



Antecedents of Employees' Readiness for Change in a Research & Development Population

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Executive summary

It is important for an organisation to be able to swiftly implement changes in order to stay ahead of competition and keep up with environmental pressures such as technological development, the economy and politics. The idea of change comes with feelings of uncertainty and loss of control, therefore human beings are generally inclined to avoid it. Hence, change is a delicate subject, when approached in the wrong way, employees will respond with resistance, thereby slowing down or even obstructing the change initiative. For organisational change to be successful, it is important that the employees are ready for it. Therefore, the study at hand researched what factors could predict employees' Readiness for Change (RFC) at the Innovation Centre of FrieslandCampina Research & Development (R&D). RFC is a mental process encompassing employees' attitudes, beliefs and intentions about the change, as well as the degree to which the person feels whether the change is needed and the organisation will be able to implement it effectively. Several studies have looked into factors influencing RFC, but not in an R&D population. R&D populations are unique because of several characteristics like high expertise, commitment and interest in challenges. The study at hand researched the effects of decision latitude, job demands, job satisfaction and role clarity on RFC and whether there are differences between Dutch and non-Dutch employees.

A questionnaire composed of several validated questionnaires was sent to all employees of the Innovation Centre. 148 employees answered the questionnaire. The results indicate that both decision latitude and job demands have a positive effect on RFC. The results concerning job demands contradict the expectations. In previous research, job demands led to reduced health and well-being and thereby decreased employees' RFC. Possible explanations for these findings lie with the unique characteristics of the population. At the Innovation Centre other resources at the job might compensate for the high job demands experienced at the Innovation Centre. Examples of these possible resources are feedback, focus on growth and development, social support and access to advanced data and high quality devices.

Based on these findings, this study provided suggestions on how to increase employees' RFC by increasing decision latitude. Concerning development and growth, employees at the Innovation Centre already have a lot of decision latitude. However, there are still opportunities to gain more decision latitude regarding the speed of decision-making processes. To achieve this, a 1-day method called Simu-Real is suggested, which makes the

unnecessary steps and blockades in decision-making within the organisation visible and increases employees' involvement. It provides direct solutions and by increasing employees' involvement it indirectly increases RFC as well. Another suggestion concerns decision making regarding meeting attendance, which also actively involves employees and provides direct solutions. In conclusion, this study highlights the unique character of R&D employees and provides suggestions on how to increase their RFC further.

Abstract

For an organisation to survive in this world with many environmental pressures, change is inevitable. For changes to be successful, it is essential that the employees are ready for it. Therefore it is relevant to know what factors can be of influence on employees' readiness for change (RFC). The study at hand investigates the effects of job demands, decision latitude, job satisfaction, nationality and role clarity on employees' RFC in a Research & Development (R&D) population. All participants worked at the R&D centre of a multinational dairy cooperative in the Netherlands. A questionnaire composed of several validated questionnaires was answered by 148 employees. The results of a multiple regression analysis show that decision latitude and job demands have positive effects on RFC, but there is no interaction effect between these two constructs. Job satisfaction and nationality do not seem to have an effect on RFC. Role clarity does not moderate the effects the independent variables have on RFC. Concluding, to increase RFC in an R&D population attention should be paid to increasing employees' decision latitude. When high job demands are compensated with the right resources on the job, this leads to high RFC as well.

Keywords: readiness for change, JD-C model, organisational change, job demands, decision latitude

For an organisation to survive, change is inevitable (George & Jones, 2012). The environment in which an organisation functions, has a huge impact on an organisation's need for change. Rise of competition, the economy, technological development and politics are a few examples of environmental factors compelling organisations to change. Organisations have to respond to these changes in the environment by adapting for example their ways of working, structure, organisational culture or strategy (George & Jones, 2012). However, all changes within organisations, no matter the scale, involve human beings with strong habits and an internal tendency to maintain the status quo (Eilam & Shamir, 2005; George & Jones, 2012). The idea of change comes with feelings of uncertainty about the future and loss of control, therefore human beings are generally inclined to avoid it (Bouckenooghe, Broeck, van den, & Devos, 2009). Hence, change is a delicate subject, when approached in the wrong way, employees will respond with resistance, thereby slowing down or even obstructing the whole change initiative. For organisational change to be successful, it is important that the employees are ready and accepting (Armekanis, Harris, & Mossholder, 1993).

To increase the chances of successful organisational change, attention should be paid to several factors. Participation of employees in organisational change is one of those factors making achievement of the desired change more likely (Coch & French, 1948). Many researchers started looking into this topic, and the term *resistance to change* became widely used. Resistance can occur when people feel that a change has no benefits for them and that it might even go against their own interests. Human beings have strong habits and generally do not want to deviate from the norm. People who deviate from the norm can become outsiders (Watson, 1971). If employees experience these undesirable feelings in response to a change being announced, they can become resistant. Whenever many employees become resistant this can become the norm, increasing the likeliness of failed organisational change. Resistance was often seen as something that should be defeated (Kelley & Volkart, 1952; Stewart, 1957; Buchanan, Dunford, & Palmer, 2016). Later, the related idea of creating *readiness for change* (RFC) was developed (Armenakis et al., 1993). The word 'readiness' activates positive feelings. Resistance is a negative word, provoking a sense of threat and narrowed thinking. These reactions can express themselves in fear of the unknown and can cause stress (Fredrickson, 2004; Buchanan et al., 2016). This has a negative effect on the way employees feel and think about a change initiative. The word readiness triggers positive emotions that in turn broadens people's mind, making them more open to new ideas and possibilities (Fredrickson, 2004; Buchanan et al., 2016). So merely using a word with a positive connotation works better when you want to get your employees onboard of your

change initiative and when you want their active participation.

RFC is defined as a mental process, preceding behaviors that either resist to, or encourage a change initiative. It encompasses employees' attitudes, beliefs and intentions about the change, as well as the degree to which the person feels as if the change is needed and the organisation will be able to implement it effectively (Armenakis, Field, Harris, & Holt, 2007; Riddell & Røisland, 2017). Many suggestions have been made on how to decrease resistance, but according to Armenakis et al. (1993), the ones that were successful worked because they created RFC. Before implementing a change initiative, employees' RFC can be measured. In doing so the likeliness of a successful adoption of the change can be predicted. This created opportunities to measure other factors that could be of influence on RFC (Armenakis et al., 1993). A plethora of research has been done ever since, looking at RFC in combination with several factors.

Decision latitude is a construct that could be of importance for the success of organisational change. Decision latitude covers the extent to which a person is able to control and make decisions on the job. It can be easily adapted by the organisation (Karasek, 1979; Angerer et al., 2020), which makes it an attractive possible antecedent for RFC. Decision latitude is often used intertwined with the construct of autonomy. Autonomy refers to feelings of agency in your own actions, being able to behave in line with your own needs (Koestner & Losier, 1996; Karremands, Kluwer, Knee, & Riedijk, 2020). Decision latitude refers to autonomy in decision making (Hackman & Oldman, 1980; Karasek, Baker, Marxer, Ahlbom, & Theorell, 1981; Bakker, Leiter, Schaufeli, & Taris 2008; Bone & Mowen, 2010; Angerer et al., 2020). Decision latitude stimulates proactive, creative and innovative behaviors and leads to more positive responses to and acceptance of changes within organisations (Ekberg, Gustavsson, Johansson, Karlsson, & Stahl, 2015; Angerer et al., 2020). Autonomy in general is crucial within the occupational environment to deal with work stressors and it contributes to intrinsic motivation (Hornung & Rousseau, 2007; Battistelli, Montani, & Odoardi, 2011; Angerer et al., 2020). Furthermore, it can lead to more job crafting, proactive behavior in which employees shape their own job, increasing their ability to deal with organisational change (Hosomi, Li & Sekiguchi, 2017). As described above, decision latitude refers to autonomy in decision making, so one could argue that these effects might also occur when decision latitude is increased (Hackman & Oldman, 1980; Karasek et al., 1981; Bakker et al., 2008; Bone & Mowen, 2010; Angerer et al., 2020). Furthermore, the study of Cunningham et al. (2002) shows that decision latitude is highly correlated to RFC. Altogether being able to control and make decisions on and about your own job has many

positive effects on employees' attitude towards organisational change, therefore this study predicted that decision latitude is positively related to RFC.

Another construct of importance in organisational change is job demands. Job demands are psychological stressors within the job, like time-pressure and workload. High job demands can lead to reduced health and psychological well-being. While depleting psychological and physical resources, this can lead to exhaustion, stress and can eventually even develop into burnout. A burnout is accompanied by exhaustion, negative affect, mental distancing from the job and diminished professional efficacy (Fields, 2013; Okwueze, Onyishi, Onyishi, & Ugwu 2018; Freude, Hatch, Martus, Potter, & Rose, 2019; Angerer et al., 2020). Furthermore, disproportionate job demands can have negative effects on employee engagement and job satisfaction (Cunningham et al., 2002; Callan, Jones, & Martin, 2005; Okwueze et al., 2018; Angerer et al., 2020). Employee engagement and job satisfaction are positively related to RFC and successful organisational change (Madsen, Miller, & John, 2005; Kwahk & Lee, 2008; Andrew & Mohankumar, 2016; Azra, Etikariena, & Haryoko, 2018). Exhaustion has a negative effect on RFC (Cunningham et al., 2002; Barrera, 2008; Park, 2015; Andrew & Mohankumar, 2016; Azra et al., 2018). Moreover, when the effects of high job demands are not balanced with work-related resources, this can lead to high stress (Karasek, 1979; Affrunti, Frazier, Mehta, & Rusch, 2018; Bradshaw, Bottiani, Duran, & Pas, 2019). Stress also can have negative effects on, inter alia, organisational commitment (Dhar & Garg, 2014) and job satisfaction (Callan, Jimmieson, & Terry, 2004; Yu, 2009) which are both related to RFC (Madsen et al., 2005; Kwahk & Lee, 2008; Lipinska-Grobelny & Papienska, 2012; Andrew & Mohankumar, 2016; Azra et al., 2018). Based on the findings above, this study expected job demands to be negatively related to RFC.

However, when balanced with the right resources on the job, the aversive effects of high job demands can be diminished. One construct which is able to moderate the negative effects of high job demands is decision latitude. In 1979 Karasek developed the Job Demand-Control (JD-C) model that displays how the interaction of job demands and decision latitude can predict the amount of strain caused by the job. Strain encompasses negative psychological and physical consequences caused by prolonged stress. When both job demands and decision latitude are high, this can result in motivation, learning and personal growth (Dormann & De Jonge, 2017). People in 'active jobs' (high job demands and high decision latitude), turned out to have a higher RFC. 'Passive jobs' (limited decision making and control) are shown to lead to stress, lower self-efficacy and a decrease in RFC. Jobs with high demands and low decision latitude are high strain jobs (Karasek, 1979; Cunningham et

al., 2002). Hence, this study expected decision latitude to moderate the negative effect of job demands on RFC.

The combination of job demands and decision latitude, as first mentioned by the JD-C model, seems to be related to job satisfaction (Karasek, 1979). Job satisfaction is a state of positive affect resulting from work (Locke, 1976). The main construct affecting job satisfaction is strain. High strain jobs are associated with a strong decrease in job satisfaction. Too little strain is associated with lower job satisfaction as well. People in active jobs have higher job satisfaction, which are the jobs associated with higher RFC (Cunningham et al., 2002). Job satisfaction in turn has been related to RFC by several studies (Barrera, 2008; Lipinska-Grobelny & Papienska, 2012; Andrew & Mohankumar, 2016; Azra et al., 2018). Because job satisfaction seems to be related to both RFC and to the JD-C model, this study looked into this construct as an antecedent of RFC as well. A positive relationship between job satisfaction and RFC was expected.

A factor that can be of influence on job satisfaction is role clarity (Butterfield & Posner, 1978; Luring, Selmer & Stoemer, 2020). Role clarity refers to the extent to which it is clear to the employee what is expected from him or her within a certain job (Butterfield & Posner, 1978; Luring et al., 2020). Conflicting or unclear aspects in a role decrease job satisfaction (Jackson & Schuler, 1985; Abramis, 1994; Hansen & Lindfors, 2018). Moreover, low role clarity is highly related to job strain and decreased commitment (Jackson & Schuler, 1985; Abramis, 1994). According to Ismail, Mardhatillaha, & Rahmanb (2017) commitment to the organisation is essential for employees RFC. As the main construct effecting job satisfaction is strain (Cunningham et al., 2002) and role clarity also has a great impact on employees' strain (Jackson & Schuler, 1985; Abramis, 1994), the current study predicted that with high job satisfaction, but lower role clarity, RFC will be lowered compared to a combination of high job satisfaction and high role clarity. Concluding, this study expected role clarity to moderate the effect job satisfaction has on RFC.

Employees experiencing higher role clarity also experience less psychological and physical strain caused by high job demands (Adler, Bliese, Lang, & Thomas, 2007). High strain, which can be caused by high job demands and low decision latitude (Karasek, 1979) has a negative effect on RFC (Cunningham et al., 2002). According to several studies, high role clarity is related to lowered strain (Jackson & Schuler, 1985; Allison, Gallery, Revicki, & Whitley, 1993; Abramis, 1994; Adler et al., 2007), so one could expect that therefore role clarity indirectly increases RFC. Based on the theory that strain consists of an imbalance in job demands and decision latitude, this study predicted that role clarity moderates the effects

both job demands and decision latitude have on RFC.

Role clarity is especially relevant for employees' working in another country than that of their origin. Besides the normal socialisation process (Chao & Kozlowski, 2012), an employee from abroad needs to get used to the new culture and thereby faces more stressors than an employee who is originally from the country in which the organisation is located (Bücker, Poutsma & Monster, 2016). Especially when someone, for example, transfers from a collectivistic culture to an individualistic culture, the employee needs to get affiliated with many new implicit norms and rules. Getting socialised within another culture can lead to uncertainty and stress (Hofstede, 2011; Cascio & Aguinis, 2014; Bücker et al., 2016). Feelings of uncertainty and stress are proven to decrease employees' openness to change (Bordia, Callan, Gallois, Hobman, & Jones, 2004; Kiefer, 2005; Bayraktar, 2019). Therefore, this study predicted that employees who work in another country than that of their origin, have lower RFC because of uncertainty and stress caused by cultural differences.

One aspect that seems to add to the uncertainty experienced by employees working in another country is role clarity. Due to cultural differences, employees working in a new country often experience their role as less clear. High role clarity is really important for adapting to an organisation (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Fenner & Selmer, 2009; Luring et al., 2020). Thus, role clarity could be a vital factor contributing to the uncertainty experienced by employees working in another culture. Paying special attention to role clarity of employees from another culture, might positively contribute to their feelings of certainty and thereby increase RFC. Hence, this study predicted that role clarity moderates the relationship between nationality and RFC. This study was conducted at the Research & Development (R&D) center of a multinational dairy cooperative. Here, many employees do not originate from the Netherlands. Therefore, knowing where differences between Dutch- and non-Dutch employees' RFC could come from, as well as knowing where to pay extra attention to, could contribute to keep current and attract new non-Dutch scientists to the organisation.

Many studies have looked into antecedents of RFC, but either in finance, manufacturing, health, nursing or educational sectors (Riddell & Røisland, 2017). This study focusses on a distinct population, namely R&D professionals. Their main purpose is research into and development of (in this case) new dairy products for all over the world. Consequently, the participants are all highly educated, which is often positively related to RFC (Madsen et al., 2005; Bouckenooghe et al., 2010). Looking into an all highly educated population could shed new light on what makes highly educated people more likely to have a

high RFC. Besides education, R&D professionals differ on other areas as well. Overall, R&D professionals have high commitment, creativity, expertise, problem solving orientation, intrinsic motivation and interest in challenges (Harpaz & Meshoulam, 2004; Chang, Choi & Kim, 2008).

The purpose of this study is finding out what roles job demands, decision latitude, job satisfaction, nationality and role clarity play in the RFC of R&D professionals. Thereby the study will provide a valuable addition to existing research, but also shed light on RFC within a unique population of R&D professionals. This gives organisations additional information on how to design their working conditions, to increase employees' RFC, thereby enhancing the chances of successful organisational change. This study composed the following research question: "What are the effects of job demands, decision latitude, job satisfaction, nationality and role clarity on employees' RFC within the Innovation Centre Wageningen of FrieslandCampina R&D?". Role clarity was measured as a moderator of the independent variables. As control variables, this study looked into age, gender, years at the Innovation Centre, educational level and managerial role.

Method

Participants

A power analysis executed with G*Power, showed that to reach an α of .05 and a power of .95, at least 129 participants are required (Buchner, Erdfelder, Faul, & Lang, 2007). A total of 148 employees of the Innovation Centre of FrieslandCampina R&D participated in this research (response rate: 30%). Almost half (51.4%) of them is male. To decrease the chances that data could be traced back to participants, age was divided into ranges. Most employees (27.7%) are between the age of 30 and 39 years old. Nearly half (48.7%) is either between 40 and 49 or 50 and 59. The minority is either above 59 or below 30 years old. Seventy-five percent of the participants had either finished university (51.4%) or hold a Doctor of Philosophy (PhD) (23.6%). Twenty-two point three percent had finished higher professional education ("HBO"), only 2.7% is not highly educated. More than half (53.4%) of the participants worked at the Innovation Centre for 5 years or less. Twenty-two point three percent does not originate from the Netherlands, the number of years they worked in the Netherlands, varied from 0,5 until 20 years. The majority is in a non-managerial role (76.4%).

Procedure

All 494 employees employed at the Innovation Centre Wageningen received an email

containing a link to a questionnaire in the program *Qualtrics* (see Appendix A - D). After two weeks they received a reminder. Employees could only fill in the questionnaire after agreeing to the consent form (see Appendix C). The consent form explained that participation was voluntary, there was no incentive and data could not be traced back to them. The duration of the questionnaire was approximately 10 minutes.

Measures

The questionnaire contained 43 questions and was composed using several validated questionnaires. It measured the previously named variables and some additional questions about demographics (see Appendix D).

The dependent variable, *readiness for change*, was measured using a scale developed by Cunningham et al. (2002), based on Prochaska et al.'s (1994) questionnaire. The measure's criterion and construct validity are verified (Cunningham et al., 2002). The questionnaire contains 6 items, with a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Item 6 was deleted ("We are trying to make sure we keep changes/improvements my department/team has made.") to increase the Cronbach's alpha from .69 to an acceptable alpha of .72 (Dennick & Tavakol, 2011). Example questions of this scale are 'The department in which I work functions well and does not have any aspects which need changing' and 'I plan to be involved in changing the department or team in which I work'.

Job satisfaction was measured using the 'Andrew and Withey Job Satisfaction Questionnaire' (A&W JSQ). The questionnaire has good reliability, construct and criterion validity (Rentsch & Steel, 1992). It consists of 5 items measuring general job satisfaction. The items are measured on a 7-point likert-scale, ranging from 1 (delighted) to 7 (terrible) (Rentsch & Steel, 1992; Frings-Dresen, Saane, van, Sluiter, & Verbeek, 2003). The scale has an acceptable Cronbach's alpha of .75. Examples questions are 'How do you feel about the work you do on your job - the work itself?' and 'What is it like where you work - the physical surroundings, the hours, the amount of work you are asked to do?'

Job demands and *decision latitude* were measured with a measure developed by Karasek (1979). Both scales have good reliability and validity (Fields, 2013). Job demands was measured using 7 items and a 5 point likert-scale, ranging from 1 (never) to 5 (extremely often). It has an acceptable Cronbach's alpha of .76. Example questions of this scale concerning are 'To what extend do you feel that there is not enough time for you to finish your work?' and 'To what extend are you faced with conflicting demands on your job?'. Decision latitude was measured with 8 items on the same 5 point likert-scale as job demands

(Fields, 2013). The scale has an acceptable Cronbach's alpha of .72. Example questions are 'To what extent do you have the freedom to decide how to organise your work?' and 'To what extent does your job allow you to make a lot of your own decisions?'.

To measure *role clarity*, a scale by Sawyer (1992) was used. The reliability, construct and criterion validity are confirmed (Sawyer, 1992; Fields, 2013). It contains 10 items with a 6 point Likert-scale, ranging from 1 (very uncertain) to 6 (very certain). The scale has an acceptable Cronbach's alpha of .88. The employees had to indicate the degree of certainty about the items. Example items are 'What aspects of my work will lead to a positive evaluation' and 'How to determine the appropriate procedures for each work task'.

Furthermore, the questionnaire requested some demographics, keeping in mind that these could not reveal the identity of the respondents. The demographics asked are gender, age, level of education, managerial role or not, origin, years working in the Netherlands and number of years working at the Innovation Centre.

Data-analysis

Data was analysed using IBM SPSS Statistics 26. First, to prepared the data, item 1 and 2 of the RFC measure were mirrored. Next, mean scores for RFC, job satisfaction, job demands, decision latitude and role clarity were computed. This study used standardised independent variables and a standardised moderator for the Multiple Regression Analysis (MRA). To make interpretations more clear, the study used centered variables for the interactions. Subsequently, assumptions were checked. Next a correlational analysis and an MRA including interaction effects were executed. To test the differences between the Dutch and non-Dutch employees, the study used dummy variables for *nationality*.

Results

To check for outliers or influential cases, Cook's Distance was measured before performing the analyses. One certain participant had a Cook's Distance above .50 and thereby strongly deviated from all other participants (Cook, 1977). This case had a strong influence on the regression lines. Two other subjects had a Cook's Distance around .10, suggesting that they might be influential cases as well. Furthermore, when running the MRA with and without these three cases, the significance level of the model changed from $p = .002$ ($N = 148$) to $p = .012$ ($N = 145$). Therefore, the decision was made to exclude these three subjects from the analysis, leaving a total number of participants of 145.

Testing assumptions

Linear relationships exist between the dependent variable and all independent

variables in scatterplots. To ensure that there are no high correlations between independent variables, multicollinearity was tested. All factors had a Variance Inflation Factor below 5, indicating that there is no multicollinearity in the data (Craney & Surles, 2002). Furthermore, a normal probability plot with residuals of the independent variables showed the data is normally distributed. A scatterplot with the residuals and predictors displayed dots evenly scattered around zero, indicating the assumption of homoscedasticity is met as well.

Descriptive statistics

The means and standard deviations are presented in Table 1.

Table 1

Summary of Means, Standard Deviations, Minima and Maxima for Scores on Readiness for Change, Job Demands, Decision latitude, Job Satisfaction and Role Clarity

Variables	<i>M</i>	<i>SD</i>	Min.	Max.
Readiness for change	4.62	0.91	2.60	6.40
Job demands	2.94	0.57	1.86	4.71
Decision latitude	3.42	0.44	2.25	4.38
Job satisfaction	5.47	0.63	3.20	7.00
Role clarity	4.63	0.61	2.50	6.00

A correlation analysis provided the results shown in Table 2. Two independent variables significantly correlated to the dependent variable RFC. Job demands significantly and positively related to RFC ($r(144) = .26, p = .002$), showing high job demands are associated with high RFC. Additionally, this study found a significant and positive correlation between decision latitude and RFC ($r(144) = .18, p = .035$), indicating that when decision latitude increases, RFC increases as well. Both effects are small according to Cohen (1988). As shown in Table 2, there are several significant correlations between the independent variables, moderator, control variables and RFC

Table 2*Bivariate Correlations for Study Variables*

	1	2	3	4	5	6
1. RFC	-	-.02	.26**	.18*	.15	.04
2. Job satisfaction		-	-.08	.42**	-.07	.46**
3. Job demands			-	.12	.06	-.04
4. Decision latitude				-	.06	.41**
5. Nationality					-	.07
6. Role clarity						-
7. Gender						
8. Age						
9. Education						
10. Years at IC						
11. Manager						

Note. IC = the Innovation Centre.

** Correlation is significant at $p < .01$ (2-tailed)

Multiple Regression Analysis

To test the hypotheses, this study performed an MRA to predict RFC from job satisfaction, job demands, decision latitude, nationality and to test whether role clarity moderates these relationships (see Table 3).

The overall model significantly predicts RFC ($F(9, 135) = 2.486, p = .012$). This indicates that the proportion of variance explained by the proposed model significantly deviates from zero. The proposed model explains 8.5% of the variance in RFC (Adjusted R Square = .085).

Table 3*Employees' Readiness for Change Predicted by Different Study Variables*

	B	Std. Error	Beta	t	Sig.
Job demands	.21**	.08	.23**	2.71	.01
Decision latitude	.17*	.08	.19*	2.07	.04
Job satisfaction	-.03	.09	-.03	-0.29	.77
Nationality	.34	.19	.15	1.81	.07
Job demands x Decision latitude	-.02	.10	-.02	-0.16	.88
Job satisfaction x Role clarity	-.09	.09	-.13	-0.99	.32
Job demands x Role clarity	-.06	.09	-.07	-0.70	.49
Decision latitude x Role clarity	.12	.09	.18	1.35	.18
Nationality x Role clarity	-.30	.19	-.15	-1.63	.11

** p < .01 (2-tailed)

* p < .05 (2-tailed)

Job demands ($b^* = .21$, $t = 2.71$, $p = .008$) and decision latitude ($b^* = .17$, $t = 2.07$, $p = .040$) are significantly related to RFC. This means that employees who perceive higher job demands and more decision latitude are more ready for changes. There are no significant interaction effects.

The first hypothesis about the effect of decision latitude on RFC is supported by the data. Decision latitude significantly predicts RFC in the current population ($b^* = .17$, $t = 2.07$, $p = .040$). When decision latitude increases with 1, RFC increases with .17.

The data seem to contradict the expectations of the second hypothesis about job demands. The data show employees experiencing higher job demands, also had a higher RFC ($b^* = .23$, $t = 2.71$, $p = .008$). An increase of 1 on job demands, leads to an increase of .23 on RFC. This study did not find a significant interaction effect between job demands and decision latitude. Decision latitude does not moderate the effect of job demands on RFC.

The fourth hypothesis about job satisfaction is not supported, job satisfaction does not predict RFC for employees at the Innovation Centre ($b^* = -.03$, $t = -.29$, $p = .774$). Finally,

the hypotheses concerning moderation of role clarity are not supported either (see Table 3). Role clarity does not moderate the effects of the independent variables on RFC.

Discussion

The introduction showed that for an organisation to quickly adapt to the environment in which it operates, it is important that employees are ready and accepting of changes to come. Several factors can be of influence on employees' RFC. The current study investigated the effects of job demands, decision latitude, job satisfaction and nationality on employees' readiness for change. Additionally, the study at hand explored possible moderating effects of role clarity on these suspected relationships.

This study found support for the predicted positive relationship between decision latitude and RFC. Employees who experience more decision latitude within their job, are more open to, involved in and ready for change. These findings are in line with the idea that more decision latitude leads to more proactive, creative and innovative behavior that in turn result in more positive responses to and acceptance of changes within an organisation (Hornung & Rousseau, 2007; Bastistelli, Montani, & Odoardi, 2011; Hosomi et al., 2017).

Contrary to the expectations, this study showed that job demands positively related to employees' RFC. These findings are not in line with the theory that high job demands lead to reduced health and well-being, exhaustion, evoke stress and decrease job satisfaction and engagement (Fields, 2013; Okwueze et al., 2018; Freude et al., 2019; Angerer et al., 2020), and thereby decrease RFC (Cunningham et al., 2002; Callan et al., 2005; Madsen et al., 2005; Kwahk & Lee, 2008; Andrew & Mohankumar, 2016; Azra et al., 2018). The current study was based on the JD-C-model, which showed how imbalance between job demands and decision latitude can lead to job strain and eventually burnout. Another model called the Job Demands-Resources (JD-R) model, assumes that not solely decision latitude, but any resource can balance out the negative effects of job demands (Schaufeli & Taris, 2013). Examples are breaks, task rotation, feedback, social support, self-efficacy and opportunities for professional development (Bakker et al., 2009; Schaufeli & Taris). As will be explained later in this thesis, plentiful attention is paid to feedback, support, growth and development within the current population. Perhaps these resources compensate for the negative effects of high job demands in the current population. Overall, R&D professionals are highly involved with the specific area they work in. This involvement is increased even more by the attention paid to continuous learning in R&D organisations (Huan, Qinchao, Sheng, & Yongyuan, 2017). Furthermore, heightened job demands can also make employees experience more

responsibility (Oppenauer & Voorde, 2018), which is associated with job involvement as (Mogaji, 2002). Involvement is associated with organisational commitment (Costanti, Theocharous, & Zopiatis, 2014), which is associated with RFC (Ismail, Mardhatillaha, & Rahmanb, 2017). Concluding, at the Innovation Centre the negative effects of job demands might be balanced by several resources like feedback, development and support. Consequently, RFC is not decreased by the negative effects of job demands, but increased by involvement caused by high job demands. Therefore it is important that at the Innovation Centre the resources balancing the high job demands remain present.

Furthermore, this study expected decision latitude to moderate the negative effects of job demands on RFC. These expectations were based on the JD-C model of Karasek (1979) and the findings of Cunningham et al. (2002). These studies showed that employees with a combination of high job demands and high decision latitude had a higher RFC, while a combination of high demands and low decision latitude was associated with a lower RFC because of strain. This study did not find a significant interaction effect. In the current study, decision latitude turned out not to be the factor that compensates for high job demands. The Demand-Induced Strain Compensation (DISC) model (De Jonge, Dormann & Van den Tooren, 2008) states that job demands can only be compensated with resources of the same domain. Decision latitude mainly buffers demands like time pressure, obstacles at work and emotionally demanding clients (Dormann & De Jonge, 2003), while within the dairy industry high job demands mainly involve high competition (FAO, 2018). At the Innovation Centre employees have to quickly anticipate new developments within the market and generate innovative ideas. Access to advanced data and high quality devices for research into- and the development of new products might be of higher importance than decision latitude. Therefore, decision latitude might not be the resource that compensates for the specific job demands at the Innovation Centre, explaining why no interaction effect was found.

Job satisfaction did not seem to predict RFC, indicating that employees who felt more satisfied about various parts of their job were not more open to change than employees that scored lower on job satisfaction. These findings are not in line with previous studies showing a positive relation between RFC and job satisfaction (Barrera, 2008; Andrew & Mohankumar, 2016). A possible explanation for the discrepancy between these findings lies with the fact that in the current study, no tangible changes were announced, while this was the case in the study of Barrera (2008) and Andrew & Mohankumar (2016). Therefore, it is possible that in their study employees felt more threatened (Eilam & Shamir, 2005). As explained in the introduction, according to the broaden-and-build theory threat reactions lead

to narrowing of the mind, fear and stress and thereby decrease RFC (Fredrickson, 2004; Buchanan et al., 2016). Additionally higher job satisfaction seems to be related to less threat experiences (Cortland & Kinias, 2019). Maybe within their study the employees with high job satisfaction experienced less threat, therefore had higher RFC than employees with lower job satisfaction and who experienced more threat-reactions. In my study there was no threat by an announced change, which explains the smaller differences in RFC in employees with higher or lower job satisfaction.

Contrary to the expectations, the study at hand did not find any differences concerning RFC between Dutch and non-Dutch employees. This prediction was based on research indicating that employees originating from another country than the country they work in, deal with more uncertainty and stress due to cultural differences (Hofstede, 2011; Cascio & Aguinis, 2014; Bücken et al., 2016). These feelings of uncertainty and stress in turn could decrease employees' RFC (Bordia et al., 2004; Kiefer, 2005; Bayraktar, 2019). One possible explanation for these findings is the international character of FrieslandCampina. At FrieslandCampina they are rather used to cooperate with colleagues from other cultures. FrieslandCampina has branches in 34 different countries among which countries with a more collectivistic culture and bigger power distance compared to the Netherlands (Hofstede, 2011; <https://www.hofstede-insights.com/>). Hence, since FrieslandCampina has a lot of experience in cooperating with colleagues from other cultures, they might already apply a lot of this knowledge. Additionally, the current study did not account for the country the employee came from to protect participants' identities, therefore the cultures the employees originate from are not known. Perhaps, a future study could look at the differences between several cultures in relation to RFC, by doing research at different branches globally of a multinational company.

This study did not find any moderating effects of role clarity on the effects that job satisfaction, job demands, decision latitude and nationality have on RFC. These findings show that the amount of role clarity a participant experienced did not increase or decrease the effects of job satisfaction, decision latitude, job demands or someone's nationality on participants' attitude towards change. The expectations regarding job satisfaction were based on research showing that strain negatively affects job satisfaction (Cunningham et al., 2002) and role clarity influences strain (Jackson & Schuler, 1985; Abramis, 1994). Furthermore, strain seems to consist of an imbalance between job demands and decision latitude. As role clarity affects strain, this study expected it to moderate the effects job demands, decision latitude and job satisfaction have on RFC. Johnson and Hall (1988) added 'support' to the

JD-C model, stating social support is of importance as well in the development of strain. Considering that especially supervisor support seems to be high at the Innovation Centre, maybe this alleviates the effects of strain caused by unclear roles, explaining the discrepancies in the findings. Regarding nationality, this study based the expectation on role clarity adding to the extra uncertainty experienced by employees working in another country than their home country (Bücker et al., 2016; Luring et al., 2020). According to the uncertainty reduction theory, people reduce uncertainty about other peoples' behavior by gaining information about them (Berger & Calabrese, 1975). Maybe employees' from abroad compensate for the uncertainty caused by low role clarity, by reducing uncertainty about others' behaviors.

Limitations and avenues for future research

A limitation of this study concerns the generalizability of the findings. Since an R&D population is such an exceptional population, the findings cannot easily be generalized to many other organisations. However, this is also what makes my study unique and of importance. It emphasizes the unique character of R&D populations and thereby stresses the importance of adapting measures to the population of interest. While for other populations high job demands decreases RFC, my research has shown that for R&D professionals the contrary is true. Furthermore, the effects regarding decision latitude and RFC are similar to other populations while the effects of job satisfaction, which had been found by several studies, did not turn out to be an antecedent for RFC. Although, some research has been done into R&D populations, this study seems to be the first one looking into RFC in an R&D population. For future research it would be interesting to examine how R&D populations differ from other populations concerning RFC after for example the announcement of a structural or cultural change within the organisation.

One aspect that probably affected the results of the current study is the fact that the questionnaire was distributed to the employees one week after the start of the safety measures regarding COVID-19. All employees suddenly had to start working from home, which resulted in major changes regarding their job. Studies show that during previous epidemics peoples' stress levels significantly increased (Avsec, Kavcic, & Kocjan, 2020). As stress is a factor that can effect almost all variables of my research (except for nationality), this might have influenced the results. Because the aim was to measure overall RFC, the decision was made not to change the questionnaire. The e-mail sent to the employees (see Appendix A) gave a broad image of change, making clear that the study was about changes overall and not just about the current situation.

Practical implications

Decision latitude is one of the factors contributing to the RFC of the Innovation Centre's employees. Especially concerning employees' opportunities for development and growth, FrieslandCampina is performing well. FrieslandCampina provides numerous opportunities for their employees to develop and grow within the organisation, either locally or globally. The employees are responsible for their own growth, development and career, while being supported by their manager. To reach their own objectives, during the year employees and their managers have continuous dialogues and an end year review, to discuss their personal development and performance. Furthermore, the managers discuss the relative performance of team members against each other, providing a score that has influence on the end year bonus. Whenever an employee's performance stands out, they can be nominated, for example, for the Academic Potential pool or Future Leader pool. In those pools training and development programs are provided, as well as coaching, lectures, seminars and prospects of promotion. To conclude, there are many opportunities for growth and development within FrieslandCampina, but employees have to be proactive in telling what they want. This shows that regarding employees' career path, there is a lot of decision latitude.

However, concerning decision latitude there are also points of improvement. From what I have heard within the organisation, employees often feel decision-making can take a while, because many people and bureaucratic processes are involved. Additionally, employees feel like there are too many distracting meetings. However, they feel like they have to participate, otherwise they will miss important decisions. So to further increase employees' RFC by increasing decision latitude, some improvements can be made in these areas. Regarding the time-consuming decision-making, this study proposes doing a so called Simu-Real (Klein, 1992). This is a 1-day method to become aware of organisational dynamics and structural and procedural blockades. Fifty to 100 employees can be involved acting in their actual roles, thereby representing the whole organisational system. So, the method concerns real employees doing real work, while the organisational structure is simulated in one room. The employees do the work, then stop to debrief, come up with improvements and start working again. This process will be repeated three times and end with an overall summary. This creates awareness of the actions but also shows direct results of new improvements (Klein, 1992; Cady, Devane, & Holman, 2007). Unnecessary work becomes visible, providing insight on how the decision-making processes can be accelerated. Besides providing new insights and solutions, this method actively involves many employees which will increase the chances of effective implementation of the new methods within the

organisation. Whenever employees have contributed to the ideas of the change, they will be more committed to the implementation. Participation should be voluntary and open to all employees, to increase involvement even more. Furthermore, involving many different employees will lead to more creative ideas and possible actions (Axelrod, 1992; Buchanan et al., 2016). To increase employees' decision latitude regarding meeting attendance, this study proposes that employees brainstorm about several rules of conduct regarding meetings within smaller groups. Eventually one list with rules will be made based on the ideas of the smaller groups. With this method, all employees are involved again, which will increase the chances of successful change. Also, by involving all employees their knowledge is used, considering that they are the ones that know best (Axelrod, 1992; Buchanan et al., 2016). Regarding job demands it is important that the resources balancing the high job demands remain present, so no negative effects will occur and involvement will remain. Therefore focus should remain on social support and development, but also on more technical resources like high quality devices and data-access.

Conclusion

In conclusion, in the current population decision latitude and job demands are antecedents of employees' RFC. However more factors are of importance, like having the right resources to balance negative effects of job demands. By paying special attention to long decision making processes and decision latitude regarding meeting attendance, employees' RFC at the Innovation Centre could be increased further. The current study highlights the unique character of R&D employees and the importance of adapting measures to the population of interest. Altogether, change remains a delicate subject and should be handled with care, to reach successful adoption of change within organisations.

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Appendices

Appendix A: Email sent to the employees

Dear colleagues,

The world in which we operate is constantly developing and people need to cope with change on a day to day basis. These changes can be anything, like the recent shift to continuous dialogue or for example the more unexpected change of suddenly having to work from home. Coping with changes isn't always easy. Therefore, it is important to know how FrieslandCampina can create the best circumstances for you to be more ready for changes in the future.

Since the beginning of February I have been the HR intern at the Innovation Centre in Wageningen. Besides my regular tasks, I am also doing research for my Master Thesis. This research will focus on the Readiness for Change of all employees at the Innovation Centre. With this research, I would like to find out what work related factors could be improved, to make it more pleasant and easy for you to deal with changes in the future.

Hereby, I need your help. Could you please fill out the questionnaire in the link below? It contains 43 questions and will take about 10 minutes.

https://fmru.az1.qualtrics.com/jfe/form/SV_0IAcFtKTm0hWqC9

In the link you will also find more information about the research.

Please let me know if you have any further questions or comments in reaction to this email.

Thank you in advance!

Kind regards,

Pauline Vos

HR Intern

FrieslandCampina Innovation Centre
Bronland 20
6708 WH Wageningen
The Netherlands
E: Pauline.vos@frieslandcampina.com

Appendix B: Information letter questionnaire

Information letter

"Antecedents of Readiness for Organisational Change"

This study is conducted within the Master Work, Organisation and Health Psychology of the Radboud University (Nijmegen). In this course, students conduct a study on a psychological topic within the organisation of their internship.

The current study will look into the readiness for change of the employees of the Innovation Centre Wageningen, in combination with several work related variables. This might shed light on possible antecedents of readiness for change and give information on what work related factors can be improved within the Innovation Centre Wageningen, for the employees to be more ready for possible future changes.

You will be asked to fill in a questionnaire composed of several scientifically validated questionnaires. The questionnaire contains 43 questions and filling it in will take about 10 minutes.

During the study you can indicate at any moment in time that you want to quit participating, without having to explain why you want to quit. Quitting during the study has no consequences what so ever.

The information that I collect will be anonymously processed. This means that later on the results cannot be traced back to you. The consequence of this is that I cannot inform you about your personal results after the study has been completed. However, I could inform you about the results of the study as a whole. If you wish to be informed about the results of this study, then please let me know.

If you have any questions as a result of this information, please send me an email before participating (p.f.vos@student.ru.nl).

If, after the study, you have remarks or complaints, you can contact my university supervisor (Ilona.Wissink@ru.nl) or internship supervisor (Alexandra.Kaars@frieslandcampina.com).

Did this study unintentionally prompt unpleasant feelings, thoughts or insecurities for you? Then, please contact your general practitioner or company doctor.

Now, I ask you to think about whether you want to participate in my study.

You are of course free to decide that you do not want to participate. In that case I thank you for time.

If you indicate that you want to participate in this study, I will ask you to agree to an informed consent form. By agreeing to this form, you indicate that you are sufficiently informed about the study and that you want to participate in the study and that you voluntarily do so.

Kind regards,

Pauline Vos
Student Master Work, Organisation and Health Psychology
Radboud Universiteit Nijmegen

Appendix C: Consent form

Consent form*

for participation in a study for the course Master Thesis
"Antecedents of Readiness for Change"

This part should be filled out by the participant prior to the start of the study

I hereby confirm that

- I was satisfactorily informed about the study and I have read and understood the written information on the study.
- I was informed that the current study is conducted by a Work, Organisation and Health Psychology student as part of the research for her Master Thesis.
- I have had the opportunity to ask questions regarding the study before participating.
- I was allowed sufficient time to consider whether to give my consent.
- I participate of my own free will.

I understand that

- I have the right to withdraw my consent at any time without having to give a reason and that withdrawing my participation has no further consequences.
- my information will be processed anonymously.
- the outcomes of the study cannot be considered as a diagnostic test.
- I will not be informed about my individual results.

*This form is for research involving competent human subjects aged 18 and over. This type of research requires consent from all participants.

After reading the information above, I consent to participate in this study.

Yes

No

Skip To: End of Survey If Consent form for participation in a study for the course Master Thesis "Antecedents of Readiness... = No*

Appendix D: Questionnaire

Are you employed at The Innovation Centre of FrieslandCampina R&D in Wageningen?

- Yes
- No

*Skip To: End of Survey If Are you employed at The Innovation Centre of FrieslandCampina R&D in Wageningen?
= No*

Which gender identity do you identify with most?

- Male
 - Female
 - Other
-

What is your highest completed level of education?

- None
 - Primary education
 - VMBO/Pre-vocational secondary education
 - HAVO/Senior general secondary education
 - VWO/Pre-university education
 - MBO/Secondary vocational education
 - HBO/Higher professional education
 - WO/University education
 - PhD
-

What is your age?

- < 20
- 20 - 29
- 30 - 39
- 40 - 49
- 50 - 59
- > 59
-

For how many years have you worked at FrieslandCampina R&D Wageningen?

- 0 - 5 years
- 6 - 10 years
- 11 - 15 years
- 16 - 20 years
- > 20 years
-

Are you originally from the Netherlands?

- Yes
- No
-

Display This Question:

If Are you originally from the Netherlands? = No

For how many years have you worked in the Netherlands?

Are you in a managing position?

Yes

No

Please answer the following questions.

	Never	Sometimes	About half the time	Most of the time	Extremely often
To what extent does your job require you to work fast?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent does your job require you to work hard?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent does your job require a great deal of work to be done?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent is there not enough time for you to do your job?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent is there excessive work in your job?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent do you feel that there is not enough time for you to finish your work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent are you faced with conflicting demands on your job?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions.

	Never	Sometimes	About half the time	Most of the time	Extremely often
To what extent is high skill level required?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent are you required to learn new things?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent is your work non-repetitious?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent does your job require creativity?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent do you have the freedom to decide how to organise your work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent do you have control over what happens on your job?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent does your job allow you to make a lot of your own decisions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent are you assisted in making your own decisions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

