that the two factors together explained 65.4% of the variance and had a collective Eigenvalue of 1.17. The first factor explained 45.6% of the variance. All items of Vander Elst et al. (2013) loaded on this factor, as well as the item 'I have no difficulties falling asleep because of the feeling that I might lose my job.' The other item was loaded on a second factor which explained the other 19.4% of the variance. However, the reliability of these six items together was good ($\alpha = .75$). It was therefore decided to cluster the items. The mean score of these six items was used to measure the participant's perceived fear of unemployment. A higher score on job insecurity represents a perceived higher fear of unemployment.

Sportsmanship

Sportsmanship was measured using a subscale of five items based on the OCB scale developed by Vey and Campbell (2004). The items were measured on a 7-point scale, ranging from 1 (never) to 7 (often). An example of an item of this scale was, 'always focuses on what is wrong, rather than the positive side.' The reliability of this scale was acceptable ($\alpha = .65$). The mean score of these five items was used to measure the participant's sportsmanship. A higher score on sportsmanship represents a higher willingness to tolerate minor inconveniences with no appeal or protest.

Organizational loyalty

Organizational loyalty was initially measured using seven items based on the loyalty scale Van Dyne et al. (1994) developed. An example of an item of this scale was, 'represents organization favorably to outsiders.' The items were measured on a 7-point scale, ranging from 1 (never) to 7 (often). However, the reliability of this scale was poor ($\alpha = .43$). Based on the correlation matrix, the items 'actively promotes organization's products and services' and 'represents organization favorably to outsiders' were selected. In content, the item 'would not

accept a job at a competing organization for more money' was the most central and therefore selected. The item was recoded first. The reliability of this scale was acceptable ($\alpha = .60$). The mean score of these seven items was used to measure the participant's loyalty to the organization. A higher score on loyalty represents a higher loyalty to the organization.

Job crafting

Job crafting was measured using 15 items based on the job crafting scale developed by Slemp & Vella-Brodrick (2013). An example of an item of this scale was, 'introduce new work tasks that you think better suit your skills or interests.' The items were measured on a 7-point scale, ranging from 1 (never) to 7 (often). The reliability of this scale was excellent ($\alpha = .87$). The mean score of these 15 items was used to measure the participant's level that the participant was doing job crafting. A higher score on job crafting represents higher levels of employees customizing their jobs.

Data analysis

To analyze the data, the main effects H1a, H2a, and H3 are analyzed with simple regressions, and the mediations H1b, H2b, and H2c are tested with PROCESS mediation analysis. All tests were conducted in IBM SPSS 27.

Results

The tests that have been performed and the results associated with the hypotheses are discussed in this chapter. First, the statistical descriptives will be explained to form an idea about the data. To give a first impression of the data, an observation of the means, standard deviations, and correlations is shown in Table 1. After that, the hypotheses will be tested through linear regression and mediation analysis. The analyses were performed with no adjustments, as the data showed no violations of assumptions. Appendix B shows multiple assumptions such as normality, heteroscedasticity, linearity, multicollinearity, outliers, influential cases, and independence of error.

Table 1*Correlation matrix of variables in the study (N = 162)*

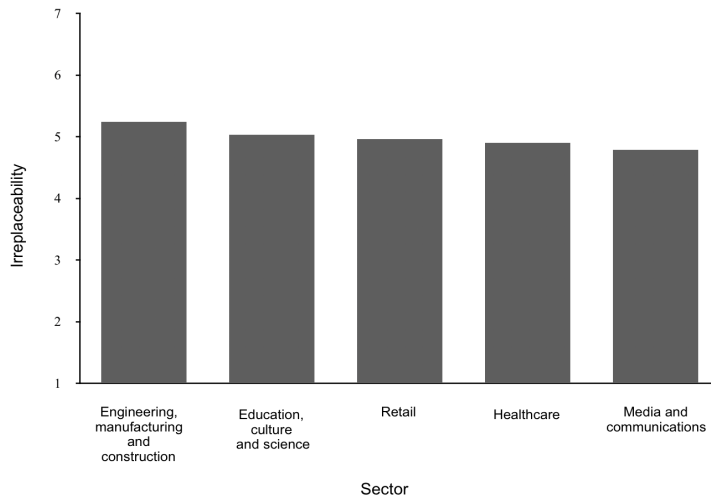
	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
Irreplaceability (1)	4.97	.93	-						
Organizational Commitment (2)	3.67	1.05	.40*	-					
Fear of Unemployment (3)	1.85	.83	-.40*	-.02	-				
Organizational loyalty (4)	5.05	1.10	.35*	.40*	-.30*	-			
Sportsmanship (5)	4.43	.99	.07	.10	-.09	.21*	-		
Job Crafting (6)	4.86	.77	.30*	.32*	-.26*	.36*	.30*	-	
Age (7)	34.63	15.17	.06	.15*	-.13	.36*	.11	.11	-

Note. * $p < .05$ **Descriptives**

People reported relatively high levels of irreplaceability ($M = 4.97$, $SD = .93$), which means that, on average, they feel rather irreplaceable. The healthcare sector has the most concerns about workload and filling vacancies in 2023 (Uitvoeringsinstituut Werknemersverzekeringen, 2022b). Remarkably, this group scores relatively low on their level of irreplaceability compared to other sectors (see Figure 2). Furthermore, participants are quite neutral on organizational commitment ($M = 3.67$, $SD = 1.05$), indicating that, on average, they do not experience very high or very low commitment. Respondents noted low levels of fear of unemployment ($M = 1.85$, $SD = .83$), indicating that, on average, they are not afraid to be unemployed. In addition, they scored quite high on loyalty ($M = 5.05$, $SD = 1.10$), indicating that, on average, they are loyal to the organization. Respondents scored a little above the midpoint on sportsmanship ($M = 4.43$, $SD = .99$), indicating that, on average, they do not quickly appeal or protest against annoyances. Lastly, participants did not experience very high or very low levels of job crafting ($M = 4.86$, $SD = .65$).

Figure 2

Participant's perceived irreplaceability per sector



Note. Engineering, manufacturing, and construction $N = 31$; education, culture, and science $N = 13$; retail $N = 22$; healthcare $N = 19$ and media and communications $N = 24$.

Loyalty

To investigate the relationship between irreplaceability and loyalty (hypothesis 1a), we performed a regression analysis with irreplaceability as predictor and loyalty as outcome. The regression analysis showed that loyalty can be predicted by somebody's perceived irreplaceability $b = 0.43$, $\beta = .35$, $t(160) = 4.75$, $p < .001$. Contrary to the expectation outlined in H1a, there is a *positive* significant effect, so higher levels of irreplaceability led to *higher* levels of people's loyalty to the organization. The model explains 12.3% of the variance in loyalty $R^2 = .12$, $F(1, 160) = 22.53$, $p < .001$. Therefore, H1a is not supported.

Mediation effect of organizational commitment

To investigate if organizational commitment mediates the relationship between irreplaceability and loyalty a simple mediation analysis was performed using the PROCESS Hayes tool. The outcome variable for analysis was loyalty (DV). The predictor variable for the analysis was irreplaceability (Predictor). The mediator variable for the analysis was

organizational commitment (Mediator).

Irreplaceability significantly predicts organizational commitment, $b = 0.45$, 95% CI [0.29, 0.61], $t = 5.53$, $p < .001$, explaining 16% of the variance in organizational commitment. As irreplaceability increases, organizational commitment increases (and vice versa).

Irreplaceability significantly predicts loyalty even with organizational commitment in the model, $b = 0.28$, 95% CI [0.09, 0.46], $t = 2.95$, $p = .004$; organizational commitment also significantly predicts loyalty, $b = 0.33$, 95% CI [0.16, 0.49], $t = 3.98$, $p < .001$. The model explains 20.3% of the variance in loyalty. As organizational commitment increases, loyalty increases also (and vice versa), as well as when irreplaceability increases, loyalty increases also. These relationships are not in the predicted direction.

When organizational commitment is not in the model, irreplaceability significantly predicts loyalty, $b = 0.42$, 95% CI [0.25, 0.60], $t = 4.75$, $p < .001$. The model explains 12.3% of the variance in loyalty. As is the case when we include organizational commitment in the model, irreplaceability has a positive relationship with loyalty.

There was partially a significant indirect effect of irreplaceability on loyalty through organizational commitment, $b = 0.15$, 95% BCa CI [0.06, 0.24]. Therefore, H1b is not supported.

Sportsmanship

To investigate the relationship between irreplaceability and sportsmanship, a regression analysis was performed with irreplaceability as predictor and sportsmanship as outcome. The regression analysis showed that sportsmanship cannot be predicted by somebody's perceived irreplaceability $b = .08$, $\beta = .07$, $t(160) = .89$, $p = .376$. There is no significant effect, so higher levels of irreplaceability do not lead to lower levels of people's sportsmanship. The model explains 0.5% of the variance in variable sportsmanship $R^2 = .01$, $F(1, 160) = .79$, $p = .376$. Therefore, H2a is not supported.

Mediation effect of organizational commitment and fear of unemployment

To investigate if organizational commitment and fear of unemployment mediate the relationship between irreplaceability and sportsmanship a simple mediation analysis was performed using the PROCESS tool. The outcome variable for analysis was sportsmanship (DV). The predictor variable for the analysis was irreplaceability (Predictor). The mediator variables for the analysis were organizational commitment and fear of unemployment (Mediator).

As already mentioned above, people's perceived irreplaceability significantly predicts organizational commitment, $b = 0.40$, 95% CI [0.29, 0.61], $t = 5.53$, $p < .001$. Irreplaceability explains 16% of the variance in organizational commitment. As irreplaceability increases, organizational commitment increases (and vice versa).

Irreplaceability does not significantly predict sportsmanship with organizational commitment in the model, $b = 0.04$, 95% CI [-0.14, 0.22], $t = 0.42$, $p = .674$; organizational commitment does also not significantly predict sportsmanship, $b = 0.08$, 95% CI [-0.08, 0.24], $t = 0.98$, $p = .328$. The model explains 1.1% of the variance in sportsmanship.

When organizational commitment is not in the model, irreplaceability does not significantly predict sportsmanship, $b = 0.07$, 95% CI [-0.09, 0.24], $t = 0.89$, $p = .376$. The model explains 0.5% of the variance in sportsmanship.

There was no significant indirect effect of irreplaceability on sportsmanship through organizational commitment, $b = 0.04$, 95% BCa CI [-0.04, 0.13]. Therefore, H2b is not supported.

People's perceived irreplaceability significantly predicts fear of unemployment, $b = -0.36$, 95% CI [-0.49, -0.23], $t = -5.47$, $p < .001$. Irreplaceability explains 15.7% of the variance in fear of unemployment. As irreplaceability increases, fear of unemployment decreases (and vice versa).

Irreplaceability does not significantly predict sportsmanship with fear of unemployment in the model, $b = 0.04$, 95% CI [-0.14, 0.22], $t = 0.46$, $p = .647$; fear of unemployment does also not significantly predict sportsmanship, $b = -0.09$, 95% CI [-0.29, 0.11], $t = -0.90$, $p = .370$. The model explains 0.9% of the variance in sportsmanship.

When fear of unemployment is not in the model, irreplaceability does not significantly predict sportsmanship, $b = 0.07$, 95% CI [-0.09, 0.24], $t = 0.89$, $p = .376$. The model explains 0.5% of the variance in sportsmanship.

There was no significant indirect effect of irreplaceability on sportsmanship through fear of unemployment, $b = 0.03$, 95% BCa CI [-0.14, 0.10]. Therefore, H2c is not supported.

Job Crafting

To investigate the relationship between irreplaceability and job crafting, we performed a regression analysis with job crafting as predictor and irreplaceability as outcome. The regression analysis showed that job crafting can be predicted by somebody's perceived irreplaceability $b = .25$, $\beta = .30$, $t(149) = 3.89$, $p < .001$. There is a positive significant effect, so higher levels of irreplaceability led to higher levels of people engaging in job crafting. The model explains 9.2% of the variance in job crafting $R^2 = .09$, $F(1, 149) = 15.12$, $p < .001$. Therefore, H3 is supported.

Overview of the findings

The results show that irreplaceability is positively related to four variables. Irreplaceability, for example, leads to increased loyalty which is against expectations. In addition, irreplaceability leads to more organizational commitment and less fear of unemployment, which was expected. Finally, irreplaceability leads to more job crafting, which was also expected. Thus, the idea that irreplaceability does something is proven. However, the effect of loyalty is positive and, therefore, the opposite of what was expected. The reason for this must be further explored.

A possible explanation could be that employees who feel irreplaceable also feel free to restore the created imbalance themselves. Job crafting does this since this is "the process by which employees can define and structure their tasks and work environment in a way that they find meaningful" (Wrzesniewski & Dutton, 2001). So, as individuals successfully restore the balance, they might no longer feel the need to leave the organization. This may ultimately cause them to remain loyal to the organization. In contrast, when they cannot restore the balance, it can be expected that this will not lead to loyalty. In addition, workers who feel easily replaceable might feel they cannot afford to make changes in their job, and as a result, they may be less happy with their job.

Another explanation for this positive effect could be that employees remain loyal to the organization in 'difficult times'. Employees may feel obligated to stay when it is too hard for the organization to find a replacement. This also refers to normative commitment, which focuses on the individuals' feeling of obligation to stay with the organization (Allen & Meyer, 1991). This sense of obligation arises from an individual's moral obligation to stay with the organization irrespective of the benefit he or she might have by leaving, which in turn refers to the better salary or conditions the employee might receive at another organization (Radosavljevic, Cilerdzic & Dragic, 2017). Since the organizational commitment scale used in this study consists of three types of commitment, including normative commitment, this explanation can be tested.

Normative commitment was measured using four items based on the commitment scale developed by Allen and Meyer (1990) and renewed by Jak and Evers (2010). An example of an item of this scale was, 'it would be unreasonable to resign now.' The items were measured on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The reliability of this scale was excellent ($\alpha = .89$). The mean score of these four items was used to measure the participant's normative commitment to the organization. A

higher score on normative commitment represents a higher attachment to the organization regardless of the benefit the employee might have by leaving.

To test whether the two abovementioned ideas explain the unexpected positive relationship between irreplaceability and loyalty, additional mediation analyses were done with irreplaceability as a predictor, normative commitment and job crafting as mediators and loyalty as the outcome variable.

Normative commitment

To investigate if normative commitment ($M = 2.92$; $SD = 1.49$) mediates the relationship between irreplaceability and loyalty a simple mediation analysis was performed using the PROCESS Hayes tool. The outcome variable for analysis was loyalty (DV). The predictor variable for the analysis was irreplaceability (Predictor). The mediator variable for the analysis was normative commitment (Mediator).

People's perceived irreplaceability significantly predicts normative commitment, $b = 0.33$, 95% CI [0.08, 0.58], $t = 2.58$, $p = .011$. Irreplaceability explains 2% of the variance in normative commitment. As irreplaceability increases, normative commitment increases (and vice versa).

Irreplaceability significantly predicts loyalty with normative commitment in the model, $b = 0.49$, 95% CI [0.22, 0.58], $t = 4.37$, $p < .001$; normative commitment does not significantly predict loyalty, $b = 0.83$, 95% CI [-0.03, 0.19], $t = 1.50$, $p = .136$. The model explains 13.6% of the variance in loyalty.

When normative commitment is not in the model, irreplaceability significantly predicts loyalty, $b = 0.42$, 95% CI [0.25, 0.60], $t = 4.75$, $p < .001$. The model explains 12.3% of the variance in loyalty. As is the case when we include normative commitment in the model, irreplaceability has a positive relationship with loyalty.

There was no significant indirect effect of irreplaceability on loyalty through normative commitment, $b = 0.03$, 95% BCa CI [-0.02, 0.07]. Therefore, the test does not

support the idea that employees who feel irreplaceable remain loyal to the organization because their normative commitment raises.

Job crafting

To investigate if job crafting mediates the relationship between irreplaceability and loyalty a simple mediation analysis was performed using the PROCESS Hayes tool. The outcome variable for analysis was loyalty (DV). The predictor variable for the analysis was irreplaceability (Predictor). The mediator variable for the analysis was job crafting (Mediator).

People's perceived irreplaceability significantly predicts job crafting, $b = 0.25$, 95% CI [0.12, 0.38], $t = 53.83$, $p < .001$. Irreplaceability explains 9% of the variance in job crafting. As irreplaceability increases, job crafting increases (and vice versa).

Irreplaceability significantly predicts loyalty even with job crafting in the model, $b = 0.32$, 95% CI [0.14, 0.51], $t = 3.51$, $p < .001$; job crafting also significantly predicts loyalty, $b = 0.39$, 95% CI [0.18, 0.61], $t = 3.55$, $p < .001$. The model explains 19.5% of the variance in loyalty. As job crafting increases, loyalty increases also (and vice versa), as well as when irreplaceability increases, loyalty increases also. These relationships are in the predicted direction.

When job crafting is not in the model, irreplaceability significantly predicts loyalty, $b = 0.42$, 95% CI [0.25, 0.60], $t = 4.75$, $p < .001$. The model explains 12.6% of the variance in loyalty. As is the case when we include job crafting in the model, irreplaceability has a positive relationship with loyalty.

There was partially a significant indirect effect of irreplaceability on loyalty through job crafting, $b = 0.10$, 95% BCa CI [0.03, 0.19]. Therefore, the test partially supports the idea that employees who feel irreplaceable restore the imbalance via job crafting and stay loyal to the organization since the balance has been restored.

So, two explanations were found for the unexpected positive relationship between people's perceived irreplaceability and their loyalty to the organization: irreplaceability stimulates organizational commitment, and irreplaceability also stimulates job crafting.

Discussion

This research aimed to investigate the perceived irreplaceability of employees and how it impacts role performance of role enactment in a tight labor market. The research question formulated for this study was: *'how does perceived irreplaceability affect employees' sportsmanship, organizational loyalty, and job crafting?'* Six hypotheses were formulated, which were supported by literature. Data was collected based on an online survey with a convenience sample, which was analyzed through simple regression analyses and mediation analyses via Hayes PROCESS tests. In addition, several additional analyses were conducted to understand why irreplaceability leads to loyalty.

Explanation of findings

The concept of irreplaceability was in this research established from the economic theory of supply and demand as a threat to the sustainability of the employer-employee relationship. However, when employees know they are difficult to replace and realize they can make more money elsewhere, they may not remain loyal. Nevertheless, the opposite appears to be true. Employees do not act according to economic theory in a tight labor market, but they seem to experience the feeling of irreplaceability as pleasant. The thought that they are hard to replace due to their unusually high-performance levels and critical relationships within politics or with crucial stakeholders may make them feel important and valued. It could make their life or job feel meaningful and make them feel irreplaceable as it gives a sense of purpose and self-worth (Kroneberg & Kalter, 2012). They, therefore, stay more loyal to the organization. This can be explained by organizational commitment as well as job crafting. Irreplaceability even activates normative commitment, meaning that they care

about their work and will not abandon the organization instead of job hopping for their own sake.

So when people feel irreplaceable, it does something to them. Employees deal with that irreplaceability by getting other tasks within their jobs. Job crafting is the explanation for the positive effect of irreplaceability on loyalty. People who have the feeling that they are irreplaceable want to act on this. However, they prefer to find solutions without leaving the company through job crafting. This is probably due to the switching costs, which is one of the reasons the labor market probably does not work well according to the law of supply and demand. People do not respond to those market incentives. Instead, they are activated to try to improve their job. This expresses them not only engaging in more job crafting but also less fear of unemployment. As a result, they do not resign or look for jobs elsewhere.

People engage in job crafting because they desire to remain in some control of their jobs and avoid alienation from their work (Braverman, 1976), and they want to create a positive self-image in their work. Finally, job crafting allows employees to fulfill connections to others (Baumeister & Leary, 1995). Job crafting allows the employee to become more demanding within the organization. However, employees do not have more tolerance for poor conditions since this study found no evidence that irreplaceability makes them more tolerant of organizational problems. By engaging in job crafting, employees do not accept the worse conditions that prevent them from sportsmanship. Thus, it is essential that organizations facilitate job crafting opportunities for employees. There could be a high possibility of employee dissatisfaction as employees cannot restore the imbalance caused, leading to a greater risk of disloyalty.

Oliver's (1980) expectancy-disconfirmation paradigm confirms the idea of dissatisfaction. This theory focuses on the fact that people have certain expectations of the services they use or products they buy before use. The satisfaction of this product or service is mainly based on the fulfillment of their predetermined expectation (Van Ryzin, 2004).

Within that expectation, another distinction can be made between predictive expectations (what will happen) and normative expectations (what should happen). What people are satisfied with depends on their expectations (Meirovich & Little, 2013). When this expectation is not met, there is negative disconfirmation. When people are (more than) satisfied, there is positive disconfirmation (Oliver, 1980). The data from this study show that external factors such as labor market tightness can cause people to have higher expectations of the exchange between employer and employee. However, they prefer to resolve this within the same job. If these expectations are not met, and hence there is perceived negative disconfirmation, this leads to lower levels of satisfaction (Penning de Vries & Knies, 2022).

This research viewed the concept of irreplaceability as that scarcity makes labor more valuable to the employer. However, this data suggests that scarcity makes work valuable to the employee as they appreciate that they are a unique contributor to the organization. People appreciate knowing that they are contributing to the organization uniquely. Personal recognition creates employee confidence, which positively impacts their performance (Abdullah et al., 2016). This expresses itself in greater commitment from employees, lower turnover, and higher customer loyalty ratings (White, 2016). Intrinsic rewards are, therefore, essential in motivating and increasing workforce performance (Abdullah et al., 2016). So as an employer, there is no need to be afraid of giving people the idea that they are irreplaceable. Data shows that it does not make them go away; quite the opposite. On the contrary, it has a positive effect on making people feel important. So the employer mentality "everyone is replaceable" is misplaced and not recommended to use. The fact is that fear of unemployment is not related to loyalty. By contrast, high irreplaceability could be a threat to inflexible organizations.

Practical implications

Employees do not act in line with economic and rational theories in the labor market. Irreplaceability gives them a feeling that makes them loyal, while they could look for another

job in their own best interest. That illogical behavior manifests itself through employees continuing to perform tasks related to the organization (and therefore remaining loyal) because they do not want to abandon the organization and have opportunities to make their jobs more exciting and better through job crafting. People feeling irreplaceable leads to high organizational loyalty, low levels of fear of unemployment, high levels of normative commitment, and high levels of job crafting. These findings indicate that organizations should be aware of employees' level of irreplaceability since this can be crucial to the organization. For example, a survey of the level of perceived irreplaceability within the organization every five years could help to create a better understanding.

This study suggests that employees do not necessarily leave the organization when there are good alternative jobs. However, organizations should facilitate opportunities for employees to engage in job crafting, for example, by asking in a monthly individual interview if there are tasks the employee considers attractive and by reviewing the job description in annual performance reviews. Employees with unique knowledge, skills, and relationships should be offered opportunities for further development or new roles within the organization because these employees may also already know they are irreplaceable. Keeping them in their current positions is tempting because these people are difficult to replace. However, they can remain satisfied and loyal by offering them new incitements, such as autonomy and job crafting opportunities. Therefore, inflexible organizations must pay attention to this, as dissatisfaction can lead to disloyalty. Facilitating opportunities to engage in job crafting will lead to loyalty to the organization, resulting in better overall performance.

Job crafting can be accomplished in several ways: by changing the number, size, and type of tasks, by changing the quality or quantity of interactions with others at work, or by changing cognitive task boundaries (Wrzesniewski & Dutton, 2001). One possibility to facilitate employees engaging in job crafting could be focussing on a certain kind of leadership communication, the Leader-Member Exchange (LMX). LMX is a leadership

theory that focuses on the relationship between a leader (manager) and a follower (employee) (Gerstner & Day, 1997; Graen & Uhl-Bien, 1995). With this communication theory, managers can make employees feel irreplaceable and essential by treating each individual uniquely. This also makes that person's work more meaningful. For example, if the individual thinks they are doing work that another person cannot do, this person is making a meaningful contribution.

In addition, there must be opportunities for job crafting within the organization because otherwise, the imbalance they experience cannot be restored. Which, in turn, ultimately leads to disloyalty. Organizational control can also be an important factor in job crafting opportunities. According to Barker (1993, cited in Rennstam, 2017), there are five types of control: direct, technical, bureaucratic, output, and normative. For example, in an organization where *direct control* exists, direct orders are given, and there is little to no opportunity for job crafting. *Technical control* is very similar; for example, an assembly line is used here. *Bureaucratic control* involves rules and regulations, providing little room for job crafting because minimal autonomy is required. With *normative control*, there is also little room for job crafting because employees have to follow certain norms and values. However, in organizational control such as *output control*, there is much more possible for the employee to engage in job crafting because they are autonomous about how they handle problems. The target must be achieved, but how and what behaviors the employee uses are less important (Barker, 1993, cited in Rennstam, 2017). Transformational leadership could complement output control by focusing on personal responsibility, making decisions, and giving confidence. Employers get the best out of their employees by inspiring and mentoring them, which is also a unique approach (Boddy, 2017).

In short, room for job crafting should be sought from both the employer and employee perspectives, which refers to people expressing their thoughts to their employer and

influencing issues that affect them at work. Also called employee voice, which would fit with Hirschman's view of voice.

Limitations

Firstly, people who are genuinely dissatisfied with their jobs have most likely already left and are therefore not in the sample of this study. Nevertheless, in reality, these people are also no longer in the organization. On the other hand, 77% of the sample was highly educated. The results concerning fear of unemployment might be different if there were a balance of highly and less-educated people in the sample. However, people who are highly educated are harder to replace, which in turn, is consistent with the irreplaceability principle. The method of this study depends entirely on respondents' self-reports. For example, people might have difficulty reflecting on their sense of replaceability. That could generate different data than reality. The method of this study depends entirely on respondents' self-reports. For example, people might have difficulty reflecting on their sense of replaceability. That could generate different data than reality.

Second, nothing is known about the kind of employment contracts the participants have with their organizations. This could have also prevented entrepreneurs or self-employed without staff from completing this survey. In addition, employee rights are relatively well protected by the Dutch government. For example, employees with a permanent contract have a low risk of unemployment since they cannot simply be fired, no matter how replaceable they are. Lastly, there is also a possibility that entrepreneurs or self-employed workers without employees participated in this study, as there was no question verifying this. Consequently, the results may be biased as self-employed people do not have a boss to be loyal to as employees do. In addition, entrepreneurs are their employers and manage employees, which does not match the survey questions and creates forced, unknowing answers.

Future research

This study methodologically adds to irreplaceability studies as this has not been empirically established. The concept of people realizing they are irreplaceable and how they respond is not well developed yet. This study shows a significant positive relationship between irreplaceability, loyalty, and job crafting. However, it is not precisely clear what employees would want to change in their jobs. A qualitative approach would allow the researcher to learn more about what employees prefer to change about their jobs. In addition, having found that the economics literature does not match this line of reasoning, future research should focus more on HRM literature.

Besides, it would be interesting to conduct longitudinal research in the future to investigate within an organization whether people feel more irreplaceable over time since the labor market may become less tight over a while. In fact, there may be a difference between actual replaceability and perceived irreplaceability. Longitudinal research provides insight into how the market affects those feelings of irreplaceability. A survey, like this study, every five years with a representative sample could be used to map employees' levels of irreplaceability. Several large organizations in the Netherlands are already doing this.

Taken together, the data contributes a clearer understanding of how employees enact in a tight labor market when they feel irreplaceable. This study has also provided the foundation for future research about irreplaceability, which is needed to establish more understanding of this concept.

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Appendix A

Survey introduction in Dutch and English

Dutch:

Beste werknemer,

Welkom bij deze survey over hoe je tegen je werk aankijkt en je baan ervaart. Deze studie wordt uitgevoerd door Esmée Seijdel van de Universiteit van Tilburg. In deze survey wordt er aan hand van verschillende vragen gevraagd om jouw eerlijke ervaringen. Er zijn geen goede en slechte antwoorden. Het invullen kost ongeveer 15 minuten van je tijd.

Je bent geselecteerd voor deze survey omdat je minimaal 8 uur per week werkt bij een organisatie in Nederland. Deelname is volledig vrijwillig en je kan op elk moment besluiten om te stoppen. Dit zal geen negatieve consequenties hebben.

Jouw gegevens worden anoniem verzameld en enkel voor dit doeleinde gebruikt. Daarnaast zal enkel de onderzoeker van deze studie toegang hebben tot de survey data. Er worden geen persoonlijk identificeerbare informatie of IP adressen verzameld. Alvast bedankt voor je deelname.

Bij vragen of problemen, kun je contact opnemen met onderzoeker Esmée Seijdel via e.f.w.seijdel@tilburguniversity.edu.

English:

Dear Employee,

Welcome to this survey on how you perceive your work and experience your job. This survey is conducted by Esmée Seijdel of Tilburg University. During this survey, you will be asked about your actual experiences using several questions. There are no right or wrong answers. Completing the survey will take approximately 15 minutes of your time.

You are selected for this survey because you work at least 8 hours per week at an organization in the Netherlands. Participation is entirely voluntary, and you can decide to quit anytime. There will be no adverse consequences.

Your data will be collected anonymously and only used for this purpose. In addition, only the researcher of this study will have access to the survey data. No personally identifiable information or IP addresses will be collected. Thank you in advance for your participation.

If you have any questions or concerns, please contact researcher Esmée Seijdel at e.f.w.seijdel@tilburguniversity.edu.

Appendix A

Informed consent survey in Dutch and English

Dutch:

Indien je wenst deel te nemen aan deze studie, erken je dat:

- Je in Nederland werkzaam bent;
- Je minimaal 8 uur per week bij een organisatie werkt;
- Je ouder dan 18 jaar bent;
- Je de vorige informatie zorgvuldig hebt gelezen;
- Je weet dat je op elk moment kunt stoppen met je deelname aan dit onderzoek;
- Je op de hoogte bent dat je anonieme gegevens worden gebruikt tijdens de duur van dit onderzoek.

- ☐ Ik geef toestemming tot deelname aan deze studie.
- ☐ Ik geef geen toestemming tot deelname aan deze studie.

English:

If you wish to participate in this study, you acknowledge that:

- You are working in the Netherlands;
- You work at least 8 hours per week at an organization;
- You are at least 18 years old;
- You have carefully read the previous information;
- You know that you can stop your participation in this study at any time;
- You are aware that your anonymous data will be used for the duration of this study.

- ☐ I consent to participate in this study.
- ☐ I do **not** consent to participate in this study.

Appendix A

Instructions in Dutch and English

Dutch:

De survey begint met enkele demografische vragen, erna wordt gevraagd om basisinformatie over je huidige werk, waarna de enquête eindigt met verschillende soorten stellingen over jouw ervaringen op het werk.

Je begint nu met het invullen van de enquête, veel succes!

Hieronder vind je vier vragen die gaan over jouw huidige werk en de huidige arbeidsmarkt.

English:

The survey starts with some demographic questions. Next, you will be asked for basic information about your current job, and then the survey ends with different types of statements about your experiences at work.

You start filling out the survey now. Good luck!

Below you will find four questions that concern your current job and the job market.

Appendix A

Survey questions in Dutch and English

Dutch	English
Doe je betaald werk? ☐ Ja, ik word betaald voor mijn werkzaamheden. ☐ Nee, ik word niet betaald voor mijn werkzaamheden.	Are you doing paid work? ☐ Yes, I get paid for my work. ☐ No, I do not get paid for my work.
Hoeveel uur werk je voor de organisatie? ☐ Ik werk minimaal 8 uur per week. ☐ Ik werk minder dan 8 uur per week.	How many hours do you work for the organization? ☐ I work at least 8 hours a week. ☐ I work less than 8 hours per week.
Woon je in Nederland? ☐ Ja, ik ben woonachtig in Nederland. ☐ Nee, ik ben niet woonachtig in Nederland.	Do you live in the Netherlands? ☐ Yes, I live in the Netherlands. ☐ No, I do not live in the Netherlands.
Hoe oud ben je? ____	How old are you? ____
Met welk gender identificeer je jezelf? ☐ Mannelijk ☐ Vrouwelijk ☐ Non-binair ☐ Anders, ____ ☐ Voorkeur geen antwoord te geven	Which gender do you identify with? ☐ Male ☐ Female ☐ Non-binary ☐ Other ☐ Prefer not to answer
Wat is het hoogste (onderwijs)niveau dat je hebt voltooid? ☐ Geen voltooide schoolopleiding ☐ Middelbare schooldiploma ☐ Handel/technische/beroepsopleiding (MBO) ☐ Bachelordiploma (HBO en universiteit) ☐ Masterdiploma (HBO en universiteit) ☐ Doctoraat (of hoger) ☐ Anders: _____	What is the highest (educational) level you have completed? ☐ No completed school education ☐ High school diploma ☐ Trade/technical/vocational education (MBO) ☐ Bachelor's degree (HBO and university) ☐ Master's degree (HBO and university) ☐ Doctorate degree (or higher) ☐ Other: _____

Wat is gemiddeld je netto maandelijkse inkomen? ☐ Tot € 500,- ☐ € 500,- tot € 1.000,- ☐ € 1.000,- tot € 2.500,- ☐ € 2.500,- tot € 5.000,- ☐ € 5.000,- of meer ☐ Zeg ik liever niet	On average, what is your net monthly income? ☐ Up to € 500,- ☐ 500,- to € 1.000,- ☐ € 1.000,- up to € 2.500,- ☐ € 2.500,- up to € 5.000,- ☐ € 5.000,- or more ☐ I prefer not to say
Wat is je huidige woonsituatie? ☐ 1-persoonshuishouden ☐ Thuiswonend ☐ Samenwonend met één of meerdere huisgenoten ☐ Samenwonend met partner zonder kind(eren) ☐ Samenwonend zonder partner met kind(eren)	Wat is je huidige woonsituatie? ☐ 1-person household ☐ Living at home ☐ Living together with one or more roommates ☐ Living together with a partner without child(ren) ☐ Living together without a partner with child(ren) ☐ Other
In welke sector(en) ben je werkzaam? ☐ Gezondheidszorg ☐ Detailhandel ☐ ICT ☐ Justitie, veiligheid en openbaar bestuur ☐ Milieu en landbouw ☐ Media en communicatie ☐ Onderwijs, cultuur en wetenschap ☐ Techniek, productie en bouw ☐ Toerisme, recreatie en horeca ☐ Vervoer en logistiek ☐ Anders, namelijk _____	What industry(s) do you work in? ☐ Healthcare ☐ Retail ☐ ICT ☐ Justice, security and public administration ☐ Environment and agriculture ☐ Media and communications ☐ Education, culture and science ☐ Engineering, manufacturing and construction ☐ Tourism, recreation and hospitality ☐ Transportation and Logistics ☐ Other, namely _____
Hoeveel uur werk je gemiddeld per week? ____	On average, how many hours per week do you work? ____
Hoeveel uur van je werk is werk achter de computer? ____	How many hours do you work behind the computer on a weekly basis? ____
Hoeveel jaar ben je al werkzaam in de arbeidsmarkt in Nederland? ____	How many years have you been working in the Dutch labor market? ____

Likert scale 1 - 7
(Strongly disagree to strongly agree)

	Dutch	English	Source
Irreplaceability 6 items	Opzeggen zou mijn manager in moeilijkheden brengen. Het zou moeilijk zijn voor mijn werkgever om mij te vervangen. Mijn collega's rekenen op mij. Ik heb de reputatie toegewijd te zijn aan mijn organisatie. Ik wil niet de reputatie hebben dat ik een "job hopper" ben. Ik heb veel goede vrienden op het werk.	Quitting would put my manager in trouble. It would be difficult for my employer to replace me. My colleagues count on me. I have a reputation of being dedicated to my organization. I don't want the reputation of being a "job hopper." I have many good friends at work.	Shore et al. (2000)
Fear of unemployment 6 items	De kans is groot dat ik binnenkort mijn baan kwijtraak. Ik weet zeker dat ik mijn baan kan behouden. Ik voel me onzeker over de toekomst van mijn baan. Ik denk dat ik mijn baan in de nabije toekomst zal verliezen. Ik heb moeite om in slaap te vallen door het gevoel dat ik mijn baan zou kunnen verliezen. Ik ben bang om mijn baan te verliezen.	Chances are I will lose my job soon. I am sure I can keep my job. I feel uncertain about the future of my job. I think I will lose my job in the near future. I have difficulties falling asleep because of the feeling that I might lose my job. I am afraid to lose my job.	Vander Elst et al. (2013)
Organizational commitment 14 items	Ik ervaar de problemen van deze organisatie als mijn eigen problemen. Ik heb het gevoel dat ik echt bij deze organisatie hoor. Ik voel me emotioneel gehecht aan deze organisatie. Ik voel me als 'een deel van de familie' in deze organisatie. Deze organisatie betekent veel voor mij. Het zou voor mij op dit moment moeilijk zijn om weg te gaan bij deze organisatie, ook al zou ik dat willen.	I experience this organization's problems as my own. I feel like I really belong to this organization. I feel emotionally attached to this organization. I feel like "part of the family" in this organization. This organization means a lot to me. It would be difficult for me to leave this organization at this time, even if I wanted to. Too much would be disrupted in my life if I resigned now. If I hadn't already put so much of myself into this organization, I might	

	Er zou te veel in mijn leven verstoord worden als ik nu ontslag zou nemen. Als ik niet al zo veel van mezelf in deze organisatie had gestopt, zou ik misschien overwegen ergens anders te gaan werken. Als ik ontslag neem wordt het moeilijk om een vergelijkbare baan te vinden. Ik heb het gevoel dat ik te weinig andere opties heb om nu ontslag te overwegen. Ik vind dat ik het aan mijn huidige werkgever verplicht ben om te blijven. Zelfs als het in mijn voordeel was, zou het niet rechtvaardig zijn deze organisatie nu te verlaten. Het zou onbehoorlijk zijn om nu ontslag te nemen. Ik zal op dit moment geen ontslag nemen, omdat ik de mensen op mijn werk iets verschuldigd ben.	consider working somewhere else. If I resign, it will be difficult to find a similar job. I feel that I do not have enough other options to consider resignation now. I feel I owe it to my current employer to stay. Even if it were in my favor, it would not be fair to leave this organization. It would be unreasonable to resign now. I will not resign at this time because I owe the people at my job something.	Jak & Evers (2010)
Scale 1 (never) - 7 (always)			
Loyalty 7 items	Vertegenwoordigt de organisatie gunstig tegenover buitenstaanders. Doet geen moeite om de organisatie te verdedigen tegen bedreigingen van buitenaf. Vertelt buitenstaanders niet dat dit een goede plek is om te werken. Verdedigt de organisatie niet wanneer werknemers er kritiek op hebben. Promoot actief de producten en diensten van de organisatie. Zou voor meer geld een baan bij een concurrerende organisatie accepteren.	Represents organization favorably to outsiders. Does not go out of way to defend organization against outside threats. Does not tell outsiders this is a good place to work. Does not defend organization when employees criticize it. Actively promotes organization's products and services. Would accept job at competing organization for more money.	Van Dyne et al. (1994)
Sportsmanship 6 items	Zou collega's niet aansporen om geld te investeren in de organisatie. Het beleid en de activiteiten van de organisatie steunen en niet afkeuren.	Would not urge coworkers to invest money in organization. Support and not disapprove the organization's policies and activities. Not blowing up work-related problems.	

	Werkgerelateerde problemen niet opblazen. Niet veel tijd besteden aan klagen over triviale zaken. Zich richten op de positieve kant, in plaats van op wat er mis is met werksituaties. Geen wrok uiten over nieuwe veranderingen in de werking van de organisatie. Niet praten over willen stoppen.	Not spending a lot of time complaining about trivial matters. Focusing on the positive side, rather than on what is wrong with work situations. Not expressing resentment about new changes in the operation of the organization. Not talking about wanting to quit.	Vey & Campbell (2004)
Job crafting 15 items	Nieuwe benaderingen introduceren om mijn werk te verbeteren. De omvang of de soorten taken die je op het werk uitvoert veranderen. Nieuwe werktaken introduceren die volgens jou beter passen bij jouw vaardigheden of interesses. Ervoor kiezen om extra taken op het werk op zich te nemen. De voorkeur geven aan werktaken die passen bij jouw vaardigheden of interesses. Er over nadenken hoe jouw werk jouw leven een doel geeft. Herinner jezelf aan de betekenis die je werk heeft voor het succes van de organisatie. Herinner jezelf aan het belang van je werk voor de bredere gemeenschap. Nadenken over de manieren waarop je werk je leven positief beïnvloedt. Nadenken over de rol die uw werk speelt voor uw algemeen welzijn. Inspanningen doen om mensen op het werk goed te leren kennen. Regel of neem deel aan werkgerelateerde sociale functies. Organiseer speciale evenementen op het werk (bv. de verjaardag van een collega vieren).	Introduce new approaches to improve your work. Change the scope or types of tasks that you complete at work. Introduce new work tasks that you think better suit your skills or interests. Choose to take on additional tasks at work. Give preference to work tasks that suit your skills or interests. Think about how your job gives your life purpose. Remind yourself about the significance your work has for the success of the organization. Remind yourself of the importance of your work for the broader community. Think about the ways in which your work positively impacts your life. Reflect on the role your job has for your overall well-being. Make an effort to get to know people well at work. Organize or attend work related social functions. Organize special events in the workplace (e.g., celebrating a coworker's birthday). Choose to mentor new employees (officially or unofficially). Make friends with people at work who have similar skills or interests.	Slemp & Vella-Brock (2013)

	Ervoor kiezen om nieuwe werknemers te begeleiden (officieel of onofficieel). Maak vrienden met mensen op het werk die dezelfde vaardigheden of interesses hebben.		
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Appendix B

Checking of assumptions

H1a: High irreplaceability leads to less loyalty to the organization.

Assumptions of simple linear regression	Explanation
Normality	The assumption of normally distributed residuals was met ($z_{skewness} = -0.63$, $z_{kurtosis} = -0.44$)
Heteroscedasticity	The dots in the partial residual plots were distributed like a cloud. Therefore the assumption of heteroscedasticity was not violated.
Linearity	This assumption was checked based on the scatterplot, which follows a linear pattern meaning that the assumption of linearity is met.
Independence	The observations in the sample are independent from each other, which indicates there is no violation.

H1b: Organizational commitment mediates the relationship between irreplaceability and organizational loyalty, such that higher irreplaceability leads to less organizational commitment which leads to less loyalty to the organization.

Assumptions of a simple mediation analysis	Explanation
Influential cases	There were no influential cases biasing this model. The cases indicated that Cook's Distance was met because they were all smaller than 1 (largest value was .07). The average leverage value was 0.019 ($2+1/162$) and the largest value was 0.062. Which indicated that 2 values were larger than 0.056, as this was 1.23 percent of the data this is no problem. For the Mahalanobis distance there was no cause for concern because in this sample size ($N = 162$) the largest value was 9.97, which was not larger than 15 (Field, 2017).
Outliers	Analysis of the standard residuals identified that the data obtained a few outliers (8 cases with standardized residuals bigger than 2, which is less than 5 percent of the data), which is no violation.
Multicollinearity	The assumption for multicollinearity was met (Tolerance > .84 and the average VIF = 1.19)
Normality	Residuals were normally distributed as the calculation of the Z-skewness and Z-kurtosis indicated no violation of normality ($Z_{skewness} = -1.00$, $Z_{kurtosis} = -0.90$).

Independence of errors	Tests concluded that the data did not meet the assumption for independent errors which need to be between 1 and 3 (<i>Durbin-Watson</i> = 0.34). This indicates there is a positive correlation. However, the cases do not have a meaningful order. Therefore, there is no violation.
Heteroscedasticity & linearity	Based on visual inspection of histogram and P-P plots of the standardized residuals, the data appears to be met. Further analysis of the scatterplot demonstrated that the assumptions of linearity and homoscedasticity were met.

H2a: High irreplaceability leads to less sportsmanship

Assumptions of simple linear regression	Explanation
Normality	The assumption of normally distributed residuals was met ($z_{skewness} = -0.27, z_{kurtosis} = 1.77$).
Heteroscedasticity	The dots in the partial residual plots were distributed like a cloud. Therefore the assumption of heteroscedasticity was not violated.
Linearity	This assumption was checked based on the scatterplot, which follows a linear pattern meaning that the assumption of linearity is met.
Independence	The observations in the sample are independent from each other, which indicates there is no violation.

H2b: Organizational commitment mediates the relationship between irreplaceability and sportsmanship, such that higher irreplaceability leads to less organizational commitment which leads to less sportsmanship.

Assumptions of a simple mediation analysis	Explanation
Influential cases	There were no influential cases biasing this model. The cases indicated that Cook's Distance was met because they were all smaller than 1 (largest value was .12). The average leverage value was 0.019 ($2+1/162$) and the largest value was 0.062. Which indicated that 2 values were larger than 0.056, as this was 1.23 percent of the data this is no problem. For the Mahalanobis distance there was no cause for concern because in this sample size ($N = 162$) the largest value was 9.97, which was not larger than 15 (Field, 2017).
Outliers	Analysis of the standard residuals identified that the data obtained a few outliers (6 cases with standardized residuals bigger than 2, which is less than 5 percent of the data), which is no violation.
Multicollinearity	The assumption for multicollinearity was met (Tolerance > .84 and the average VIF = 1.19).
Normality	Residuals were normally distributed as the calculation of the Z-skewness and Z-kurtosis indicated no violation of normality ($Z_{skewness} = -0.40$, $Z_{kurtosis} = 1.55$).
Independence of errors	Tests concluded that the data met the assumption for

independent errors which need to be between 1 and 3

(*Durbin-Watson* = 2..07)

Heteroscedasticity &
linearity

Based on visual inspection of histogram and P-P plots of the standardized residuals, the data appears to be met. Further analysis of the scatterplot demonstrated that the assumptions of linearity and homoscedasticity were met.

H2c: Fear of unemployment mediates the relationship between irreplaceability and sportsmanship, such that higher irreplaceability leads to less fear of unemployment which leads to less sportsmanship.

Assumptions of a simple mediation analysis	Explanation
Influential cases	There were no influential cases biasing this model. The cases indicated that Cook's Distance was met because they were all smaller than 1 (largest value was .10). The average leverage value was 0.019 ($2+1/162$) and the largest value was 0.079. Which indicated that 5 values were larger than 0.056, as this was 3.09 percent of the data this is no problem. For the Mahalanobis distance there was no cause for concern because in this sample size ($N = 162$) the largest value was 12.73, which was not larger than 15 (Field, 2017).
Outliers	Analysis of the standard residuals identified that the data obtained a few outliers (9 cases with standardized residuals bigger than 2, which is 5 percent of the data), which is no violation.
Multicollinearity	The assumption for multicollinearity was met (Tolerance > .84 and the average VIF = 1.19).
Normality	Residuals were normally distributed as the calculation of the Z-skewness and Z-kurtosis indicated no violation of normality ($Z_{skewness} = -.48$, $Z_{kurtosis} = 1.94$)

Independence of errors	Tests concluded that the data did met the assumption for independent errors which need to be between 1 and 3 (<i>Durbin-Watson</i> = 2.06)
Heteroscedasticity & linearity	Based on visual inspection of histogram and P-P plots of the standardized residuals, the data appears to be met. Further analysis of the scatterplot demonstrated that the assumptions of linearity and homoscedasticity were met.

H3: High irreplaceability leads to high levels of job crafting.

Assumptions of simple linear regression	Explanation
Normality	The assumption of normally distributed residuals was met ($z_{skewness} = -0.30$, $z_{kurtosis} = -0.51$).
Heteroscedasticity	The dots in the partial residual plots were distributed like a cloud. Therefore the assumption of heteroscedasticity was not violated.
Linearity	This assumption was checked based on the scatterplot, which follows a linear pattern meaning that the assumption of linearity is met.
Independence	The observations in the sample are independent from each other, which indicates there is no violation.

Mediation effect of normative commitment

Assumptions of a simple mediation analysis	Explanation
Influential cases	There were no influential cases biasing this model. The cases indicated that Cook's Distance was met because they were all smaller than 1 (largest value was .10). The average leverage value was 0.019 ($2+1/162$) and the largest value was 0.064. Which indicated that 3 values were larger than 0.056, as this was 1.85 percent of the data this is no problem. For the Mahalanobis distance there was no cause for concern because in this sample size ($N = 162$) the largest value was 10.29, which was not larger than 15 (Field, 2017).
Outliers	Analysis of the standard residuals identified that the data obtained a few outliers (8 cases with standardized residuals bigger than 2, which is less than 5 percent of the data), which is no violation.
Multicollinearity	The assumption for multicollinearity was met (Tolerance > .96 and the average VIF = 1.04).
Normality	Residuals were normally distributed as the calculation of the Z-skewness and Z-kurtosis indicated no violation of normality ($Z_{skewness} = -1.07$, $Z_{kurtosis} = -0.57$).
Independence of errors	Tests concluded that the data met the assumption for independent errors which need to be between 1 and 3

(*Durbin-Watson* = 2.62)

Heteroscedasticity &
linearity

Based on visual inspection of histogram and P-P plots of the standardized residuals, the data appears to be met. Further analysis of the scatterplot demonstrated that the assumptions of linearity and homoscedasticity were met.

Mediation effect of job crafting

Assumptions of a simple mediation analysis	Explanation
Influential cases	There were no influential cases biasing this model. The cases indicated that Cook's Distance was met because they were all smaller than 1 (largest value was .07). The average leverage value was 0.019 ($2+1/162$) and the largest value was 0.075. Which indicated that 4 values were larger than 0.056, as this was 2.47 percent of the data this is no problem. For the Mahalanobis distance there was no cause for concern because in this sample size ($N = 162$) the largest value was 11.22, which was not larger than 15 (Field, 2017).
Outliers	Analysis of the standard residuals identified that the data obtained a few outliers (7 cases with standardized residuals bigger than 2, which is less than 5 percent of the data), which is no violation.
Multicollinearity	The assumption for multicollinearity was met (Tolerance > .91 and the average VIF = 1.10).
Normality	Residuals were normally distributed as the calculation of the Z-skewness and Z-kurtosis indicated no violation of normality ($Z_{skewness} = -0.71$, $Z_{kurtosis} = 0.28$).
Independence of errors	Tests concluded that the data did not meet the assumption for independent errors which need to be between 1 and 3

(*Durbin-Watson* = 0.01). This indicates there is a positive correlation. However, the cases do not have a meaningful order. Therefore, there is no violation.

Heteroscedasticity & linearity

Based on visual inspection of histogram and P-P plot of the standardized residuals, the data appears to be met. Further analysis of the scatterplot demonstrated that the assumptions of linearity and homoscedasticity were met.
