Perceptions of organizational change and the psychological contract

A study on the influence of educational level

Master Thesis Human Resource Studies
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Abstract

Nowadays, organizations have to adapt in order to survive in their environment. It is not sure if changing organizations are still able to deliver the promises once made to their employees. Perceptions of low levels of fulfillment and violation of the psychological contract may be a consequence. This study focuses on the influence of employee perceptions of organizational change on different aspects of the psychological contract and the extent educational level influences employees’ perceptions in a context of change. Quantitative methods of data collection were used and a total of 156 employees participated. Results largely confirm the hypotheses and show that employee perceptions of organizational change influences perceived fulfillment/violation of organizational obligations and extra-role obligations. No effect is found of education level on employee perceptions. However, employee perceptions are affected by job level and communication. Further research is necessary to gain more information about the perceived psychological contract.

Tegenwoordig moeten organisaties zich aanpassen om te kunnen overleven in de omgeving. Er is geen garantie dat veranderende organisaties zich nog steeds aan de beloftes kunnen houden die ze ooit hebben gemaakt aan de werknemers. Percepties van een laag niveau van vervulling en schending van het psychologisch contract kunnen een gevolg zijn. Dit onderzoek richt zich op de invloed van werknemers percepties van organisatieverandering op verschillende aspecten van het psychologisch contract en de mate dat opleidingsniveau invloed heeft op werknemers percepties in een veranderende context. Er is gebruik gemaakt van kwantitatieve methodes van dataverzameling en een totaal van 156 werknemers participeerden. De hypotheses zijn grotendeels bevestigd door de resultaten en er is aangetoond dat werknemers percepties van organisatieverandering invloed hebben op percepties van vervulling/schending van organisatie verplichtingen en extra-role verplichtingen. Geen effect van opleidingsniveau op werknemers percepties is gevonden. Daarentegen worden werknemers percepties beïnvloed door baan niveau en communicatie. Meer onderzoek is nodig om meer informatie te verkrijgen over percepties van het psychologisch contract.
Introduction

Ongoing globalization, political developments and changing markets caused many developments in the market the last few years (Van den Heuvel & Schalk, 2009). The financial crisis has brought the world economy into the deepest recession since World War II. There was a collapse of the world economy and world trade (Central Planning Bureau, 2009) and the unemployment percentage has risen rapidly from 3.9 in 2008 to 8.75 in 2009 (Central Planning Bureau, 2010). Organizations had to adapt in order to survive in their environment and as a result the degree of organizational change has increased significantly the last decades (Van den Heuvel & Schalk, 2009).

In a context of organizational change, it is important to investigate employee perceptions of change because how employees perceive changes may influence the employment relationship (Zhao, Wayne, Glibkowski & Bravo, 2007). Perceptions of the extent to which an organization values their contributions are built by employees (Rhoades & Eisenberger, 2002). These invisible processes are always present in organizations. Knowledge about how employees experience the reality and how they react to it is therefore an important factor in changing environments within organizations (Freese, 2007).

Not only organizational change, but also educational level has influence on perceptions of employees (Mitchell, in Bellou, 2009). The relationship between educational level and employee perceptions of organizational change can be explained by using the information theory (Ehsani, Makui & Nezhad, 2009). This theory argues that expected availability of more information because of more communication is the reason for more positive perceptions of change among higher educated employees.

The perception of employees in a context of change influences the employment relationship (Kickul, Lester & Belgio, 2004). A relationship with regard to perceived mutual obligations between employer and employee is called the psychological contract (Rousseau, 1990). It is questionable if changing organizations are still able to deliver the promises once made to their employees (Van den Heuvel & Schalk, 2009). Changes create uncertainty about contract fulfillment (Robinson & Morrison, 2000) and non-fulfillment of organizational obligations are often experienced perceptions of employees (Conway & Briner, 2002). According to the social exchange theory, a psychological contract that is not perceived as fulfilled will result in a negative response of employees (Zhao et al., 2007).

Risk of violation of the psychological contract is present when an organization wants to implement changes (Freese, 2007). When employees perceive changes it may influence
their perceptions of violation (Conway & Briner, 2002) and these perceptions affect employee attitude and behavior (Turnley & Feldman, 1999). When employees perceive a gap between their expectations and what is actually received, it influences their performance and behavior (Blancero, Johnson, Lakshman, 1996). Robinson, Kraatz and Rousseau (1994) concluded that employee obligations will decline when employees perceived the employer to have violated the psychological contract.

This study was conducted in a context of organizational change and is seen from the employee’s perspective. The education of employees is included as a factor which could influence the employee perceptions of organizational change. These perceptions seem to have an influence on the psychological contract. Fulfillment/violation of organizational obligations and employee obligations are included as parts of the psychological contract which may be influenced by employee perceptions. By combining the forgoing theories, the following research question is derived: ‘To what extent do employee perceptions of organizational change influence the psychological contract in terms of perceived fulfillment/violation of organizational obligations and employee obligations? And to what extent are these perceptions of change influenced by employees’ educational level?’

An enormous amount of research on psychological contracts has been done the past 15 years. However, focuses of the influence of organizational changes (Freese, 2007) and the impact of employees’ level of education (Bellou, 2009) on employee perceptions of change are relatively new. Research shows that employers do not have good impressions about the things that are important for employees regarding the content of the psychological contracts (Freese, 2007). More knowledge about psychological contracts provides valuable information for organizations. Therefore this subject needs more research so employers are able to gain a better impression of the needs of their employees (Freese, 2007), how they perceive changes (Kickul et al., 2004; Morrison & Robinson, 1997) and the way they react (Hallier & James, 1997).

2. Theoretical framework

2.1 Organizational change and perceptions of change
The only thing constant within organizations is continual change (Elving, 2005). Organizational change is an important strategy for organizational development and survival. The last two decades there have been major changes within organizations, like downsizing
and restructuring (Zhao et al., 2007). Unfortunately, half of the changes within organizations were not successful over the last century (Waddell & Sohal, 1998). Zhao et al. (2007) argue that organizational changes have influenced the perception of and reactions to an employment relationship.

According to Holbeche (2006) there are four types of organizational change: Transactional, incremental, radical and transformational change. Change can be measured in several ways: it can be measured according to the different impact of change, like Holbeche (2006) did, but also according to the perception of employees regarding change (Freese, 2007) or resistance to change (Oreg, 2006). This study focuses on employee perception of organizational change. First, it is argued that organizational change influences employee perceptions of change (Zhao et al., 2007). Second, it is important to gain more information about how employees perceive reality and how they react to it in an environment of change within organizations (Freese, 2007). So, it is important to know what employees think of the organizational change they experience and if this perception influences their behavior.

When focusing on the employee perception, organizational change causes positive response (Gilmore, Shea & Useem, 1997), but it can also be perceived as non-beneficial (Van den Heuvel & Schalk, 2009). Employees build an overall perception of the extent to which an organization values their contributions (Rhoades & Eisenberger, 2002). Saunders and Thronhill (2003) argue that it is likely that employees will perceive the changes as threatening, because of feelings of being defenseless and fear of losing security. They can face difficulties in accepting and adjusting to the new environment. Therefore, it is important to investigate employee perceptions within a context of change. There has been a tendency for research on employees’ responses to organizational change to focus only on the negative aspects (Jones, Hobman, Watson, Bordia, Callois & Callan, 2008), but there is also a need to research employees’ positive subjective experience of change, like experiences of excitement and feelings that the change is beneficial for the employees personally and for the organization (Oreg, 2006). Therefore, this study focuses on both positive and negative employee perceptions. Oreg (2006) developed a change attitude scale to measure resistance to change. He defines resistance as ‘a tridimensional (negative) attitude towards change, which includes affective, behavioral, and cognitive components’ (p.76). The affective component is about how someone feels about the change. The behavioral component reflects actions or intention to act as a result of the change. What one thinks about the change involves the cognitive component. Oreg (2006) designed this scale because he argues that previous studies did not use a multidimensional conceptualization of resistance to change. This study is not
about resistance to change, however the study of Oreg (2006) is interesting because the focus is on employee attitudes toward change and moreover, it gives more insight in how employees perceive changes.

2.2 Educational level and perceptions of change
Since World War II the level of education in the Netherlands has increased significantly (Central Bureau of Statistics (CBS), Central Planning Bureau (CPB), Office of Environment and Planning (EPO) and the Social and Cultural Planning Office (SCP), 2009). Education is usually characterized as a learning process through which people acquire knowledge and information, the development of cognitive capacities, and the change of norms, values and modes of behavior. Education increases information processing capabilities, attention management, and improves the cognitive abilities which are necessary for successful analysis of otherwise difficult problems (Gyekye & Salminen, 2009).

The way a change is implemented within the organization is crucial (Freese, 2007). Freese (2007) states that individuals experience organizational change differently. Every individual handles change in his own manner (Weick & Quinn, 1999). Van den Heuvel and Schalk (2009) found that when an employee feels or thinks negatively about a change, they do not always express it.

Elias (2009) argues that there is a difference of individuals with high or low level of growth needs. Individuals who look for opportunities have a more positive perception of change. Variation in employee attitude and behavior can be explained by individual characteristics, like educational level. It influences employee values, needs, preferences, and thus perceptions and actions (Mitchell, in Bellou, 2009).

The influence of educational level on the perceptions of employees can be explained using the information theory. Information receiving and processing and decision-making tasks are usually performed by communication channels and by the same people in the top levels of an organization (Ehsani et al., 2009). Employees in the top levels are usually higher educated employees. They perceive changes within the organization less negatively and also held emotional and attitudinal responses less negatively than employees with lower job positions (Jones et al., 2008). If there is more communication about organizational change, then employees perceive less uncertainty and fear, because there is more information about organizational change (Freese, 2007). Low educated employees often have less access to information and less decision-making power because they are often working in lower job levels (Spreitzer, 1996). Because less information is available to low educated employees, it is
expected that low educated employees have a more negative perception of organizational change. Therefore, the following hypothesis is stated:

_Hypothesis 1: The higher the educational level of employees, the more positive their perceptions of organizational change._

### 2.3 Psychological contract

Psychological contracts evolve or change over time as a result of changing needs and relationships on both the employee's and the employer's side (Levinson, Price, Munden, Mandl & Solley, 1962). There have been many attempts to develop and refine the concept of the psychological contract. In this study the definition of Freese (2007, p24.) is used: “A psychological contract is an employee's beliefs regarding mutual expectations and obligations in the context of his relationship with the organization, which shape this relationship and govern the employee's behavior”. The psychological contract can be distinguished from the legal contract of employment. Robinson and Rousseau (1994) argue that it can be construed as a boundless bundle of obligations subjectively held. An important aspect of the psychological contract is that it is based on mutual obligations between employer and employee. It consists of perceived organizational obligations and perceived employee obligations (Freese, 2007). Obligations are basic components of social exchange relationships (Robinson et al., 1994). Robinson et al. (1994) define obligations as: “Beliefs, held by an employee or employer, that each is bound by promise or debt to an action or course of action in relation to the other party” (1994, p138).

Perceived obligations of the psychological contract change over time. After some time, employees will notice a discrepancy between actual fulfillment of obligations by the organization, and promises made about these obligations. This is often called psychological contract non-fulfillment or breach (Rousseau, 1995; Robinson & Morrison, 2000, Conway & Briner, 2005). Psychological contract non-fulfillment or breach are quite common. Many employees are able to come up with an example where they fulfilled their part of the deal, but the organization did not live up to their promises (Conway & Briner, 2002). In this case the employee perceives a non-fulfillment of organizational obligations. When the organization experiences that the employee did not live up to made promises, there is a non-fulfillment of employee obligations.

When psychological contract non-fulfillment or breach are perceived, there is not directly a psychological contract violation. When employees perceive the organization has failed to fulfill one or more of the perceived obligations of the psychological contract, there is
a breach of the contact. If there is a perceived breach and the breach is significant, it constitutes a violation (Morrison & Robinson, 1997, p230). There is a distinction between the cognitive perception of a discrepancy (breach) and an emotional reaction to a discrepancy (violation) that can take place. Morrison and Robinson (1997, p.230) describe a violation as “a combination of disappointment emotions and anger emotions. Feelings of anger, resentment, bitterness, indignation and even outrage that emanate from the perception that one has been betrayed or mistreated. Violation is an emotional experience, yet it arises from an interpretation process that is cognitive in nature”. The focus of this paper is only on perceived (non-)fulfillment of organizational obligations and violation.

The psychological contract consists of three aspects: perceived organizational obligations, perceived employee obligations and perceived fulfillment/violation of organizational obligations (Robinson et al., 1994). According to Rousseau and Tijoriwala (1998) there are three approaches when assessing the psychological contract: Content-oriented, featured-oriented and evaluation-oriented approach. This study first discusses the evaluation-oriented approach which measures the degree of fulfillment, change or violation experienced within the context of the psychological contract. Second, when discussing employee outcomes, the content-oriented approach will be taken into account. This approach measures the specific terms of the contract. In this study the content of the psychological contract as well as the degree of perceived fulfillment and violation are measured by using the New Tilburg Psychological Contract Questionnaire (NTPCQ) and a scale made by De Jong (2008).

2.3.1 Perceptions of organizational change and the psychological contract
Changes that occur in an organization influence the psychological contract (Pate, Martin & Staines, 2000; Kickul, Lester & Finkl, 2002). Changes are likely to affect what an organization will offer to the employees who are involved and also what an organization expects to receive from its employees (Freese, 2007). It is questionable if organizations are still able to deliver the promises once made to the employees when they are facing some kind of change in order to adapt and survive in the environment. If employees have the perception that the organization fails to deliver the promises due to changing circumstances, it is likely that employees perceive a psychological contract non-fulfillment or breach (Kickul et al., 2004). Therefore, the following hypothesis is stated:

Hypothesis 2: The more positive the employee perceptions of organizational change, the more likely it is that they perceive a fulfillment of organizational obligations.
When employees perceive that the organization is not able to deliver the expected promises because of the changes, another result could be a perceived violation of the psychological contact (Conway and Briner (2002). Organizations often expect that their employees will change along with the change process. On the contrary, employees often expect the organization to stick to the old deal. Because of these opposite expectations, there is risk of violation of the psychological contract when an organization wants to implement changes (Freese, 2007). Therefore, the following hypothesis is stated:

*Hypothesis 3: The more positive the employee perceptions of organizational change, the less likely it is that they perceive a violation of the psychological contract.*

### 2.3.2 Fulfillment of organizational obligations, violation and employee obligations

When studying perceived employee obligations, the focus is often on in-role and extra-role behavior like in the study of Freese, Schalk and Croon (2008). In-role behavior is seen as: “*Expected behavior from the employee who performs his tasks well.*” Extra-role behavior is stated as: “*Behavior of an employee who is willing to walk an extra mile on behalf of the organization, if it falls within his job description*” (Freese, 2007, p.120). In-role and extra-role behavior are important aspect when studying employee outcomes in relationship with the psychological contract, because how someone perceives their psychological contract affects their in-role and extra-role work performance (Suazo, Turnley & Mai-Dalton, 2005).

It happens quite often that employers are not able to live up to their promises and employees therefore perceive a psychological contract non-fulfillment or breach (Conway & Briner, 2002). When employees perceive that the obligations of the organization compared to their own contributions are not fulfilled, they will reciprocate by adjusting their attitudes and behavior (Sonnenberg, 2006). Outcomes are reduced trust, job satisfaction and commitment to remaining with the organization, and the withdrawal of employee obligations (Robinson & Rousseau, 1994; Manning, 1992; Hallier & James, 1997). Robinson et al. (1994) found that when employees perceive their employer fails to fulfill its commitments it can be associated with a decline in some types of employee obligations. Psychological contract breach is negatively related to employees’ in-role and extra-role work performance (Suazo, Turnley & Mai-Dalton, 2005). Psychological contract fulfillment results in increased employee performance both in terms of in-role and citizenship behavior (Turnley, Bolino, Lester & Bloodgood, 2003).
Blau (in Shore & Barksdale, 1998) stated that in the social exchange relationship, when someone does something beneficial for another party, there is the expectation that the action will be reciprocated. It is expected that the recipient will repay the dept by engaging in behaviors which are beneficial to the other party. This implicates that when an employee perceives to be treated well by the organization, the employee would feel obligated to treat the organization well (Gouldner, 1960). Therefore, the following hypothesis is stated:

*Hypothesis 4: The more an employee perceives a fulfillment of organizational obligations, the higher the perceived employee obligations.*

A general approach for understanding how employees are likely to respond if they perceive that their psychological contract has not been fulfilled is the social exchange theory (Turnley et al., 2003). The social exchange theory argues that a psychological contract that is not perceived as fulfilled results in a negative employee response (Zhao et al., 2007). Employee obligations will decline when employees perceived the employer to have violated the psychological contract (Robinson et al., 1994). McLean Parks and Kidder (1994) found that employees with higher levels of psychological contract violation are more likely to neglect in-role job performance. They also argue that extra-role behaviors are one of the first aspects which are influenced by psychological contract violation. Therefore, the following hypothesis is stated:

*Hypothesis 5: The more an employee perceives a violation of their psychological contract, the lower the perceived employee obligations.*

### 2.3.3 Perceptions of change and employee obligations

The influence of employee perceptions of organizational change on employee obligations has not often been researched yet. Oreg (2006) argues that overall it is expected that positive attitudes towards change will be associated with improved outcomes. According to this information, it is expected that if employees perceive the changes positively, their obligations will increase. Therefore, the following hypothesis is stated:

*Hypothesis 6: The more positive employee perceptions of organizational change, the more likely it is that they perceive more employee obligations.*

As aforementioned, perceptions of employees are negatively related with perceived psychological contract non-fulfilled and/or violation (Kickul et al., 2004; Conway and Briner, 2002; Freese, 2007) and perceived non-fulfillment and/or violation influences employee
obligations negatively (Suazo et al., 2005; Turnley et al., 2003; Robinson et al., 1994; McLean Parks & Kidder, 1994). Because of the foregoing information, the relationship between perceptions of change and employee obligations is expected to be mediated by fulfillment/violation of organizational obligations. Therefore, the following hypotheses are stated:

**Hypothesis 7:** The expected relationship between employee perceptions of organizational change and employee obligations is mediated by fulfillment of organizational obligations.

**Hypothesis 8:** The expected relationship between employee perceptions of organizational change and employee obligations is mediated by psychological contract violation.

This study is conducted in a context of organizational change. The main goal is to investigate the relationship between educational level, perceptions of organizational change and the psychological contract in terms of fulfillment/violation of organizational obligations and employee obligations. The set-up of this paper is visually depicted in figure 1.

![Conceptual model](image)

**Figure 1. Conceptual model**

In this study a few control variables were chosen based on previous research. The first variable is age. Rousseau (2001) argues that changes in an employment relationship, like non-fulfillment of the psychological contract, may impact more heavily on younger employees because they have less stable mental schemas of their psychological contract than older employees.

The second is job level. As before mentioned, Jones et al. (2008) concluded that employees in higher positions in the organization perceived changes within the organization less negative and held less negative emotional and attitudinal responses compared to
employees with lower job positions. Therefore, job level is included as a variable in this study.

The third control variable is communication. Availability of information and communication reduces uncertainty about change (Kramer, Dougherty & Pierce, 2004). However, it could also create an understanding for the need to change. Engagement and involvement in the communication process influences employee behavior toward the change (Ford, Ford & D’Amelio, 2008).

3. Method

3.1 Research set-up
Quantitative methods for collecting data are used. In psychological contract research, the most used research design is a cross-sectional survey (Conway & Briner, 2005). The design is also used in this study.

The link of the questionnaire was sent from Tilburg University to all respondents. The questionnaire could be answered in English and in Dutch. The questionnaire was made by a few people who were working together to gain information about their subjects. The topics of the papers were quite similar and therefore it was decided to work together and make one questionnaire.

3.2 Description of respondents
The investigated unit of analysis is the individual employee who is or was experiencing some kind of organizational change during the last two years. The questionnaire was distributed via e-mail to a handful of companies. The participating companies where undergoing some kind of organizational change. Examples of types of change were change of technology, change in organizational culture, change in strategy and/or mission, and downsizing.

There were 156 respondents (N=156) who filled in the complete questionnaire. The questionnaire was filled in 499 times, but often only a few scales were filled in. Those answers could not be used and therefore were deleted from the total data.

There were 87 male respondents (55,8%) and 69 female respondents (44,2%). The mean age is 32,59. Most respondents are high educated; 36,5% have a HBO diploma and 51,9% finished the University. The mean job level is quite high; most respondents are upper
white-collar workers or middle management/executive staff (60.3%). The type of change the respondents experience the most is restructuring in divisions, departments or layers of the organization (77.0%) and change in leadership in top and senior management (76.0%). Most of them experience more than one type of change. Most respondents are currently working in the Netherlands (80.8%).

3.3 Instruments

*Perceptions of change:* Perceptions of change is measured with 10 items (appendix I). The items are from two different components of the change attitude scale of Oreg (2006). The first component is the affective component and consists of five items. The Cronbach alpha coefficient reported is .78 (Oreg, 2006). An example of an item of this subscale is ‘I am/was afraid of the change(s)’. The third component in the study of Oreg (2006) is the cognitive component and has five items. An example is ‘I believe(d) that I could personally benefit from the change(s)’. This subscale has good internal consistency, with a Cronbach alpha coefficient reported of .86 (Oreg, 2006). A 5-point Likert-type scale ranging from 1 (Totally Disagree) to 5 (Totally Agree) is used for both components. It was decided not to use the behavioral component, because this component reflects actions or intention to act as a result of a change. This component may be interesting when measuring resistance to change as Oreg (2006) does in his study, but less usable when the focus is on employee perceptions of change.

A confirmative factor analysis was conducted. The 10 items of this scale were subjected to principal components analysis (PCA) and results showed a Kaiser-Meyer-Oklin (KMO) value of .84. An Oblimin rotation was conducted to test if the items were loading on two different scales. The results of the analysis (appendix III) did not confirm the factor structure as argued by Oreg (2006). However, the results show that component 1 is covered by negative formulated items and positive formulated items were loading on component 2. Therefore, it is decided not to split up the scale any longer but it will be seen as one scale without subscales.

Reliability analysis showed that in this study the perceptions of change scale has good internal consistency, with a Cronbach alpha coefficient reported of .85.

*Organizational obligations:* Organizational obligations are measured by using six organizational obligations scales (appendix II) of the NTPCQ (Freese, 2009):

- Job Content (JC) (N=6, α=.78), for example: ‘Interesting work’.
• Career Development (CD) (N=6, \(\alpha=.80\)), for example: ‘Career opportunities’.
• Social Atmosphere (SA) (N=5, \(\alpha=.84\)), for example: ‘Good working atmosphere’.
• Organizational Policies (OP) (N=8, \(\alpha=.84\)), for example: ‘Open communication’.
• Work-Life Balance (WLB) (N=4, \(\alpha=.58\)), for example: ‘Working at home’.
• Rewards (RW) (N=6, \(\alpha=.76\)), for example: ‘Employee security’.

All six scales are measured by using a 5-point Likert-type scale ranging from 1 (not at all) to 5 (to a great extent).

Confirmative factor analysis was conducted for each of the organization obligations scales. Results confirmed the single factor structure as argued by Freese (2009). Each analyses showed a KMO value exceeding the recommended value of .6 (Kaiser, 1974) and a Barlett’s Test of Sphericity reaching statistical significance (Bartlett, 1954).

Reliability analysis is conducted and showed that in this study the Cronbach alpha coefficients are .76 (JC), .89 (CD), .87 (SA), .87 (OP), .76 (WLB), and .80 (RW).

Employee obligations: Employee obligations are measured by using two employee obligations scales (appendix II) of the NTPCQ (Freese, 2009):

• In-role obligations (IR) (N=11, \(\alpha=.86\)), for example: ‘Good cooperation’.
• Extra-role obligations (ER) (N=11, \(\alpha=.82\)), for example: ‘Working weekends’.

The two scales are measured by using a 5-point Likert-type scale ranging from 1 (not at all) to 5 (to a great extent).

Confirmative factor analysis was conducted for the two employee obligations scales and the results confirm the factor structure as argued by Freese (2009). Results of the reliability analysis show that in this study the Cronbach alpha coefficients are .84 (IR) and .86 (ER).

Fulfillment of organizational obligations: Fulfillment of organizational obligations (N=6, \(\alpha=.80\)) was measured by using the fulfillment scale of the NTPCQ (Freese, 2009). To what extent the organizational obligations are perceived as fulfilled is measured using one question (appendix II) after each of the six organizational obligations scales: ‘To what extent did your employer fulfill previous obligations?’ This scale is assessed by a 5-point Likert-type scale ranging from 1 (not at all) to 5 (to a great extent).

Confirmative factor analysis was conducted and results confirmed the single factor structure of the fulfillment scale as argued by Freese (2009). Reliability analysis showed that
in this study the fulfillment of organizational obligations scale has good internal consistency, with a Cronbach alpha coefficient reported of .78.

Violation: Violation is measured (N=6, α=.86) by using the Psycones scale of De Jong (2008) (appendix II). An example item is ‘I feel satisfied’. Violation is assessed by a 5-point Likert-type scale ranging from 1 (totally disagree) to 5 (totally agree).

Confirmative factor analysis was conducted and results confirmed the one factor structure as argued by De Jong (2008). The KMO value was .85 and the Bartlett’s Test of Sphericity reached statistical significance.

Reliability analysis showed that in this study the violation scale has good internal consistency, with a Cronbach alpha coefficient reported of .89.

Educational level: Educational level is mostly used as a control variable, like in the research of Freese (2007). That is not the case in this study. Educational level has a continuous scale and is measured by using one item. It is asked what the highest level of education ever achieved is. There are six answer possibilities ranging from ‘Primary education’ till ‘PhD, Postdoc or something with a similar level’.

Control variables: To find out the age, respondents had to fill in their year of birth. For job level, it is asked how they would classify their current job. There are six answer possibilities ranging from ‘unskilled blue collar worker’ to ‘management or director’. The last control variable, communication, is measured by using one single question: ‘The communication about changes in my organization fulfills my expectations’. This question is assessed by a 5-point Likert-type scale ranging from 1 (totally disagree) to 5 (totally agree).

3.4 Statistical Analysis
Correlations, means and standard deviations were established in further analyses. For each hypothesis, a hierarchical multiple regression analysis was conducted. Linear linkages between the independent and the dependent variables were expected. The first six hypotheses measure a direct effect and the last two hypotheses measure if there is a mediating effect. All the variables have a continuous scale.

The last step of the analysis was executing a sobel test to find out if the mediating effect of the independent variable on the dependent variable through the two mediator variables is significant.
4. Results

4.1 Correlations
Correlation coefficients as well as means and standard deviations are depicted in table 1. Relationships between the variables were investigated using Pearson product-moment correlation coefficient.

The correlation matrix demonstrates that there was a large, negative correlation between perceptions of change and violation ($r=-.61$, $n=156$, $p<.01$), with high levels of positive perceptions of change associated with low levels of perceived violation. Second, there was a large, negative correlation between fulfillment of organizational obligations and violation ($r=-.63$, $n=156$, $p<.01$), with high levels of perceived fulfillment of organizational obligations associated with low levels of perceived violation. Third, a large, positive correlation was found between in-role obligations and extra-role obligations ($r=.52$, $n=156$, $p<.01$), with high levels of perceived in-role obligations associated with high levels of perceived extra-role obligations.

A medium, positive correlation was found between employee perceptions of change and fulfillment of organizational obligations ($r=.46$, $n=156$, $p<.01$), with high levels of positive employee perceptions of change associated with high levels of fulfillment of organizational obligations.

Small, positive correlations are found between perceptions of change and in-role obligations ($r=.18$, $n=156$, $p<.05$), perceptions of change and extra-role obligations ($r=.16$, $n=156$, $p<.05$), with high levels of positive perceptions of change associated with high levels of perceived in-role obligations and extra-role obligations.

Educational level does not have a significant correlation with one of the variables, except a small, positive relationship with the control variable job level ($r=.22$, $n=156$, $p<.01$), with high educational levels associated with high job levels. Therefore, educational level is excluded for further analysis.

The first control variable, age, is not significantly correlated with any of the variables and therefore will also be excluded from further analysis. However, job level and communication as control variables have small correlations with some of the variables. First, job level has a small, positive correlation with educational level ($r=.22$, $n=156$, $p<.01$).
Table 1: Means (M), standard deviations (SD) and Pearson Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Correlations</th>
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<td>2</td>
<td>3</td>
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<td>.46**</td>
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<td>.65</td>
<td>.03</td>
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<td>.03</td>
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<td>.16*</td>
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<td>4.79</td>
<td>.81</td>
<td>.22**</td>
</tr>
<tr>
<td>9. Communication</td>
<td>2.63</td>
<td>1.02</td>
<td>-.06</td>
</tr>
</tbody>
</table>

**: p<.01 (two-tailed), *: p<.05 (two-tailed)

(Educational level was measured on a scale ranging from 1 to 6. Perception of change was measured on a scale ranging from 1 to 5. Fulfillment of organizational obligations was measured on a scale ranging from 1 to 5. Violation was measured on a scale ranging from 1 to 5. In-role obligations was measured on a scale ranging from 1 to 5. Extra-role obligations was measured on a scale ranging from 1 to 5. Age was measured as a open-ended question. Job level was measured on a scale ranging from 1 to 6. Communication was measured on a scale ranging from 1 to 5.)
Second, job level has a small, positive correlation with perceptions of change \((r=.17, n=156, p<.05)\), with high job levels associated with high levels of positive perceptions of change. Third, job level has a small, positive correlation with fulfillment of organizational obligations \((r=.18, n=156, p<.05)\). Moreover, communication has a medium, positive correlation with perceptions of change \((r=.41, n=156, p<.01)\), with high levels of fulfillment of expected communication associated with high levels of positive perceptions of change. Second, communication has a medium, positive correlation with fulfillment of organizational obligations \((r=.41, n=156, p<.01)\), with high levels of fulfillment of expected communication associated with high levels of fulfillment of organizational obligations. Third, communication has a medium, negative correlation with violation \((r=-.42, n=156, p<.01)\), with high levels of fulfillment of expected communication associated with low levels of violation. It can be concluded that job level and communication as control variables are interesting to focus on in further analyses.

An interesting finding is that there is no difference found in the correlations of in-role obligations and extra-role obligations with any of the variables. However, the average of in-role obligations is higher than the average of extra-role obligations. It can be concluded that employees feel more obliged to offer the organization in-role behaviour compared with extra-role behaviour.

The correlation matrix shows that the independent variables are not too highly correlated \((r=.9 and above)\) and therefore, multicollinearity did not occur (Pallant, 2005).

In the next section relationships between the variables will be tested using hierarchical multiple regression analysis.

4.2 Regressions
In order to test the hypotheses, hierarchical multiple regression analyses were performed. Independent hierarchical regression analyses were conducted for each of the dependent variables. One model is drawn for the variable perceptions of change. Since it is concluded that educational level has no effect on perceptions of change, this relationship is not measured. However, the effect of the control variables job level and communication on perceptions of change is calculated. Two models were drawn for the variables fulfillment of organizational obligations and violation. In model 1 the effect of employee perceptions of change is measured and model 2 added the control variables. Finally, two models were drawn for in-role obligations and extra-role obligations. In the first model the effects of employee
perceptions of change, fulfillment of organizational obligations and violation are measured. The second model added the control variables.

It is important to keep in mind that multicollinearity could be a problem when performing the regression analyses. Therefore, Tolerance and Variance Inflation Factor (VIF) values are reported.

Results are discussed below, in the same order as the hypotheses were formulated.

Hypothesis 1, which stated that the higher the educational level of employees, the more positive their perceptions of organizational change, do not have to be tested since there is no correlation found between educational level and perceptions of change (table 1). Therefore, this hypothesis is rejected. However, the effect of the control variables job level and communication is measured in model 1 using regression analysis. The reason for this is that table 1 showed a correlation between job level and communication on perceptions of change. The result is shown in table 2.

Table 2: Results regression analysis: Hierarchical regression coefficients, proportion explained variance (R² and R² Change) and the corresponding F-values (F and F Change)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Perceptions of change Model 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job level</td>
<td>β</td>
</tr>
<tr>
<td>Communication</td>
<td>.16*</td>
</tr>
<tr>
<td>Communication</td>
<td>.41**</td>
</tr>
<tr>
<td>R²</td>
<td>.20</td>
</tr>
<tr>
<td>F</td>
<td>18.85**</td>
</tr>
<tr>
<td>R² Change</td>
<td>.20</td>
</tr>
<tr>
<td>F Change</td>
<td>18.85**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job level</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Communication</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**: p<.01 (two-tailed), *: p<.05 (two-tailed)

Model 1 shows that job level (β=.16, p=.03) and communication (β=.41, p=.00) have a significant effect on perceptions of change. The model provides a significant explanation for the variance in perceptions of change (R²=.20). It can be concluded that the higher the job level and the fulfillment of expected communication of employees, the more positive their perceptions of change. The Tolerance and VIF values exclude multicollinearity.
Hypotheses 2 and 3 are tested with regression analysis consisting of three models in which fulfillment of organizational obligations is the dependent variable and three models in which violation is the dependent variable. The results are shown in table 3.

Table 3: Results regression analysis: Hierarchical regression coefficients, proportion explained variance ($R^2$ and $R^2$ Change) and the corresponding F-values (F and F Change)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Fulfillment of organizational obligations</th>
<th>Violation</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Perception of change</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>β</strong></td>
<td>.46**</td>
<td>.33**</td>
<td>-.61**</td>
<td>-.53**</td>
</tr>
<tr>
<td>Job level</td>
<td>.12</td>
<td>.06</td>
<td>.06</td>
<td>.06</td>
</tr>
<tr>
<td>Communication</td>
<td>.27**</td>
<td></td>
<td>-.20**</td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.21</td>
<td>.28</td>
<td>.37</td>
<td>.41</td>
</tr>
<tr>
<td>$F$</td>
<td>40.90**</td>
<td>19.62**</td>
<td>89.52**</td>
<td>34.68**</td>
</tr>
<tr>
<td>$R^2$ Change</td>
<td>.21</td>
<td>.07</td>
<td>.37</td>
<td>.04</td>
</tr>
<tr>
<td>$F$ Change</td>
<td>40.90**</td>
<td>7.31**</td>
<td>89.52**</td>
<td>4.96**</td>
</tr>
<tr>
<td>Tolerance</td>
<td>.80</td>
<td>1.25</td>
<td>.80</td>
<td>1.25</td>
</tr>
<tr>
<td>VIF</td>
<td>.97</td>
<td>1.03</td>
<td>.97</td>
<td>1.03</td>
</tr>
<tr>
<td>Communication</td>
<td>.83</td>
<td>1.21</td>
<td>.83</td>
<td>1.21</td>
</tr>
</tbody>
</table>

**: p<.01 (two-tailed), *: p<.05 (two-tailed)

Model 1 shows that perception of change has a significant effect on fulfillment of organizational obligations ($β=.46$, $p=.00$). This model provides a significant explanation for the variance in fulfillment of organizational obligations ($R^2=.21$). In model 2 the control variables job level and communication are added and this leads to a significant increase of variance explained ($R^2$ Change=.07) compared to model 1. Job level does not have a significant effect on fulfillment of organizational obligations ($β=.12$, $p=.10$), but communication however has a significant effect on fulfillment of organizational obligations ($β=.27$, $p=.00$). From the preceding information, the following conclusion can be drawn:

Hypothesis 2 stated that the more positive the employee perceptions of organizational change, the more likely it is that they perceive a fulfillment of organizational obligations. This hypothesis is confirmed ($β=.33$, $p=.00$). Tolerance and VIF values indicate no multicollinearity.
The results of the regression analysis of violation as a dependent variable are comparable with the results of fulfillment of organizational obligations as a dependent variable. Model 1 on violation explains 37% of the variance in this construct and is significant. Perception of change has a significant effect on violation ($\beta = -.61$, $p = .00$). Job level and communication are added in model 2. Job level shows no significant effect on violation ($\beta = .07$, $p = .28$). However, communication has a significant effect on violation ($\beta = -.20$, $p = .00$). From the preceding information, the following conclusion can be drawn:

Hypothesis 3 stated that the more positive the employee perceptions of organizational change, the less likely it is that they perceive a violation of the psychological contract. This hypothesis is confirmed ($\beta = -.53$, $p = .00$).

Hypotheses 4 through 8 are tested with regression analyses consisting of two models in which in-role obligations and extra-role obligations are the dependent variables. The results are shown in table 4.

Table 4: Results regression analysis: Hierarchical regression coefficients, proportion explained variance ($R^2$ and $R^2$ Change) and the corresponding F-values ($F$ and $F$ Change)

<table>
<thead>
<tr>
<th>Variables</th>
<th>In-role obligations</th>
<th>Extra-role obligations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Fulfillment of organizational obligations</td>
<td>$\beta = -.18$</td>
<td>$\beta = -.14$</td>
</tr>
<tr>
<td>Violation</td>
<td>$\beta = -.17$</td>
<td>$\beta = -.18$</td>
</tr>
<tr>
<td>Perception of change</td>
<td>$\beta = .16$</td>
<td>$\beta = .20$</td>
</tr>
<tr>
<td>Job level</td>
<td>$\beta = -.05$</td>
<td>$\beta = .20$</td>
</tr>
<tr>
<td>Communication</td>
<td>$\beta = -.13$</td>
<td>$\beta = -.13$</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.06</td>
<td>.07</td>
</tr>
<tr>
<td>$F$</td>
<td>2.97*</td>
<td>2.25*</td>
</tr>
<tr>
<td>$R^2$ Change</td>
<td>.06</td>
<td>.01</td>
</tr>
<tr>
<td>$F$ Change</td>
<td>2.97*</td>
<td>1.15</td>
</tr>
<tr>
<td>Tolerance</td>
<td>.55</td>
<td>1.82</td>
</tr>
<tr>
<td>VIF</td>
<td>1.82</td>
<td>1.82</td>
</tr>
<tr>
<td>Fulfillment of organizational obligations</td>
<td>$.45$</td>
<td>2.21</td>
</tr>
<tr>
<td>Violation</td>
<td>$.58$</td>
<td>1.73</td>
</tr>
<tr>
<td>Perception of change</td>
<td>$.93$</td>
<td>1.08</td>
</tr>
<tr>
<td>Job level</td>
<td>$.76$</td>
<td>1.33</td>
</tr>
</tbody>
</table>

**p < .01 (two-tailed), *: p < .05 (two-tailed)
Both model 1 and model 2 explain a significant part of the variance in in-role obligations ($R^2=.06$ and $R^2=.07$). Model 1 and model 2 on extra-role obligations explain 5% and 7% of the variance in this construct, but the models are not significant. Tolerance and VIF values indicate that there is no multicollinearity.

Model 1 on in-role obligations shows that fulfillment of organizational obligations has a negative effect on in-role obligations ($\beta=-.18$, $p=.08$) and on extra-role obligations ($\beta=-.17$, $p=.11$). In model 2 the effect on both in-role obligations ($\beta=-.14$, $p=.19$) and extra-role obligations ($\beta=-.15$, $p=.16$) has become smaller. Job level and communication do not have a significant effect on in-role obligations.

Based on previous information, the following conclusion can be drawn:

Hypothesis 4 stated that the more an employee perceives a fulfillment of organizational obligations, the higher the perceived employee obligations. This hypothesis is rejected, since a negative, not significant effect of fulfillment of organizational obligations on both in-role obligations and extra-role obligations is found.

Violation does not have a significant effect on in-role obligations in both model 1 ($\beta=-.17$, $p=.13$) and model 2 ($\beta=-.18$, $p=.12$). Extra-role obligations is also not effected by violation in both model 1 ($\beta=.00$, $p=.99$) and model 2 ($\beta=-.03$, $p=.77$). Based on previous information, the following conclusion can be drawn:

Hypothesis 5, which stated that the more an employee perceives a violation of their psychological contract, the lower the perceived employee obligations, is rejected. Violation has no effect on both in-role obligations and extra-role obligations.

Perception of change has no significant effect on in-role obligations in model 1 ($\beta=.16$, $p=.11$) and model 2 ($\beta=.20$, $p=.06$). However, perception of change has a positive and significant effect on extra-role obligations in both model 1 ($\beta=.24$, $p=.02$) and model 2 ($\beta=.26$, $p=.01$). Based on previous information, the following conclusion can be drawn:

Hypothesis 6 stated that the more positive employee perceptions of organizational change, the more likely it is that they perceive more employee obligations. This hypothesis is partially accepted, as only a positive, significant effect of perception of change on extra-role obligations was found.
Since no significant effect of fulfillment of organizational obligations and violation on employee obligations is found, it is not necessary to perform the Sobel test in order to determine the significance of the indirect effect. However, it is interesting to test if there is an indirect effect of fulfillment of organizational obligations on both in-role obligations and extra-role obligations, since the direct effect is present. The results of the Sobel test show that there is a small, negative mediation effect of perceptions of change via fulfillment of organizational obligations on in-role obligations (Unstandardized Indirect Effect=-.03), but this effect is not significant since the z-value does not exceed 1.96 or -1.96 (z-value=-1.27).

The results also show that there is a small, negative effect of perceptions of change via fulfillment of organizational obligations on extra-role obligations (Unstandardized Indirect Effect=-.05), but the effect is not significant (z-value=-1.34).

There is almost no effect of violation on extra-role obligations. However, it is interesting to test if there is an indirect effect of violation on in-role obligations, since the direct effect is small but present. The results of the Sobel test show that there is a small, positive mediation effect of perceptions of change via violation on in-role obligations (Unstandardized Indirect Effect=.07), but this effect is not significant (z-value=1.52). Based on previous information, the following conclusions can be given:

Hypotheses 7 and 8, which stated that the expected relationship between employee perceptions of organizational change and employee obligations is mediated by fulfillment of organizational obligations or violation, are both rejected.

The results are visually depicted in figure 2.

![Organizational Change Diagram](image)

**Figure 2: Results regression analyses**
5. Conclusion and discussion

This study investigated the influence of employee perceptions of change on the psychological contract and the influence of educational level on the perceptions of change in a context of organizational change. Data collected by means of a questionnaire among 156 employees were used to answer the research questions.

The first hypothesis, which stated that there is a positive effect of educational level on perceptions of organizational change, was not supported by the results. Based on previous information, it was expected that higher educated employees would have more positive perceptions of change. A possible explanation why this result is not found is that there is no agreement in the results of previous research. An example is given in the research of Bellou (2009). Individuals with a higher educational level tend to have greater expectations, which lead to greater dissatisfaction (Coyle-Shapiro and Kessler, in Bellou, 2009). This could be a possible explanation for the results of this study. If higher educated employees have greater expectations about the changes within their organization, but the changes do not completely run as expected, their perceptions will possible be negatively affected.

In order to test if the explanation of Bellou (2009) is applicable for this paper, an independent-samples t-test was conducted to compare the organizational obligations and employee obligations scores for employees with Bachelor and Master degree as the highest level of education ever achieved. The focus is on the differences between employees with Bachelor and Master degree, because most respondents fall into these categories. Results (appendix IV) show a significant difference in scores for employees with a Bachelor and Master degree on the job content and career development scale. It can be concluded that employees with a Master degree have higher expectations about job content and career development. There was no significant difference in scores for employees with a Bachelor and Master degree on the social atmosphere, organizational policies, work-life balance, rewards, in-role obligations and extra-role obligations scales. So, the explanation given by Bellou (2009) that individuals with a higher educational level tend to have greater expectations, is only relevant in this study for expectations about job level and career development. There is no evidence found in this study for confirming the statement given by Bellou (2009) that the educational level of employees influences perceptions of change by the mediating effect of expectations.
Another explanation for the results of this study is that the sample of this study almost completely consists of highly educated employees. The restriction of range may have caused a bias in the results because the presence of low educated employees is small. A distorted image of the effect of educational level on perceptions of change could have been the result.

A finding of this study is that the higher the job level and the higher the fulfilment of expected communication, the more positive the employee perceptions of change. This relationship can be explained by using the information theory (Ehsani et al., 2009). Ehsani et al. (2009) concluded that employees with higher job levels receive more information. This is confirmed in this study (table I). Expected availability of more information because of more communication leads to more positive perceptions of change. The positive relationship between job level of employees and perceptions of change is also confirmed by Jones et al. (2008).

The second hypothesis is concerned with the effect of perception of change on fulfillment of organizational obligations. This hypothesis was confirmed. Expectations of employees about what the organization should offer them are fulfilled more often when employees have more positive perceptions of change. This means that if employees experience changes positive they expect that the results of the change could be beneficial for them and for the organization. They expect that the changes will not have a negative influence on the promises the organization once made to their employees, for example because the organization has a good implementation plan. This result is also confirmed in the study of Kickul et al. (2004).

Hypothesis 3 was confirmed. The hypothesis stated that the more positive the employee perceptions of organizational change, the less likely it is that they perceive a violation of the psychological contract. The results show that if employees have more positive perceptions of organizational change this leads to lower levels of perceived violation of the psychological contract. This means that when employees have positive perceptions of change, they believe the change will lead to a positive result for them. They do not expect that the organization will violate their obligations otherwise their perceptions of the change would probably be more negative. Conway & Briner (2002) confirm this result.

The fourth hypothesis was rejected. The hypothesis stated that that the more an employee perceives a fulfillment of organizational obligations, the higher the perceived employee
obligations. The results of this study show no effect of fulfillment of organizational obligations on both in-role obligations and extra-role obligations. A possible explanation may be found in the fact that this study has a cross-sectional design. Employees could experience organizational change and fulfillment of organizational obligations differently at different stages during an organizational change, which could influence the results of the effect on in-role and extra-role obligations. This study is about perceived organizational change during the last two years. There could be a difference in results when the questionnaire was only given to employees who experience change in the last few months. Then the same employees have to be asked to fill in the questionnaire again after two or three years. It could be that the effect of fulfillment of organizational obligations on in-role obligations and extra-role obligations is more negative when they just experience the changes and will become smaller when they learn to deal with it. Conway and Briner (2002) argue that breaches of the psychological contract of an employee are events which happen at work or in relation to work. These events need to be assessed soon after they occur in order to have an accurate measurement, as do the immediate causes and consequences. This study is not about psychological contract breach, but the argument given by Conway and Briner (2002) could be a reason for the results in this study.

Hypothesis 5 is concerned with the effect of violation on employee obligations. This hypothesis could be rejected based on the results of this study. No effect is found of violation on in-role obligations and extra-role obligations. A possible explanation is the high average of in-role obligations and especially of extra-role obligations. Employees feel required to offer the organization these obligations, even if they experience a violation of the psychological contract in times of change. They have the feeling not to let down the organization in difficult times and this is reflected in the unchanging in-role and extra-role obligations. A second explanation for the result is that the degree of perceived violation is quite low in this study and therefore it does not lead to changing employee obligations.

The sixth hypothesis, stating that perceptions of change have a positive effect on employee obligations, was partially supported by the results. On the one hand, no effect of perceptions of change on in-role obligations has been found. On the other hand, a positive effect of perceptions of change on extra-role obligations has been found.

The positive effect of perceptions of change on extra-role obligations can be explained quite easily. When employees have positive perceptions of changes within the environment
they work in, they could be more willing to walk an extra mile on behalf of the organization. The result of perceptions of change on in-role obligations may lie in the fact that employees were already performing their tasks well to make sure they were allowed to keep their jobs. This is important in uncertain periods when employees fear for their jobs.

An explanation of this result can be found in the study of Freese (2007). Freese (2007) argues that only certain types of change which employees experience influence employee obligations. She found that none of the perceived changes have an impact on perceived employee obligations. However, employees perceive more extra-role obligations if they have acquired new tasks. In this study, most respondents experience change in work design and tasks. This could be a reason for the effect on extra-role obligations.

Finally, the seventh and eighth hypotheses are concerned with the mediation effect. These hypotheses state that the expected relationship between perceptions of change and employee obligations is mediated by fulfillment of organizational obligations or violation. Since the results of this study show that both fulfillment of organizational obligations and violation have no effect on employee obligations, both hypothesis are rejected. The results of the Sobel test confirm that there is no mediating effect. So, this study concludes that when explaining employee obligations in times of organizational change, fulfillment/violation of organizational obligations do not have a direct effect on employee obligations nor a mediating influence of perceptions of change on employee obligations.

The main goal of this study was to answer the research question: ‘To what extent do employee perceptions of organizational change influence the psychological contract in terms of perceived fulfillment/violation of organizational obligations and employee obligations? And to what extent are these perceptions of change influenced by employees’ educational level?’ First, employee perceptions of change are an important predictor for the psychological contract. Fulfillment of organizational obligations, violation and extra-role obligations are quite strongly influenced by perceptions of change. Second, this study provides some useful insights in the relationship between educational level and perceptions of change. Unfortunately, no effect is found but explanations for this result are given above.

**Limitations and implications for future research**

When interpreting the conclusion a few limitations need to be taken into account, which also give a direction for future research.
The first point that needs to be made is that the population of this study was skewed. Almost all respondents were highly educated. Low educated employees were underrepresented, so there was a restriction of range. The information given in the research of Bellou (2009) that individuals with a higher educational level tend to have greater expectations, was only applicable in this study for the job content and career development scales. However, only differences between employees with a Bachelor and Master degree are included in the measurement. Future research could measure the difference between low educated and high educated employees and find out if higher educated employees have greater expectations. Still the results of this study are promising. Despite the restriction of range quite a few hypothesis are accepted and some interesting effects are found.

This study made use of Oreg’s scale (2006) to measure employee perceptions of organizational change. Oreg was one of the first authors to develop and test such a scale (Van den Heuvel and Schalk, 2008). Although the scale showed high reliability scores in Oreg’s study as well as in this study, the factor structure as argued by Oreg (2008) was not confirmed in this study. Therefore, the scale should be tested in future research to ensure its reliability and validity.

The results of this study are only based on reflections and thoughts of employees. Conway and Briner (2002) argue that existing studies often only ask employees to reflect and consider whether the organization has met its promises and do not capture incidents as they happen. Future research could focus on how incidents happen, when they happen and why they happen. This information may lead to more insights about the psychological contract. Van den Heuvel and Schalk (2008) argue that it would be better to gather additional, more objective information that could be compared with the perceptions of the employees. They give an example about fulfillment of the organizational side of the psychological contract. When employees perceive that a certain promise has not been made, it does not give any information about the effort the organization is putting into it. Having more objective information to compare with employee perceptions might help create a more complex image of the employees’ psychological contract.

The questionnaire was relatively long. The results, especially from the topics listed at the end of the questionnaire, could be distorted due to e.g. less concentration, fatigue and taking breaks. These factors may have caused respondents to have less concentration after a while or a different state of mind after taking a break, which might have caused biases in the
results. So, future researchers should keep in mind that questionnaires should preferably not be too long.

Common method variance needs to be pointed out. The data obtained in this study was all gathered using a single questionnaire. However, some researchers have stated that concerns regarding common method bias are overstated (Spector, 2006).

A limitation is the cross-sectional design of this study which does not allow us to make distinctions between different stages of organizational change and employee perceptions of the changes. No distinctions were made between new changes and changes which have been in place for a while. The effects of changes that just occurred may be less visible for the employees and therefore their perceptions of these changes may be different. This makes it difficult to draw conclusions regarding causality. A longitudinal study would allow for more elaborated conclusions on this issue. De Jong (2008) argues that prior experiences have an important influence on employee perceptions. Future research should take those experiences into account.

A finding of this study is the effect of job level on perceptions of change. More important are the effects of communication on perceptions of change, fulfillment of organizational obligations and violation. Previous research confirms the importance of communication during organizational change (Chiang, 2009). Therefore, future research should focus more on the influence of communication in times of organizational change and also include more individual and organizational characteristics in the research on the influence on the psychological contract.

**Practical implications**

Finally, the conclusions of this study lead to some implications for practice.

Employers should keep in mind that employee perceptions of change are an important predictor for fulfillment of the psychological contract. Results of this study show that negative perceptions of a change may lead to low levels of fulfillment of organizational obligations, high levels of violation and low level of perceived extra-role behaviour. This means that if employees have negative thoughts about perceived changes, it could harm the organization in terms of the perceived psychological contract between employer and employee. The results of this study underline the importance for organizations to focus on optimal employee perceptions of change so that the psychological contract will not be negatively affected because of perceived changes.
Communication has influence on perceptions of change, perceived fulfillment of organizational obligations and violation. The psychological contract reinforces the need for managers to become more effective in communication and consultation, which will help in adjusting expectations of employees and if necessary renegotiating the deal (Chartered Institute of Personnel and Development (CIPD), 2010). Communication with employees should be an important, and integrative part of the change efforts and strategies within organizations (Elving, 2005).

All in all, consciousness of the effects of educational level, employee perceptions of organizational change and the influence on perceptions of the psychological contract might stimulate researchers and practitioners to find a way to counteract the negative effects which may appear in the organization during or after perceived changes.
6. References


Sonnenberg, M. (2006). The signaling effect of HRM on psychological contacts of employees: A multilevel perspective. *Rotterdam School of Management (RSM) Erasmus University, Erasmus Research Institute of Management (ERIM).*


Appendix I: Employee Perceptions of Organizational Change scale

The employee perceptions scale consists of 10 questions about how the respondents experienced the changes within the organization during the last 2 years. Before the scales, the following line is stated: ‘The following statements are about how you have thought and felt about the change(s) you have selected previously. Please read each statement carefully and decide if you ever thought or felt this way about the change(s).’

**Perceptions of change** (N=10, α=.85)

1. I am/was afraid of the change(s)
2. I have/had a bad feeling about the change(s)
3. I am/was quite excited about the change(s)
4. The change(s) makes/made me upset
5. I feel/felt stressed about the change(s)
6. I believe(d) that the change(s) could harm the way things are done in my organization
7. I think/thought that it is a negative thing that we are/were going through this/these change(s)
8. I believe(d) that the change(s) could make my job harder
9. I believe(d) that the change(s) could benefit my organization
10. I believe(d) that I could personally benefit from the change(s)
Appendix II: Psychological Contract scale

The NTPCQ consists of six scales (A to F) which measure perceived organizational obligations. Before the scales, the following line is stated: ‘In the employment relationship employees have expectations about what the organization will offer. To what extent is your organization obliged to offer you the following?’

The NTPCQ has 2 scales (G and H) where questions about perceived employee obligations are asked. The following is stated before the scales: ‘In the employment relationship you have opinions on what you should offer the organization. To what extent do you feel obliged to offer your organization the following?’

After scale A to F, a violation scale is added. The following lines are stated before the scale: ‘Consider how your employer generally held to its promises. To what extent do you agree with the following statements? I feel …’

A. Job Content (N = 6, α = .76)
1. Variation in your work
2. Challenging work
3. Balanced workload
4. Interesting work
5. Autonomy
6. The opportunity to deliver quality goods/services

B. Career Development (N = 6, α = .80)
1. Career opportunities
2. Training and education
3. Coaching on the job
4. Professional development opportunities
5. Learning on the job
6. Opportunity to fully utilize knowledge and skills

C. Social Atmosphere (N = 5, α = .84)
1. Good working atmosphere
2. Opportunity to pleasantly cooperate with colleagues
3. Support from colleagues
4. Appreciation and recognition
5. Support from supervisor

D. Organizational Policies (N = 8, $\alpha = .84$)
1. Participation in important decisions
2. A fair supervisor
3. Feedback on performance
4. Clear and fair rules and regulations
5. Keeping you informed of developments
6. Open communication
7. Ethical policy towards society and environment
8. Being able to have confidence in the organization

E. Work-Life Balance (N = 4, $\alpha = .58$)
1. Acknowledgement of personal circumstances
2. Opportunity to schedule your own holidays
3. Working at home
4. Adjust working hours to private life

F. Rewards (N = 6, $\alpha = .76$)
1. Job security
2. Appropriate salary
3. Rewards for exceptional performance
4. Reimbursement of training costs
5. Good benefits package
6. Pay for performance

Fulfillment (N = 6 (question is asked after the scales JC, CD, SA, OP, WLB and RW), $\alpha = .80$)
1. To what extent did your employer fulfill previous obligations?
Violation (N = 6, α = .86) (De Jong, 2008)
1. Satisfied
2. Frustrated
3. Happy
4. Betrayed
5. Appreciated
6. Disappointed

G. In-role behavior (N = 11, α = .86)
1. Good cooperation
2. Helping colleagues
3. Provide good service to customers
4. Performing well on tasks you do not like to do
5. Working with integrity
6. Carrying out your work with dedication
7. Being cost-conscious when dealing with organizational properties
8. Dealing with private matter at home
9. Complying with organizational rules and regulations
10. Protect the organization's image
11. Contributing to a pleasant work atmosphere

H. Extra-role behavior (N = 11, α = .82)
1. Keeping knowledge and skills up to date to be able to deal with changing requirements
2. Participating in training outside working hours that is important to do your job properly
3. Making suggestion for improvement
4. Volunteering to do additional tasks
5. Working overtime if that is necessary to get the job done
6. Working weekends
7. Participation in training to enhance employability
8. Willingness to work in different positions
9. The flexibility to change positions
10. Willingness to work in another region
11. Stay with the organization for several years
# Appendix III: Tables factor analysis

## Table 1. Forced solution factor analysis Perceptions of Change, Oblimin Rotation

<table>
<thead>
<tr>
<th>Item</th>
<th>Component 1</th>
<th>Component 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am/was afraid of change(s) (R)</td>
<td>.72</td>
<td></td>
</tr>
<tr>
<td>I have/had a bad feeling about the change(s) (R)</td>
<td>.74</td>
<td></td>
</tr>
<tr>
<td>I am/was quite excited about the change(s)</td>
<td></td>
<td>.85</td>
</tr>
<tr>
<td>The change(s) makes/made me upset (R)</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td>I feel/felt stressed about the change(s) (R)</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>I believe(d) that the change(s) could harm the way things are done in my organization</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td>I think/thought that it is a negative thing that we are/were going through this/these change(s)</td>
<td>.67</td>
<td>.31</td>
</tr>
<tr>
<td>I believe(d) that the change(s) could make my job harder</td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>I believe(d) that the change(s) could benefit my organization</td>
<td></td>
<td>.58</td>
</tr>
<tr>
<td>I believe(d) that I could personally benefit from the change(s)</td>
<td>.33</td>
<td>.63</td>
</tr>
</tbody>
</table>

**KMO Index**  
.84

**Bartlett’s Sphericity**  
.00

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 7 iterations.

*Note: (R)= item is reversed*

## Table 2. Component Correlation Matrix

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.00</td>
<td>.22</td>
</tr>
<tr>
<td>2</td>
<td>.22</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.
Figure 1: Screeplot Perceptions of Change
Appendix IV: Table T-Tests

Table 1. Comparisons organizational obligations and employee obligations scores for employees with Bachelor and Master degree

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean (Bachelor)</th>
<th>SD</th>
<th>T</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JC</td>
<td>3.51</td>
<td>.63</td>
<td>-3.30</td>
<td>.00</td>
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<tr>
<td></td>
<td>3.84</td>
<td>.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CD</td>
<td>3.75</td>
<td>.81</td>
<td>-2.57</td>
<td>.01</td>
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<tr>
<td></td>
<td>4.07</td>
<td>.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA</td>
<td>3.85</td>
<td>.71</td>
<td>-1.95</td>
<td>.05</td>
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<td></td>
<td>4.08</td>
<td>.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OP</td>
<td>3.92</td>
<td>.57</td>
<td>-.83</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>4.00</td>
<td>.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WLB</td>
<td>3.24</td>
<td>.91</td>
<td>-1.41</td>
<td>.16</td>
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<td></td>
<td>3.45</td>
<td>.74</td>
<td></td>
<td></td>
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<tr>
<td>RW</td>
<td>3.81</td>
<td>.71</td>
<td>-.05</td>
<td>.96</td>
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<tr>
<td></td>
<td>3.81</td>
<td>.72</td>
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<td></td>
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<tr>
<td>IR</td>
<td>4.10</td>
<td>.49</td>
<td>-.90</td>
<td>.37</td>
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<tr>
<td></td>
<td>4.17</td>
<td>.41</td>
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<td>ER</td>
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<td>.61</td>
<td>.14</td>
<td>.89</td>
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<tr>
<td></td>
<td>3.49</td>
<td>.67</td>
<td></td>
<td></td>
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