The effects of Internal Service Quality on Employee Satisfaction and Employee Loyalty

The internal assessment of the Service Profit Chain for Business-to-Business markets in IT services

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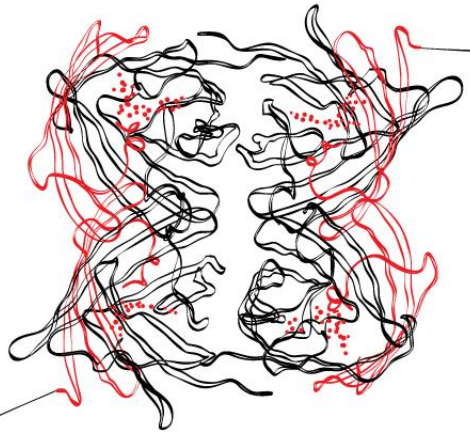

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Jeremy Wierink
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Abstract

The purpose of this research was to investigate ways to improve employee satisfaction, customer satisfaction and financial performance for a large IT service provider in the Netherlands. After a detailed comparison of different models it is concluded that the Service Profit Chain (SPC) model fits this research purpose best. This research explores the internal part of the SPC. More specifically, this research explores the (inter)relationships between internal service quality, employee satisfaction and employee loyalty. This research used an extensive survey measuring 18 constructs of internal service quality, 7 items of overall job satisfaction to measure employee satisfaction, and respectively 15 and 12 items of organizational commitment and organizational citizenship behaviors to measure employee loyalty. Data was collected from 202 employees within Business Unit XYZ from October 2010 till January 2011. This research applied the CB-SEM to empirically test the (inter)relationships between the constructs. The findings suggest that employee satisfaction is achieved through job design characteristics and supervisory support. In addition, colleagues and supervisory support is mediated through job design characteristics. Employee loyalty is best achieved through promotion. This finding suggests that the SPC model is interrelated. Further implications indicate that internal service quality as a separate construct does not hold.

Contents

Introduction

In times of crises organizations will try to find competitive advantage over their competitors in order to survive. This research was conducted in 2010 shortly after the European financial crises of 2007-2008. An independent research showed that Company ABC, one of the biggest IT service providers in the Netherlands, suffered more from the financial crises than their competitors. They also faced the decline of employee satisfaction and customer satisfaction. This led to the main research question: *"How might Company ABC enhance its employee satisfaction and customer satisfaction and ultimately its financial performance?".* The purpose of the present research is to provide (1) a solution to this research question and (2) its theoretical contribution to the literature.

After a detailed comparison of different research models (see Appendix A) it is concluded that the links between employee satisfaction, customer satisfaction and financial performance are best represented within the Service Profit Chain (SPC) model by Heskett, Jones, Loveman, Sasser, and Schlesinger (1994). Also, the SPC model is a well-received model (e.g. Anderson & Mittal, 2000; Bowen & Schneider, 2013; Chi & Gursoy, 2009; Cohen & Olsen, 2013; Evanschitzky, Wangenheim, & Wünderlich, 2012; Gelade & Young, 2005; Hallowell, 1996; Hallowell, Schlesinger, & Zornitsky, 1996; Hogreve, Iseke, Derfuss, & Eller, 2017; Homburg, Wieseke, & Hoyer, 2009; Hong, Liao, Hu, & Jiang, 2013; Kamakura, Mittal, De Rosa, & Mazzon, 2002; Lau, 2000; Loveman, 1998; Martensen & Grønholdt, 2016; Maxham III, Netemeyer, & Lichtenstein, 2008; Rucci, Kirn, & Quinn, 1998; Schneider, Ehrhart, & Macey, 2013; Silvestro & Cross, 2000; Snipes, Oswald, LaTour, & Armenakis, 2005; Xu & Van der Heijden, 2005; Yee, Yeung, & Cheng, 2008, 2010, 2011). Therefore, the SPC model formed the basis for this research.

Unfortunately, this research could not fully examine the SPC model. First of all, due to the organizational complexity of Company ABC (i.e. customers had integrated service offerings from different business unit). Secondly, the researcher only had the authority to conduct this research within Business Unit XYZ. In addition, customer interaction and insight into the financial performance was not permitted. Due to these limitations, this research focused on the internal part of the SPC model.

The internal part of the SPC model is comprised of the internal service quality, employee satisfaction and employee loyalty (Heskett et al., 1994). The links between internal service quality, employee satisfaction and employee loyalty are presented as a linear relationship. According to Silvestro and Cross (2000), the relationship between the constructs might not be simplistic as proposed by Heskett et al. (1994). Also, the internal service quality is presented as a single construct. However, limited research has been done on this notion (Hogreve et al., 2017; Silvestro & Cross, 2000; Xu & Van der Heijden, 2005). Hogreve et al. (2017, p. 58) suggest that more research is needed on the differential

effects of the internal service quality dimensions. In addition, there seemed to be little consensus on which human resources practices affects employee satisfaction and employee loyalty. The internal service quality is considered a multidimensional construct and it is not necessarily indefinite (Lau, 2000)

This research made its contribution by (1) examining the interrelationships between the constructs, (2) examining the internal service quality construct as a single construct (i.e. second order factor), (3) examining the internal service quality through a holistic approach, and (4) examining the general support for the positive relationship between the constructs.

This research will first start with an elaborate literature review on the SPC model and its concepts (i.e. internal service quality, employee satisfaction and employee loyalty). Secondly, the methodology of this research will be explained. Thirdly, the data analysis and results are portrayed. And lastly, the researcher will discuss the limitations, the recommendations for further research and provide the conclusions of this research.

Literature review

Towards a research model

An extensive analysis within the fields of total quality management (e.g. Eskildsen & Dahlgaard, 2000), marketing (e.g. Anderson, Fornell, & Lehmann, 1994; Hartline & Ferrell, 1996; Rust, Zahorik, & Keiningham, 1995), relationship marketing (e.g. Bendapudi & Berry, 1997; Hennig-Thurau, Gwinner, & Gremler, 2002; Heskett et al., 1994; Morgan & Hunt, 1994; Payne, Holt, & Frow, 2000; Schlesinger & Heskett, 1991; Schlesinger & Zornitsky, 1991), customer satisfaction (e.g. Anderson, 1998; Anderson & Sullivan, 1993; Hallowell, 1996; José Vilares & Simões Coelho, 2003; Oliver, 1980), Customer equity (Rust, Lemon, & Zeithaml, 2004), customer lifetime value (Berger & Nasr, 1998), service quality (e.g. Caruana & Pitt, 1997; Frost & Kumar, 2000; Kuei, 1999; Parasuraman, Zeithaml, & Berry, 1985; Schneider, White, & Paul, 1998; Seth, Deshmukh, & Vrat, 2005), resulted in five models which might fit the research question (see Appendix A).

The first model, the Service Profit Chain (SPC) by Heskett et al. (1994), interlinks the employee satisfaction, customer satisfaction and financial performance. The SPC model provides a good understanding of how human resource management practices affect employee and customer evaluations (Kamakura et al., 2002; Maxham III et al., 2008). Second, the Service Employee Management concept by Hartline and Ferrell (1996) links human resource management practices on job satisfaction and the customer perceived service quality. However, lacks the financial performance relationship. Furthermore, not all hypotheses are supported. Third, according to the original and adapted EFQM Excellence Model by EFQM (1999) and Eskildsen and Dahlgaard (2000) employee satisfaction, customer satisfaction and financial performance are achieved through leadership driving policy & strategy, people, partnerships & resources, and processes (EFQM, 1999). However, the EFQM model does not explain the relationship between employee satisfaction and customer satisfaction. Fourth, the Value Profit Chain (Heskett, Sasser, & Schlesinger, 2003; Payne et al., 2000) complements the SPC model by adding the shareholder value. However, this model is not that well-received as the SPC model and lacks empirical research to support this model. And finally, the Extended Customer Satisfaction model (José Vilares & Simões Coelho, 2003) follows the same principle as the SPC. Although, it lacks the relationship for the financial performance. Hence, customer loyalty is considered a non-financial performance. Furthermore, the model is not that well-received by the literature.

After a detailed comparison of each of these different models, it can be concluded that the SPC model (Heskett et al., 1994) fits most closely with the research question. First of all, this model interlinks the employee satisfaction, customer satisfaction and financial performance. Second, there is a high emphasize on employee satisfaction. Third, the SPC model is a well-received concept and its popularity is evident in numerous studies (e.g. Anderson & Mittal, 2000; Bowen & Schneider, 2013; Chi

& Gursoy, 2009; Cohen & Olsen, 2013; Evanschitzky et al., 2012; Gelade & Young, 2005; Hallowell, 1996; Hallowell et al., 1996; Hogreve et al., 2017; Homburg et al., 2009; Hong et al., 2013; Kamakura et al., 2002; Lau, 2000; Loveman, 1998; Martensen & Grønholdt, 2016; Maxham III et al., 2008; Rucci et al., 1998; Schneider et al., 2013; Silvestro & Cross, 2000; Snipes et al., 2005; Xu & Van der Heijden, 2005; Yee et al., 2008, 2010, 2011). Fourth, there are numerous studies which provides statistical details and entire measurement scales. And lastly, the SPC model is applicable for IT service organizations (Lau, 2000; Xu & Van der Heijden, 2005; Yee et al., 2011).

The Service Profit Chain model

The SPC was originally proposed by Schlesinger and Heskett (1991) although the model really received its acknowledgement after the work of Heskett et al. (1994). They recognized the importance of the relationship between employees, customers and financial performance (Payne et al., 2000; Silvestro & Cross, 2000). The SPC model integrates a distinct body of research including total quality management, service management, operations management, human resource management and marketing (Silvestro & Cross, 2000; Voss, Tsikriktsis, Funk, Yarrow, & Owen, 2005). According to Heskett et al. (1994) the SPC functions as follows: "Profits and growth are stimulated primarily by customer loyalty. Loyalty is a direct result of customer satisfaction. Satisfaction is largely influenced by the value of services provided to customers. Value is created by satisfied, loyal, and productive employees. Employee satisfaction, in turn, results primarily from high-quality support services and policies that enable employees to deliver results to customers" (Heskett et al., 1994, pp. 164-165). The SPC model, shown in Figure 1, reveals the functioning as a whole.

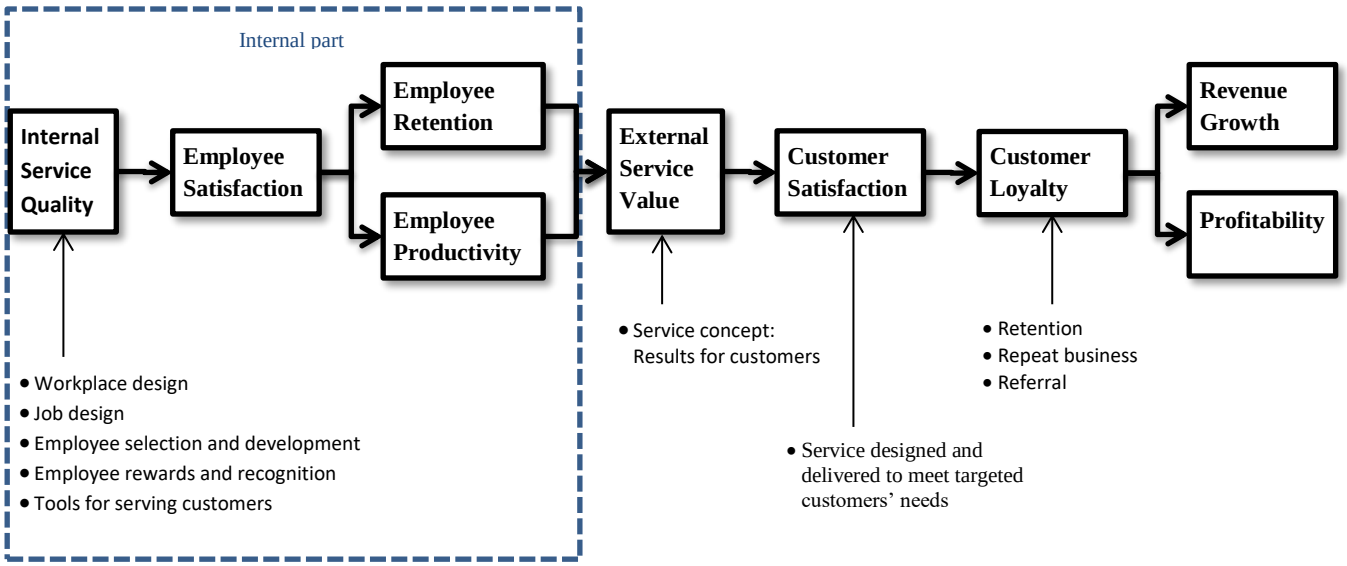

Figure 1. The SPC model (Heskett et al., 1994, p.166)

The SPC model interlinks and integrates several inter-dependent variables in a causal order (Silvestro & Cross, 2000, p. 246; Yee et al., 2010, p. 620). Furthermore, the collection of data would require at least three separate sources (i.e. employees, customers and organization). This makes the SPC model and its assessment rather complex (Anderson & Mittal, 2000; Silvestro & Cross, 2000; Yee et al., 2010). This might explain why empirical literature assessing the SPC model to its full extent are rather scarce (e.g. Loveman, 1998; Silvestro & Cross, 2000; Yee et al., 2011). Nevertheless, researchers have continued to build on Heskett et al.'s (1994) SPC model. Numerous research has been found to provide general support for the SPC model (e.g. Anderson & Mittal, 2000; Bernhardt, Donthu, & Kennett, 2000; Brown & Peterson, 1993; Hallowell, 1996; Hallowell et al., 1996; Hartline & Ferrell, 1996; Kamakura et al., 2002; Maxham III et al., 2008; Rucci et al., 1998; Yee et al., 2008, 2010, 2011). However, there are also several studies which has shown no support for (some parts of) the proposed SPC model. Loveman (1998) was one of the first to comprehensively test the SPC in a single organization and found general support, with some exception, for the SPC model. Employee satisfaction correlates with employee's stated loyalty, however not to the employment retention, the other measurement of loyalty (Silvestro & Cross, 2000, pp. 247-248). Employment retention was linked to customer loyalty and financial performance but stated loyalty correlated to neither of them. Therefore, the SPC model was not fully supported. And there are even studies on the SPC that reports small effects or non-significant effects (Homburg et al., 2009). For example, Homburg et al. (2009) did not found support for the conventional SPC model but did find strong support for their extended SPC model. Furthermore, Gelade and Young (2005) provide limited support for the SPC model. The effect size between employee attitudes and sales performance was non-significant.

In general, it can be concluded, although its proposed limitations, that the SPC model is a well-received model. A close examination of the SPC model provides a valid framework for explaining the effects of employee satisfaction on customer satisfaction and financial performance. Most studies provide general support for the SPC. The links between employee satisfaction and customer satisfaction and financial performance are well established. This research will therefore assume that employee satisfaction will lead to customer satisfaction and ultimately financial performance. For the purpose of this research the focus lies on the internal part of the SPC model which involves employees only (see Figure 1). Thus, the focus lies on the internal service quality, employee satisfaction and employee loyalty (i.e. employee retention and employee productivity are more commonly referred to as employee loyalty).

Internal service quality

"Internal service quality is measured by the feelings that employees have towards their jobs, colleagues and companies. Internal service quality is also characterized by the attitudes that people

have towards another and the way people serve each other inside the organization" (Heskett et al., 1994, p. 168). This logic has been well recognized (Frost & Kumar, 2000; Hallowell et al., 1996; Kuei, 1999; Paulin, Ferguson, & Bergeron, 2006; Xu & Van der Heijden, 2005). The internal service quality is considered to be important for delivering superior external service quality (Frost & Kumar, 2000). It is likely that poorly delivered internal service quality will also be reflected in the delivered external service quality. In that regard, it should be acknowledged that individual employee's and departments are actually customers of one another (Boshoff & Mels, 1995).

The internal service quality is considered an antecedent of employee satisfaction (Paulin et al., 2006). This proposition has been supported in some studies (Hallowell et al., 1996; Lau & May, 1998; Xu & Van der Heijden, 2005). However, not all studies found support for this proposition. For example, Paulin et al. (2006) found mixed results.

Employee satisfaction

Employee satisfaction is a topic that has received much attention in the human resource management literature (Becker & Gerhart, 1996; Huselid, Jackson, & Schuler, 1997; Koys, 2001; Snipes et al., 2005; Spector, 1985). Employees are considered the most crucial asset of an organization (Eskildsen & Dahlgaard, 2000), especially in service-oriented organizations (Schlesinger & Zornitsky, 1991). Locke (1969), one of the most cited authors on the topic of employee satisfaction, defines employee satisfaction as "a function of the perceived relationship between what one wants from one's job and what one perceives it as offering or entailing". In later work, (Locke, 1976) defined employee satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1300). Churchill Jr, Ford, and Walker Jr (1974) defined employee satisfaction as "all characteristics of the job itself and the work environment which salesmen find rewarding, fulfilling, and satisfying, or frustrating and unsatisfying" (p. 255). Whereas, according to Hackman (1980), employees are satisfied when their rewards, like compensation, promotion, recognition, development and meaningful work, are met or exceed their expectations. Hence, employee satisfaction can be defined as a set of employee attitudes about their job (Paulin et al., 2006, p. 907). In conclusion, employee satisfaction is a positive attitude an employee experiences on their job.

Employee loyalty

"Traditional measures or the losses incurred by employee turnover concentrate only on the cost of recruiting, hiring, and training replacements. In most service jobs, the real cost of turnover is the loss of productivity and decreased customer satisfaction" (Heskett et al., 1994, p. 167). According to Heskett et al. (1994, p. 167) dissatisfied employees are more likely to leave with a potential turnover rate three times higher than that for satisfied employees. When employees are satisfied they are more likely to be loyal and stay with their organization (Yee et al., 2011). Loyalty also refers to the willingness

to recommend the organization as a workplace (José Vilares & Simões Coelho, 2003; Silvestro & Cross, 2000). Furthermore, when satisfied employees stay longer at an organization their knowledge about their job and customers rises which makes them more productive (Payne et al., 2000; Sheridan, 1992; Xu & Van der Heijden, 2005). And also, satisfied employees tend to develop a personal relationship with their customers (Xu & Van der Heijden, 2005). That might explain why customers follows the departure of dissatisfied employees (Lau, 2000).

Most studies support the relationship between employee satisfaction and employee loyalty (e.g. Banker, Potter, & Srinivasan, 2000; Mobley, 1977; Sheridan, 1992; Xu & Van der Heijden, 2005). However, Silvestro and Cross (2000) report no significant relationship was found between employee satisfaction and employee loyalty at store level. Although, at individual level there was a correlation found.

Proposed research model

This research will focus on the internal part of the SPC which includes the internal service quality, employee satisfaction and employee loyalty. The links between internal service quality, employee satisfaction and employee loyalty are presented as a linear relationship. According to Silvestro and Cross (2000), the relationship between the constructs might not be simplistic as proposed by Heskett et al. (1994). Therefore, this research examined the hypothesized model (see Figure 2), however, alternatives modes are also examined.

There have been numerous studies conducted on the internal part of the SPC model (e.g. Gelade & Young, 2005; Hallowell et al., 1996; Homburg & Stock, 2004; Homburg et al., 2009; José Vilares & Simões Coelho, 2003; Lau, 2000; Maxham III et al., 2008; Paulin et al., 2006; Snipes et al., 2005; Xu & Van der Heijden, 2005; Yee et al., 2011). However, these individual studies assessed only portions of the internal service quality construct. Unfortunately, the literature offers no consensus on what comprises internal service quality. The internal service quality has been well recognized as a multidimensional construct and it is not necessarily indefinite (Lau, 2000). Therefore, this research examined the internal service quality from a holistic point of view by incorporating multiple constructs (see Figure 2).

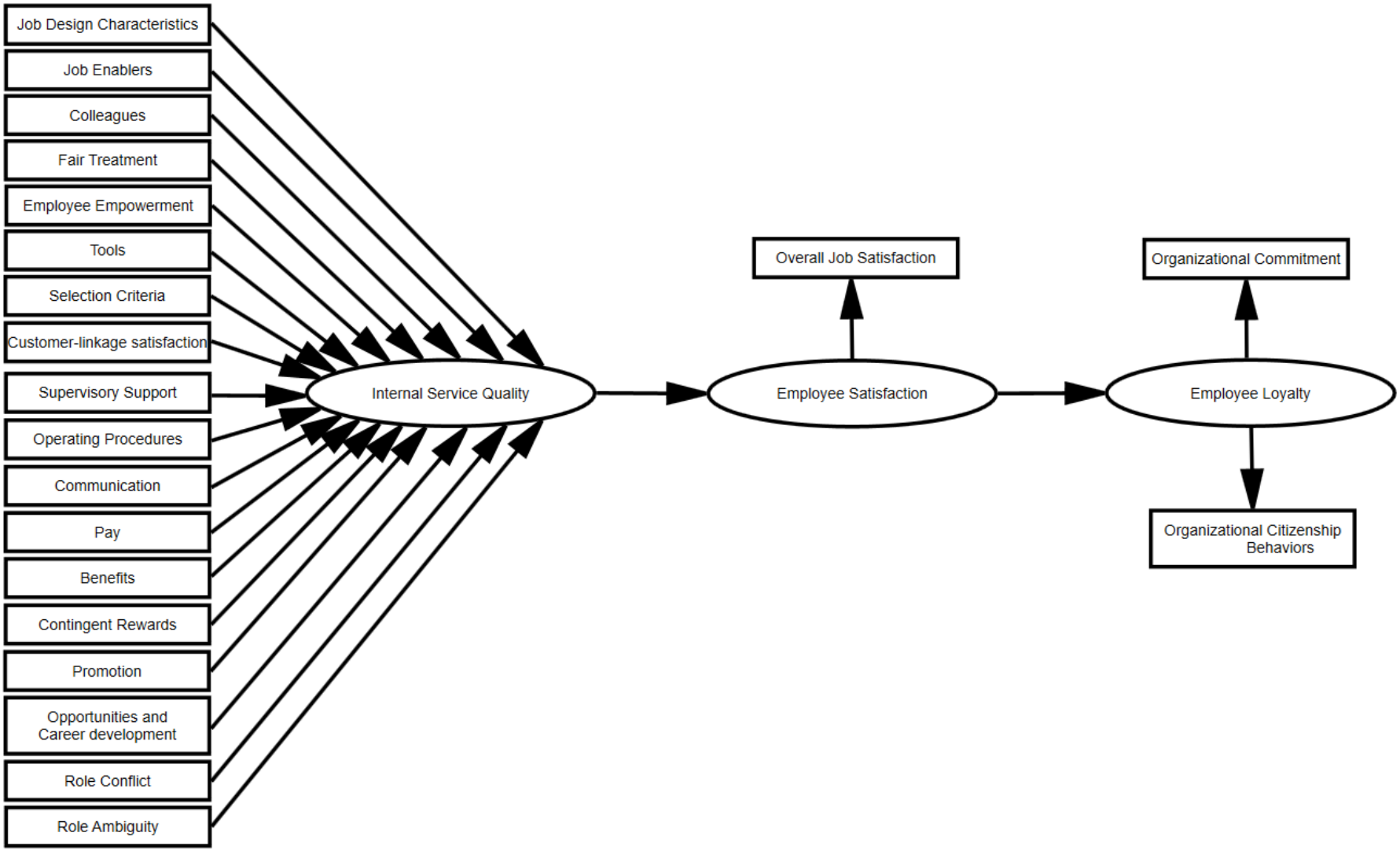

Figure 2. Hypothesized model based on the Service Profit Chain model by Heskett et al. (1994).

Methodology

Measures

This research tried to remain consistent with previous research. For this purpose, existing and tested scales from previous research were reused for consistency. However, attempting to take a more holistic approach by taking and, if necessary, adapting measures from previous research. The complete survey with measurement items are provided in Appendix B.

Internal Service Quality

As mentioned earlier, the internal service quality is multidimensional and might not be indefinite (Heskett et al., 1994, p. 168; Lau, 2000). Within this research 18 constructs of internal service quality were identified. The literature has found support for each or several constructs in separate studies (e.g. Hallowell et al., 1996; Paulin et al., 2006). In order to take a holistic approach to internal service quality the researcher chose to include these 18 constructs. This should be in line with how Heskett et al. (1994) intended.

The constructs *pay* (4 items), *benefits* (4 items), *contingent rewards* (4 items), *promotion* (4 items), *operating procedures* (4 items) and *communication* are taken from previous research by Spector (1985). Other constructs like *job design characteristics* (4 items), *customer-linkage satisfaction* (1 item), *fair treatment* (1 item) and *supervisory support* (5 items) are taken from Paulin et al. (2006). *Job enablers* (3 items) and *opportunities and career development* (3 items) are taken from Gelade and Young (2005). *Role conflict* (8 items) and *role ambiguity* (6 items) are taken from Rizzo, House, and Lirtzman (1970). *Employee empowerment* (4 items) is taken from Spreitzer (1996) (as cited in Snipes et al., 2005, p. 1334), *tools* (2 items) from Hallowell et al. (1996) and *selection criteria* (1 item) from Heskett et al. (1994, p. 173). The construct *colleagues* (9 items) is adapted from previous research by Paulin et al. (2006) (4 items), Gelade and Young (2005) (2 items) and by Cook and Wall (1980) (as cited in Matzler & Renzl, 2006, p. 1268) (3 items).

Employee Satisfaction

There are several employee satisfaction scales, mostly known as job satisfaction scales. Some examples are the Minnesota Satisfaction Questionnaire (MSQ consist of 100 items) by Weiss, Dawis, & England (1967) (as cited in Girma, 2016, p. 40), Job Descriptive Index (JDI consist of 72 items) by Smith, Kendall and Hulin (1969) (as cited in Brown & Peterson, 1993, p. 66), INDSALES (Consist of 61 items) by Churchill, Ford, and Walker (1974) (as cited in Brown & Peterson, 1993, p. 66), Job Characteristic Model (JCM) (Hackman, 1980), Job Characteristic Inventory (JCI consist of 37 items) by Sims, Szilagyi, and Keller (1976), Job Satisfaction Survey (JSS consist of 36 items) by Spector (1985), Job Satisfaction by Wood, Chonko, and Hunt (1986), Employee Satisfaction Inventory (ESI consists of 24 items) by

Koustelios (1991) (as cited in Girma, 2016, p. 41), and the Index of Work Satisfaction (consists of 48; items) by Stamps (1997) (as cited in Girma, 2016, p. 41). However, these scales are considered facet scales (Snipes et al., 2005). This means that those scales include items that captures more than just how employees are satisfied with their job. These scales also contain items that overlap with the internal service quality concept. This research approached the internal service quality and employee satisfaction as separate constructs as proposed by Heskett et al. (1994). Therefore, these scales were considered not well suited for this research. This research used global scales instead for measuring the concept employee satisfaction. Employee satisfaction was measured by the construct *overall job satisfaction* (6 items) proposed by Homburg and Stock (2004; 2005) (as cited in Matzler & Renzl, 2006, p. 1268). Also, 1 item from Spector's (1985) research was added.

Employee Loyalty

Employee loyalty can be measured through attitudinal and behavioral constructs. The first construct is measured by the attitudinal construct *organizational commitment* (15 items) by Mowday, Steers, and Porter (1979). The organizational commitment construct reflects the employees' attitudinal identification with an organization. However, the *organizational citizenship behaviors* (12 items) by MacKenzie, Podsakoff, and Fetter (1993) are based on behavioral aspects of employee loyalty. For the purposes of a holistic approach to the SPC both scales were included within this research.

Sample characteristics

Company ABC is a Dutch Telecom and IT service provider with over 10000 employees. This research was applied within Business Unit XYZ due to the limited access the researcher was granted. Due to this limitation there were no prior sampling criteria used when selecting the sample. At that time, Business Unit XYZ had 809 employees which were mostly of Dutch nationality. The employees within Business Unit XYZ were divided into the following departments: senior management and staff members (26), infrastructure operations (329), on-site operations (294), product management (30), project management (63), and clients (67). These employees represent a wide variety of job roles: e.g. service desk employees, service delivery manager, financial and accounting employees, human resource managers, technical engineers, -architects and -consultants, project-, process-, and product managers, and marketing and communications employees.

Sample size and power

According to Hair, Black, Babin, and Anderson (2014) almost every multivariate data analysis technique is based on statistical inferences. Researchers draw these statistical inferences from a sample of a population. The sample size influences the statistical significance of a research finding (Barlett, Kotrlik, & Higgins, 2001; Hair et al., 2014; Iacobucci, 2010). For example, the χ^2 "Goodness of

Fit" index is considered to be very sensitive to the sample size (Hoyle, 2012; Iacobucci, 2010; Schumacker & Lomax, 2012). Another statistical technique to determine the research significance is through a power analysis (Hair et al., 2014). Power is the probability of correctly rejecting the null hypothesis (Cohen, 1992; Hair et al., 2014). And is comprised of three factors: (1) effect size, (2) alpha (α) and (3) sample size. This relationship between these three factors is considered complicated (Hair et al., 2014). However, it seems clear that power is influenced by sample size. Hence, improving power is most likely achieved by increasing sample size (Hair et al., 2014).

This research has only a potential sample size of 809 employees. Therefore, a post-hoc sample and power analysis (i.e. what size the sample should have been) was conducted with G*Power version 3.1.9.2. Overall, it seems that in general a larger sample size might lead to more precision and accuracy when estimating for statistical inferences for rather complex models (Iacobucci, 2010; Schumacker & Lomax, 2012). Therefore, the researcher strived for a sample size as large as possible.

Data collection procedure

The process of data collection has gone through the following steps: (1) the choice for data collection technique, (2) the choice of tooling, (3) the development of survey questions, (4) the choice of mechanisms to increase the reliability and validity, and (5) the ethical considerations. The data was collected in the period from October 2010 till January 2011 by the researcher himself with the online survey tool Surveymonkey. The survey was translated and presented to the employees in the Dutch language.

Data collection technique

The data was collected with an online survey tooling (i.e. Surveymonkey). The most important reason is that the online survey could be distributed very quickly and easily within Business Unit XYZ. Most of the employees were located throughout the Netherlands. This made it impractical for the researcher to visit all employees in person. Furthermore, this allowed the employees to decide for themselves when and where they wished to participate in the research. This made it very convenient for the employees to participate. The use of an online survey also reduced the risk of misinterpretation in the analysis of the data, in contrast to surveys done on paper. Also, manually processing surveys was not necessary, which saved the researcher time. All surveys were directly stored into a digital database which makes retrieving and exporting data (e.g. SPSS) fairly easy.

The researcher choose for Surveymonkey as the online survey tooling. With Surveymonkey it was fairly easy to make surveys and to process unlimited questions and respondents (i.e. when using a paid account instead of free account).

Development of survey questions and scales

In this research well established scales were used. This is in line with previous SPC literature. Numerous well established scales can be found within the SPC literature. Therefore, results from this research could be compared to other SPC literature. And here lies one of the contributions this research could have on the SPC literature.

In this research a seven-point Likert scale is used (i.e. "1 = very dissatisfied", "4 = Neutral", and "7 = very satisfied"). A five-point scale is more commonly used, however a seven-point Likert scale is supposed to be more sensitive (Colman, Norris, & Preston, 1997).

Mechanisms to increase reliability and validity and avoiding common method bias

There are several mechanisms applied to the survey to enhance the reliability and validity of the survey. For instance, the mechanism 'force completion' has been applied for every page. This makes it impossible for the respondent to continue with the next page before all questions are filled in. The respondent is forced to answer all question before the survey us submitted. Therefore, avoiding missing data.

Podsakoff, MacKenzie, and Podsakoff (2012) proposes to use reverse-coded questions in order to avoid common method bias. The main advantage would be that the respondent is forced to read the survey more carefully before answering. Here lies also its main disadvantage, it might dilute the results because the respondent could misinterpret the question. Therefore, influencing and creating mixed results. However, the advantage of avoiding common method bias outweighs the disadvantages. Therefore, a number of reverse-coded questions were added to this survey. This was also deliberately done in order to maintain the original scales. The reverse-coded question were transferred to regular coded question for data analysis purposes.

A number of research proposes the use of a logical order in a survey (Malhotra, Kim, & Patil, 2006, p. 304). One of the reason for applying this mechanism is to assure that the respondents understands the context of the question. For example, all the questions concerning internal service quality are all ordered logically together. This research adopted this approach by implementing a logical order.

The online survey was pretested on a select group of employees. Ten employees were asked to complete the pre-test survey and provide feedback on how to improve the survey. The findings were implemented in the final survey. And finally, the researcher tried to improve the response rate by sending reminders. The respondents would receive the initial survey request and two reminders were send by email. The first reminder was send just one week after original request and the second reminder was send after one month.

Ethical considerations

There are several ethical considerations to take into account. For example, the identity of the respondents needed to be protected from Company ABC. Respondents must be able to answer honestly about how they feel about their organization. Therefore, the respondents were not asked to give up their names. This way, the respondents were protected from possible prosecution and ultimately saving the respondents from dismissal. The researcher did however gave the respondent the option to leave their telephone number behind for further research. This was not a prerequisite for completing the survey. Furthermore, the anonymity of the respondents was protected by excluding telephone numbers from the working files when analyzing. Also, Company ABC received the bare minimum of information. They had no access to the original files or to the Surveymonkey account. Hereby ensuring the safety of its respondents.

Data analysis Strategy

This research applied the Structural Equation Modeling (SEM) method to evaluate the proposed model. SEM is a multivariate data analysis technique which addresses interrelated relationships and interdependencies between constructs (Hair et al., 2014; Voss et al., 2005). SEM has the ability to analyze latent (unobserved) variables alongside observed variables (Grace & Bollen, 2006). Furthermore, SEM has the ability to mediate (direct and indirect) variables. In short, SEM has the ability to evaluate complex multivariate models. The proposed model will be tested with IBM SPSS software and the SPSS extension module AMOS.

The covariance-based SEM (CB-SEM) approach will be applied due to its statistical strengths (Anderson & Gerbing, 1988). For example, CB-SEM has the ability to account for measurement error and provides the assessment of model fit. However, CB-SEM relies on fairly strict statistical assumptions. For instance, CB-SEM assumes a robust multivariate normal distribution of observed variables, requires reflective operationalization, higher sample size for achieving statistical power, and unidimensional measurement (Anderson & Gerbing, 1988; Reinartz, Haenlein, & Henseler, 2009). Serious violation of these assumptions might lead to incorrect interpretation of findings (Byrne, 2001, 2010).

Preliminary data analysis

According to literature (Hair et al., 2014; Hoyle, 2012; Ozturk, Nusair, Okumus, & Singh, 2017; Schumacker & Lomax, 2012) the sample data should be preliminary examined on (1) missing data, (2) ungagged responses, (3) outliers, and (4) normality assumptions. Missing data will affect the statistical analysis of the sample data (Hair et al., 2014; Hoyle, 2012; Schumacker & Lomax, 2012). That is because not every subject will be represented in the data if they have missing data for some of the variables. Subsequently, the data was also checked on unengaged responses. Unengaged responses are

patterned responses for several groups of items (e.g. item 1 '4444' and item 2 '7777') or patterned response across the entire survey per respondent (e.g. all items '4') (Ibrahim, Wong, & Shiratuddin, 2015). These responses might not be the 'true' representation of these respondents. This might dilute the findings. Furthermore, outliers are extreme values (i.e. falls outside the typical distribution or expected range) and, therefore, will influence the results (Hair et al., 2014; Ozturk et al., 2017; Schumacker & Lomax, 2012; Van den Broeck, Cunningham, Eeckels, & Herbst, 2005). However, it is questionable whether outliers truly exist in Likert scale questionnaires because the values always falls between the expected range (Van den Broeck et al., 2005). In this research the 'outliers' were noted and inferring conclusions were made cautiously. The detailed description of the analysis can be found in Appendix C.

Measurement model and structural model

In line with previous research (e.g. Chi & Gursoy, 2009; Cohen & Olsen, 2013; MacKenzie et al., 1993; Ozturk et al., 2017; Paulin et al., 2006; Xu & Van der Heijden, 2005; Yee et al., 2008, 2010, 2011; Yu, Jacobs, Salisbury, & Enns, 2013), this research followed the two-step approach by Anderson and Gerbing (1988). The two-step approach consists of a measurement model followed by the structural model. For the measurement model it is advised to perform an exploratory factor analysis (EFA) prior to the confirmatory factor analysis (CFA) (Anderson & Gerbing, 1988; Mulaik, 2009; Schumacker & Lomax, 2012). The EFA was performed in with IBM SPSS software and the CFA with the SPSS extension module AMOS.

Exploratory Factor Analysis

Prior to the EFA the researcher had to make some considerations regarding the (1) extraction method, (2) rotation method, and (3) number of factors to interpret (Costello & Osborne, 2005; Fabrigar, Wegener, MacCallum, & Strahan, 1999). For this research (i.e. CB-SEM), the maximum likelihood extraction method was the most appropriate method. It allows for higher quality of statistical estimation (i.e. wide range of indexes of model fit, significance testing of factor loadings and correlations among factors, and computation of confidence intervals) (Costello & Osborne, 2005; Fabrigar et al., 1999). Secondly, this research applied the promax rotation method as proposed by Matsunaga (2010). Promax rotation is an oblique rotation method, which allows factors to be correlated (Costello & Osborne, 2005; Fabrigar et al., 1999). Lastly, this research applied the eigenvalue test and scree-plot test in order to interpret the number of factors.

The EFA was examined, as proposed by Fabrigar et al. (1999) and Hair et al. (2014), on (1) sampling adequacy, (2) convergent validity, (3) discriminant validity, (4) nomological validity, (5) face validity, and (6) reliability. The detailed description of the analysis can be found in Appendix D.

Confirmatory Factor Analysis

The CFA is the next and the actual test of the measurement model. The main purpose of CFA is to confirm the measurement model (Hair et al., 2014; Matsunaga, 2010). This research collected the dependent and independent variables from the same survey. Therefore, common method bias will be examined (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff et al., 2012; Richardson, Simmering, & Sturman, 2009). Once common method bias is addressed, then the measurement model can be examined. Hair et al. (2014) proposes the following evaluation criteria: (1) the model fit, (2) convergent validity, and (3) discriminant validity. Model fit will be examined through the proposed fit indices proposed by Hooper, Coughlan, and Mullen (2008, p. 56). Convergent and discriminant validity will be established by examining the standardized item loadings, average variance extracted and the construct reliability. The detailed description of the analysis can be found in Appendix E.

The structural model

The structural model will be examined by (1) model fit indices, (2) standardized regression weights (β) and (3) its significance (p-value). The fit indices proposed by Hooper et al. (2008) was used again for establishing model fit. The detailed description of the analysis can be found in Appendix F.

Alternative models

In the field of SPC literature, Yee et al. (2008, 2011) proposes to compare several alternative models with the initial proposed model. It is likely that the alternative models will produce good model fit too (Hair et al., 2014). The model which produces the best fit represents the "true model" and should be reported (Baumgartner & Homburg, 1996; Hair et al., 2014; Yee et al., 2008, 2011). However, there should be a theoretical justification for this practice (Baumgartner & Homburg, 1996). The comparison of the initial model with alternative models should provide some insight in the SPC model.

Data analysis and Results

Preliminary data analysis

A total of 321 respondents enrolled in the survey. There were 118 respondents who had more than 10% missing data. These respondents were deleted from the data. Furthermore, respondent ID 306 was removed due to unengaged responses (i.e. respondent answered "4 = Neutral" for all questions and the standard deviation was exactly 0). Respondent ID 60 had the next lowest standard deviation of 0.69. This value is borderline of the desired threshold of 0.70 and after careful visual inspection it was decided to retain the data.

Visual inspection of histograms, Q-Q plots and box plots were done to check for normality. All observed variables showed robust normal distributions except for OrgCom_1 and OrgCom_15r. In addition, the skewness and kurtosis values were also checked (see Appendix C). The observed variables were all, except for OrgCom_1 (i.e. 2.351), within the acceptable threshold of ±2. Although, the more strict threshold of ±1 was exceeded by some of the observed variables (see Table 1). After statistical examination, OrgCom15r did not exceed the threshold of ±1 (i.e. skewness -0.475 and kurtosis -0.126). Therefore, it can be concluded that the normality assumptions are roughly met with the exception of OrgCom_1. All variables were retained within the data.

Observed variable	Skewness*	Kurtosis*	Outliers (Scale item / ID respondent)
OveJob_5		1.865	1= 295,162,316,194; 2=212,244,273; 3=192,293,208,307; 5=317,279,276; 6=264,285,294; 7=99,104,307
JobDes_1	-1.013	1.511	1=3; 2=240; 3=168,194,253,125
JobDes_4		1.340	1=125,295; 2=88,105,194,168; 3=234,212,240
JobEna_2r		-1.000	
Col_1	-1.075	1.156	1=194,230,125,295; 2=48,168,240,272; 3=167,165,280
Col_2		1.157	1=35; 2=168,194,272; 3=176,94,253,295
Col_7		1.263	1=35,113,295; 2=168,253,194,272; 3=273,177,176
Col_8		1.382	1=295,194,234,35; 2=75,168,142,272; 3=177,176,240
Ben_3		1.077	1=3,125,88,162; 2=270,240,316; 7=164,114,274,216
OrgCom_1	-1.107	**2.351**	1=94,162,125,194; 2=240,316; 3=165,67,168
OrCiBe_1		1.861	
OrCiBe_2		1.097	1=99,155,125,162; 2=180,176,216; 7=205,311,197,274

Table 1. Skewness and kurtosis analysis with outliers.
Bold value indicate observed value exceeded the recommended value.
* Values between >-1.0 and <1.0 are left out for readability.

This leaves 202 completed surveys (25% response rate of the total 809 employees). The characteristics of the remaining 202 respondents are presented in Table 2. In addition, more than 90% of the respondents are men. The largest group of respondents (37,1%) were between the ages of 40 and 50 years. And the respondents worked on average 12,8 years for Company ABC.

Characteristics respondents		
Gender	*N*	%
Male	183	90.6%
Female	19	9.4%
Age	*N*	%
<20 years	0	0%
20-30 years	10	5.0%
30-40 years	57	28.2%
40-50 years	75	37.1%
50-60 years	56	27.7%
>60 years	4	2.0%
Tenure	MEAN	SD
Years	12.8	8.5

Table 2. Characteristics respondents (N=202)

Exploratory Factor Analysis

The normality assumptions are roughly met, therefore, the maximum likelihood extraction method with promax rotation method was justified. From the 21 theorized factors only 6 factors emerged (i.e. colleagues, supervisory support, job design characteristics, promotion, overall job satisfaction, and organizational commitment) with eigenvalues greater than 1.0 and together accounted for 65.65% of the total variance (see Table 3). It should be noted that all other variables (i.e. 15 factors and 84 items) were deleted due to insufficient loadings. The number of factors are significant less than theorized. This should be seen as a serious limitation of this research. The researcher tried to remain as much factors as theorized. This by performing multiple EFA independently for the internal service quality, employee satisfaction and employee loyalty in order to obtain more factors. It did however not result in retaining more factors with satisfactory model fit indices.

The main reason for the items not loading onto its theorized factor is because (1) the items correlate too much on items from the other theorized factors (i.e. cross loadings) and (2) the mutual items from one single factor simply did not meet the minimum threshold of 0.40. If the researcher had retained more factors with lower thresholds then this would have had consequences for convergent and discriminant validity. In real social research it is believed that factors are somewhat correlated and that seems to be the case for this research (Costello & Osborne, 2005; Fabrigar et al., 1999; Treiblmaier & Filzmoser, 2010).

Sampling adequacy was evaluated by the Kaiser-Meyer-Olkin (KMO) and the Bartlett's test of sphericity. With a KMO value of 0.855 and the Bartlett's test of sphericity value of 0.00 sampling adequacy was met. The Cronbach's alpha values for all the factors are higher than >.70 (see Table 3). There were four communalities found with lower values than the specified threshold of 0.50. These are OveJob_4 (0.411), Pay_4 (0.311), Pro_1r (0.455), and OrgCom_6 (0.415). According to Costello and

Osborne (2005) this might be due to (1) the item may not be related to other items, or (2) there is an additional factor to be explored. Further examination showed that these items do ensure the structure of the pattern matrix. Deleting one or more of the items destroyed the pattern matrix. Therefore, these items were retained within the data.

With a sample size of 202 the minimal threshold for the factor loadings within each factor should, according to Hair et al. (2014), exceed the threshold of 0.400. OveJob_4 has the lowest factor loading of 0.534 which exceeds the desired threshold of 0.400. Furthermore, all cross loadings were more than 0.200 difference.

By employing existing scales, the researcher had prior knowledge of the factors. Therefore, each factor, with the exception of promotion, have been formed as expected. The factor promotion is comprised of three items from the variable promotion and one item from the variable pay. With close inspection it is revealed that item Pay_4 "I feel satisfied with my chance for salary increases" resembles a lot with the items of variable promotion. A salary increase might be considered as a promotion. Moreover, within Company ABC one of the methods to earn a salary increase is by a promotion. Therefore, it is plausible that Pay_4 can be seen as an item for the factor promotion.

	Loading					
Factor	1	2	3	4	5	6
1. Colleagues						
Col_8	**0.944**	-0.005	0.096	0.069	-0.015	-0.102
Col_7	**0.931**	-0.037	0.030	0.062	-0.025	-0.057
Col_6	**0.861**	0.016	-0.092	-0.061	0.027	0.006
Col_9	**0.816**	0.040	-0.070	-0.003	-0.019	0.152
2. Supervisory support						
SupSup_2	-0.034	**0.942**	0.056	-0.011	-0.004	-0.013
SupSup_5	0.111	**0.812**	-0.095	-0.138	0.077	-0.006
SupSup_3	-0.008	**0.735**	-0.027	0.144	-0.090	0.014
SupSup_1	-0.056	**0.732**	0.073	0.079	0.016	-0.030
3. Promotion						
Pro_4	0.032	-0.097	**0.923**	0.033	-0.021	0.029
Pro_2	0.063	0.109	**0.640**	-0.153	0.030	0.090
Pay_4	-0.071	-0.032	**0.611**	0.136	-0.145	-0.033
Pro_1r	-0.050	0.085	**0.608**	-0.074	0.112	-0.016
4. Job design characteristics						
JobDes_2	0.002	0.010	-0.066	**0.805**	0.001	0.121
JobDes_3	0.066	0.074	0.015	**0.697**	-0.055	0.023
JobDes_1	0.017	-0.044	0.091	**0.588**	0.252	-0.069

5. Overall job satisfaction						
OveJob_3	-0.021	-0.058	-0.068	0.104	**0.997**	-0.095
OveJob_1	0.007	0.090	0.062	0.062	**0.707**	0.039
OveJob_4	-0.014	0.031	-0.039	-0.090	**0.534**	0.228
6. Organizational commitment						
OrgCom_6	0.017	-0.071	0.018	-0.054	0.080	**0.863**
OrgCom_2	0.060	-0.002	0.048	0.011	0.034	**0.776**
OrgCom_3r	-0.111	0.057	0.009	0.214	-0.091	**0.589**
Cronbach's alpha	0.936	0.883	0.795	0.779	0.810	0.810
Eigenvalues	7.404	2.824	1.786	1.596	1.217	1.013
% of variance explained	32.837	12.352	6.497	6.619	4.209	3.138

Table 3. Pattern matrix with Cronbach's alpha, Eigenvalues and percentage of variance explained.

Confirmatory Factor Analysis

Prior to the assessment of the measurement model common method bias must be addressed. First, the unrotated EFA did not extract into one single factor. Instead six factors were extracted. Second, the unconstrained and unrotated EFA showed that the first factor explained 35.3% of the variance which is less than 50% (Podsakoff et al., 2003). Third, the constrained and unrotated EFA produced a single factor which explained 35.3% of the variance which is less than 50%. Fourth, following Yu et al. (2013), the CFA was applied to the Harman's single-factor model (Model B). All the observed measures were constrained to a single-factor. The model fit indices of χ^2/df (1569.843/189)=8.306, χ^2 p-value=0.001, RMSEA=0.191, RMSEA p-value=0.001, SRMR=0.140, CFI=0.460, and PNFI=0.389 are considered weak and unacceptable. This concludes that the Harman's single-factor test did not detect common method bias. Lastly, the CFA of the measurement model (Model C) with the unmeasured latent method factor was compared to the CFA without the latent factor (Model A) (Yu et al., 2013). Both models did not produce substantial different values (i.e. χ^2=251.966 vs. 302.437 for the measurement model without latent factor, df=153 vs. 174, χ^2 p-value=0.001 vs. 0.001, RMSEA=0.057 vs. 0.061, RMSEA p-value=0.184 vs. 0.065, SRMR=0.043 vs. 0.051, CFI=0.961 vs. 0.95, and PNFI=0.662 vs. 0.738). Furthermore, all the item loadings remained similar with minor changes (see Appendix E). The largest difference in item loadings was for SupSup_5 (-.082). Also, the item loadings significance remained the same (see Appendix E). It can be concluded that common method bias did not seem to be an issue for this research. Therefore, the original measurement model (Model A) without the unmeasured latent method factor was retained for further analysis.

The next step establishes whether the model fits the data. Table 4 provides the model fit indices for different the measurement models. The hypothesized model (Model H) includes the internal service quality variable which is not measured directly. This research will follow Heskett et al. (1994) and Xu and Van der Heijden (2005) proposition on including the internal service as a second

order factor. This model produced mixed results in regards of the model fit indices (χ^2/df=1.899, χ^2 p-value=0.001, RMSEA=0.067, RMSEA p-value=0.006, SRMR=0.0706, CFI=0.936 and PNFI=0.758). This research also included an alternative measurement model without the internal service quality variable. This model produced better model fit indices (χ^2/df (302.437/174)=1.738, χ^2=0.001, RMSEA=0.061, RMSEA p-value=0.065, SRMR=0.051, CFI=0.95, and PNFI=0.738), indicating a good model fit except for the χ^2 significance (i.e. 0.001). A significant χ^2 statistic indicates that the hypothesized model does not fit the data and thus rejecting the hypothesized model (Byrne, 2010; Xu & Van der Heijden, 2005). However, the χ^2 statistic is sensitive to sample size (Byrne, 2010; Xu & Van der Heijden, 2005). As Byrne (2010) stated:

> However, both sensitivity of the likelihood ratio test to sample size and its basis on the central χ^2 distribution, which assumes that the model fits perfectly in the population (i.e., that H_o is correct), have led to problems of fit that are now widely known. Because the χ^2 statistic equals (N-1)Fmin, this value tends to be substantial when the model does not hold and when sample size is large (Jöreskog & Sörbom, 1993). (p. 76)

Following Xu and Van der Heijden (2005) this research relied on other model fit indices.

Model fit indices	Criteria	Model H	Model A	Model B	Model C
χ^2	-	345.695	302.437	1569.843	251.966
df	-	182	174	189	153
χ^2/df	≤2	**1.899**	**1.738**	8.306	**1.647**
χ^2 p-value	>.05	0.001	0.001	0.001	0.001
RMSEA	<.07	**0.067**	**0.061**	0.191	**0.057**
RMSEA p-value	>.05	0.006	**0.065**	0.001	**0.184**
SRMR	<.08	**0.071**	**0.051**	0.140	**0.043**
CFI	>.95	**0.936**	**0.950**	0.460	**0.961**
PNFI	>.50	**0.758**	**0.738**	0.389	**0.662**

Table 4. Model fit indices for different measurement models to test common method bias.
Note. Model H = Hypothesized model; Model A = Alternative CFA measurement model; Model B = Harman's single-factor test CFA model; Model C = unmeasured latent method factor CFA model. **Bold** values indicate obtained value exceeded the recommend value.

The last step of the CFA is to account for convergent and discriminant validity and construct reliability (see Table 5). First, the hypothesized model (i.e. model H) was assessed followed by the alternative model. Convergent validity can be assessed by examining the standardized item loadings (Hair et al., 2014). Table 5 shows the properties of the hypothesized model. All the standardized item loadings, except for colleagues, were above the threshold of 0.50. The lowest loading obtained is for colleagues (0.464) linking to latent variable internal service quality. Therefore, the hypothesized model suffers from convergent validity.

	Loading		
Item	1	2	3
1. Internal service quality			
Colleagues	**0.464**		
Supervisory Support	*0.675*		
Promotion	*0.614*		
Job Design Characteristics	*0.636*		
2. Overall job satisfaction			
OveJob_1		0.902	
OveJob_3		0.837	
OveJob_4		*0.604*	
3. Organizational commitment			
OrgCom_2			0.891
OrgCom_3r			*0.601*
OrgCom_6			0.833

Table 5. Hypothesized model standardized item loadings
Note. **Bold** values do not exceed the acceptable recommended value of >0.50. *Italic* values do not exceed the recommend value of >0.70

Further analysis of the model validity shows that the average variance extracted for latent variable internal service quality does not meet the desired threshold of 0.50 (see Table 6). Also, the square root of average variance extracted values does not exceed the inter-construct correlations for adequate discriminant validity (Hair et al., 2014; Ozturk et al., 2017). The square root of average variance extracted for internal service quality is less than its inter-construct correlation with organizational commitment and overall job satisfaction. Also, the square root of the average variance extracted for overall job satisfaction is less than its correlation with internal service quality. Furthermore, the construct reliability for internal service quality (0.691) does not meet the recommended value. Although it reaches its recommended threshold of >0.70. Therefore, it can be concluded that the hypothesized model (Model H) suffers from convergent and discriminant validity. Although construct reliability is considered acceptable.

Latent variable	CR	AVE	1	2	3
1. Overall job satisfaction	0.831	*0.627*	**0.792**		
2. Organizational Commitment	0.825	0.*616*	0.609***	**0.785**	
3. Internal Service Quality	*0.691*	*0.363*	0.823***	0.782***	**0.603**

Table 6. Hypothesized CFA model inter-construct correlations.
Note. * p< 0.05; ** p<0.01; *** p< 0.001. *Italic* values do not exceed the recommended value of >0.70. **Bold** values are the square root of AVE on the diagonal.

The alternative measurement model (Model A) was also assessed (see Table 7). Most of the standardized item loadings exceeded the desired threshold of 0.70 except for Pay_4 (0.504), OveJob_4 (0.606) and OrgCom_3r (0.600). Although these items do exceed the acceptable threshold of 0.50.

	Loading					
Item	1	2	3	4	5	6
1. Colleagues						
Col_8	0.948					
Col_7	0.919					
Col_6	0.836					
Col_9	0.855					
2. Supervisory support						
SupSup_2		0.946				
SupSup_5		0.790				
SupSup_3		0.721				
SupSup_1		0.771				
3. Promotion						
Pro_4			0.851			
Pro_2			0.778			
Pro_1r			*0.687*			
Pay_4			*0.504*			
4. Job design characteristics						
JobDes_2				0.851		
JobDes_3				0.714		
JobDes_1				0.713		
5. Overall job satisfaction						
OveJob_3					0.847	
OveJob_1					0.893	
OveJob_4					*0.606*	
6. Organizational commitment						
OrgCom_6						0.841
OrgCom_2						0.883
OrgCom_3r						*0.600*

Table 7. Alternative model standardized item loadings
Note. 1 = Colleagues; 2 = Supervisory support; 3 = Organizational commitment; 4 = Promotion; 5 = Job design characteristics; Organizational commitment. *Italic* values do not exceed the recommend value of >0.70

Further analysis of the convergent validity showed that all average variance extracted are above 0.50 (see Table 8). Also, no discriminant validity issues were found because all the square root of average variance extracted exceeded its inter-construct correlations. Furthermore, the construct

reliability values exceed well over the threshold of 0.70. With the lowest value for promotion (i.e. 0.805) well above the 0.70.

Latent variable	CR	AVE	1	2	3	4	5	6
1. Colleagues	0.939	0.793	**0.891**					
2. Supervisory_Support	0.884	0.658	0.385***	**0.811**				
3. Promotion	0.804	0.514	0.182*	0.498***	**0.717**			
4. Job_Design_Characteristics	0.805	0.580	0.439***	0.400***	0.223*	**0.762**		
5. Overall_Job_Satisfaction	0.831	0.627	0.359***	0.563***	0.432***	0.601***	**0.792**	
6. Organizational_Commitment	0.824	0.616	0.319***	0.467***	0.638***	0.462***	0.608***	**0.785**

Table 8. Alternative CFA model inter-construct correlations.
Note. * p< 0.05, ** p<0.01, *** p< 0.001. **Bold** values are the square root of AVE on the diagonal.

In conclusion, these results show that the hypothesized model (Model H) found some issues with the convergent and discriminant validity. Also, construct reliability for internal service quality was considered barely acceptable. The alternative measurement model (Model A), however, provided much better and sufficient values for convergent and discriminant validity and construct reliability.

Structural Model

The final step is the analysis of the structural model. The hypothesized model (see Figure 3) represents the relationships according to the SPC as proposed by Heskett et al. (1994). The internal service quality was included as a second order factor. The first alternative model (Model A1) excludes the internal service quality variable and directly connects variables colleagues, supervisory support, promotion and job design characteristics on overall job satisfaction (see Figure 4). The second alternative model (Model A2) elaborates on Model A1 and adds additional relationships on organizational commitment (see Figure 5). The third model (Model A3) proposes job design characteristics as a dependent variable (see Figure 6). This is done in order to provide meaningful interpretation of the variable colleagues. As will be shown, the variable colleagues does not provide strong significant relationships in previous models. Also, excluding the variable colleagues does not do well for the CFA. Therefore, variable colleagues need to be retained within this research. Model A3 provides new insight in the key features of the SPC. Model A3 is presented in the most parsimonious way. Meaning all non-significant paths were trimmed stepwise (i.e. eliminating the least significant path at a time) while testing for model fit after each elimination (Kline, 2011). The unmodified Model A3 can be found in Appendix F.

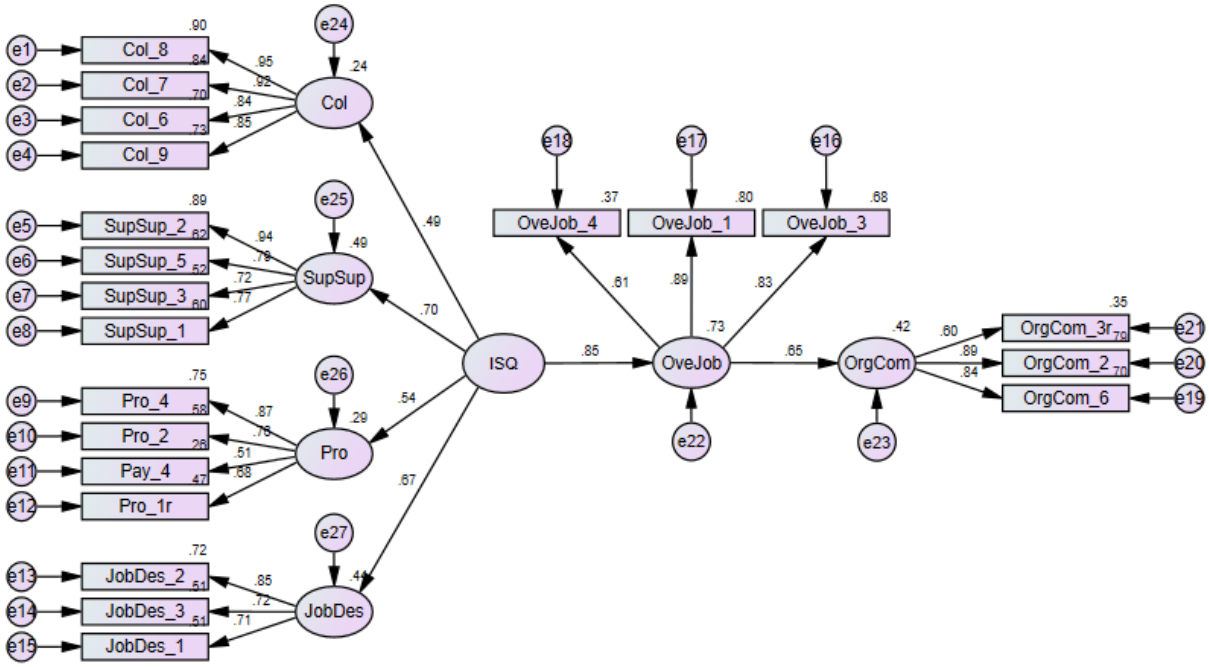

Figure 3. Hypothesized model (Model H).
Note. Col = Colleagues; SupSup = Supervisory Support; Pro = Promotion; JobDes = Job Design Characteristics; ISQ = Internal Service Quality; OveJob = Overall Job Satisfaction; OrgCom = Organizational Commitment.

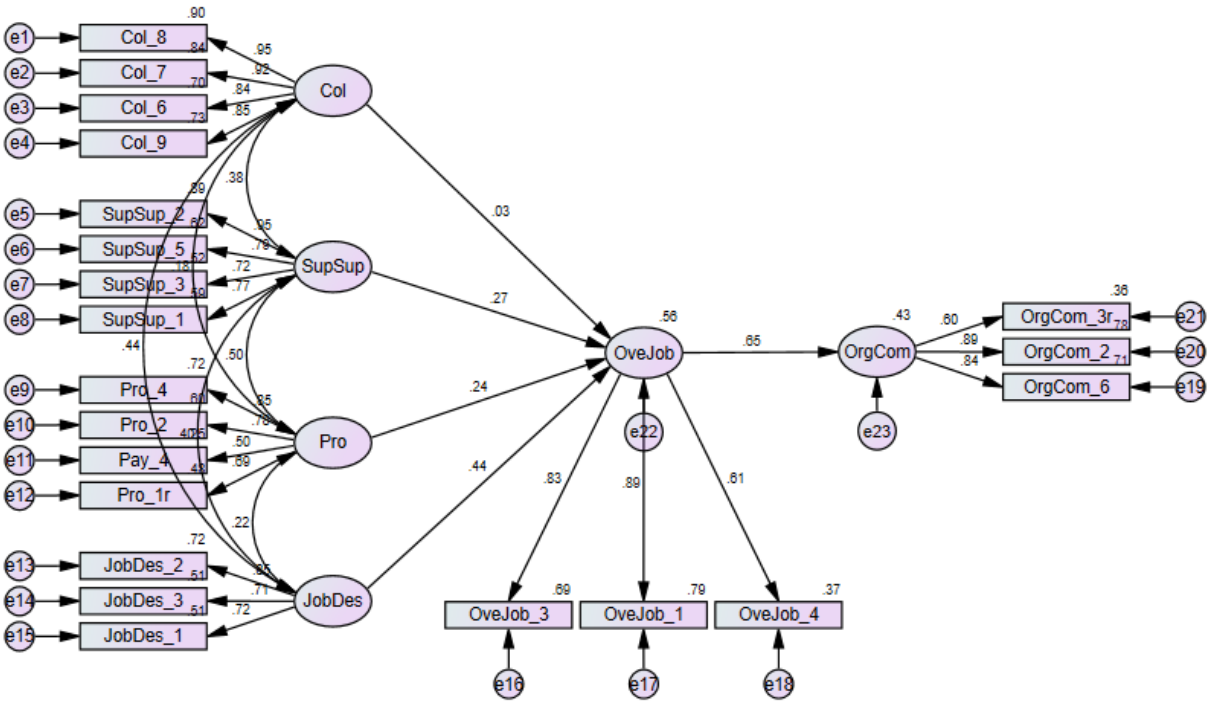

Figure 4. Alternative model without 2nd order factor Internal Service Quality (Model A1).
Note. Col = Colleagues; SupSup = Supervisory Support; Pro = Promotion; JobDes = Job Design Characteristics; OveJob = Overall Job Satisfaction; OrgCom = Organizational Commitment.

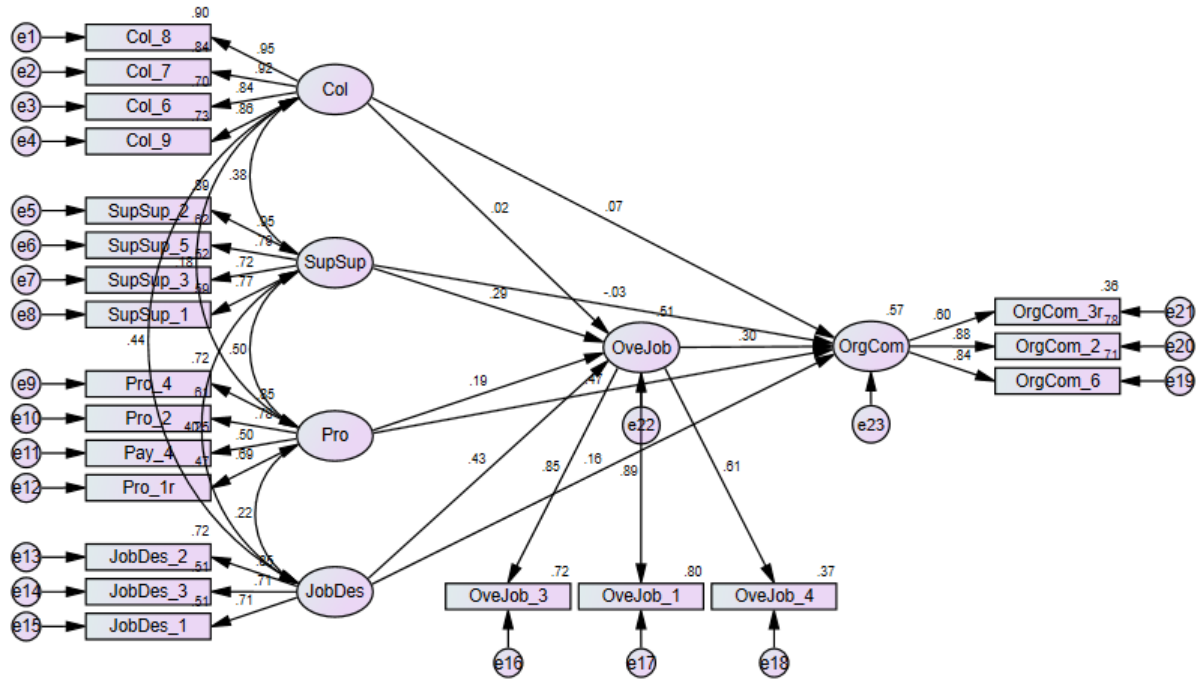

Figure 5. Alternative model with additional relationships to Organizational Commitment (Model A2).
Note. Col = Colleagues; SupSup = Supervisory Support; Pro = Promotion; JobDes = Job Design Characteristics; OveJob = Overall Job Satisfaction; OrgCom = Organizational Commitment.

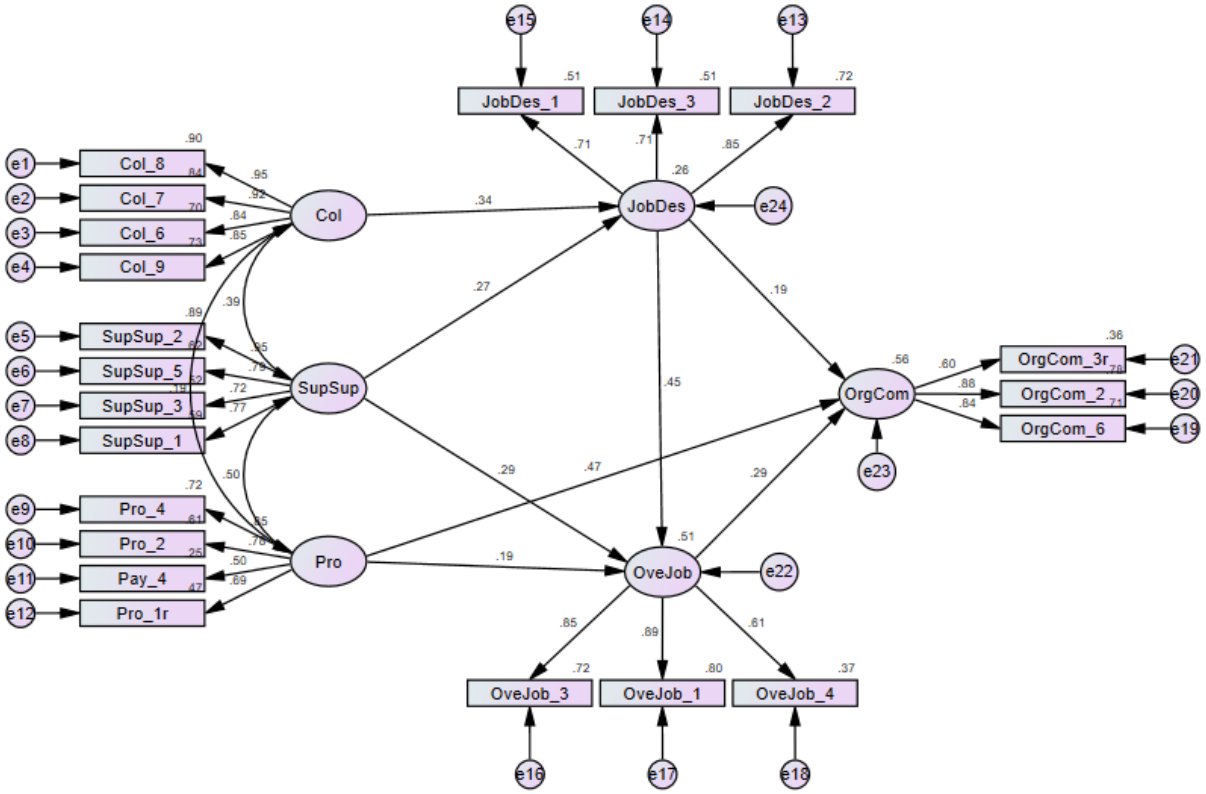

Figure 6. Alternative model with additional relationships to Organizational Commitment (Model A3).
Note. Col = Colleagues; SupSup = Supervisory Support; Pro = Promotion; JobDes = Job Design Characteristics; OveJob = Overall Job Satisfaction; OrgCom = Organizational Commitment.

The results of the model fit analysis of the hypothesized model and alternative models are shown in Table 9. Model fit indices for different structural models. As expected after finding issues with convergent and discriminant validity during the CFA, Model H found trouble exceeding the desired threshold for almost all model fit indices. Thus Model H is rejected, providing evidence against the inclusion of internal service quality as a second order factor. At the very least this is an interesting finding. While Model A1 provides better model fit than Model H it is still not satisfactory. CFI and RMSEA p-value, χ^2 p-value do not exceed desired threshold. However, Model A2 and Model A3 do exceed the desired thresholds (except for χ^2 p-value).

Model fit indices	Criteria	Model H	Model A1	Model A2	Model A3
χ^2	-	365.833	343.737	302.437	303.629
df	-	183	178	174	178
χ^2/df	≤2	**1.999**	**1.931**	**1.738**	**1.709**
χ^2 p-value	>.05	0.000	0.000	0.000	0.000
RMSEA	<.07	0.071	**0.068**	**0.061**	**0.059**
RMSEA p-value	>.05	0.001	0.004	**0.065**	**0.091**
SRMR	<.08	0.082	**0.071**	**0.053**	**0.054**
CFI	>.95	0.929	0.935	**0.950**	**0.951**
PNFI	>.50	**0.756**	**0.742**	**0.738**	**0.755**

Table 9. Model fit indices for different structural models.
Note. Model H = Hypothesized model; Model A1= Alternative model without 2nd order internals service quality; Model A2 = Alternative model with links to organizational commitment; Model A3 =Alternative model with job design characteristics as dependent variable. **Bold** values indicate obtained value exceeded the recommend value.

Table 10. Effects and significance of relationships. shows for each of the structural paths its standardized estimates (β) and significance (p-value). It is most interesting that the variable colleagues does not have a significant direct effect (i.e. on all tested models) on overall job satisfaction. However, as predicted, the variables job design characteristics, supervisory support and promotion show significant positive effects on overall job satisfaction (i.e. exact for job design characteristics in Model A2). Furthermore, the variable overall job satisfaction significant show significant positive effect on organizational commitment. It is also interesting to note that promotion has a lower and less significant effect on overall job satisfaction than it has on organizational commitment. Thus, promotion has a stronger influence on organizational commitment than it has on overall job satisfaction.

		Standardized estimates (β)			
Relationship		Model H	Model A1	Model A2	Model A3
Internal Service Quality	→ Overall Job Satisfaction	0.855 ***	n.a.	n.a.	n.a.
Colleagues	→ Overall Job Satisfaction	n.a.	**0.031 n.s.**	**0.024 n.s.**	**n.s. (deleted)**
Supervisory Support	→ Overall Job Satisfaction	n.a.	0.273 ***	0.287 ***	0.291 ***
Promotion	→ Overall Job Satisfaction	n.a.	0.245 **	0.188 *	0.191 *
Job Design Characteristics	→ Overall Job Satisfaction	n.a.	0.437 ***	0.433 ***	0.445 ***
Colleagues	→ Job Design Characteristics	n.a.	n.a.	n.a.	0.341 ***
Supervisory Support	→ Job Design Characteristics	n.a.	n.a.	n.a.	0.270 ***
Promotion	→ Job Design Characteristics	n.a.	n.a.	n.a.	**n.s. (deleted)**
Colleagues	→ Organizational Commitment	n.a.	n.a.	**0.067 n.s.**	**n.s. (deleted)**
Supervisory Support	→ Organizational Commitment	n.a.	n.a.	**-0.026 n.s.**	**n.s. (deleted)**
Promotion	→ Organizational Commitment	n.a.	n.a.	0.474 ***	0.472 ***
Job Design Characteristics	→ Organizational Commitment	n.a.	n.a.	**0.157 n.s.**	0.188 *
Overall Job Satisfaction	→ Organizational Commitment	0.649 ***	0.654 ***	0.299 ***	0.293 **

Table 10. Effects and significance of relationships.
Note. Model H = Hypothesized model; Model A1= Alternative model without 2nd order internals service quality; Model A2 = Alternative model with links to organizational commitment; Model A3 =Alternative model with job design characteristics as dependent variable. * p< 0.05, ** p<0.01, *** p< 0.001. **Bold** values indicate non-significant relationships. n.a. = not applicable; n.s. = non-significant.

The results indicate that Model A3 is the best representation of the "true model" among all tested models. Additional post-hoc statistical power analysis showed that the non-significant paths have sufficient statistical power (i.e. the lowest value of power is 1.0) in order to assume that there is no significant relationship (see Appendix F).

Discussion

Theoretical implications

This research advances the theoretical implications in several ways. First, in this research the internal service quality as a single construct does not hold unlike previous research (Xu & Van der Heijden, 2005). The hypothesized model suffered from convergent and discriminant validity and, also, the model fit requirements were not met. That might explain why there is limited research with internal service quality as a separate construct (Xu & Van der Heijden, 2005). It should be noted that this research treated the internal service quality as a second order factor for different human resource constructs. These first order factors were measured reflectively. A critical review shows that the first order factors are not reflective. CB-SEM assumes that the underlying observed variables are reflective measures (Anderson & Gerbing, 1988; Reinartz et al., 2009). Perhaps if the internal service quality was treated as a formative measure than the underlying first order factor do not need to covary. Furthermore, if PLS-SEM was used to evaluate the model the results might have been different.

Second, the SPC model is well-received model and its strength lies in its simplicity but still managing to integrate a distinct body of research (Silvestro & Cross, 2000). This research showed that the SPC model is best seen as a conceptual model and serves as a guideline for research initiatives (Hogreve et al., 2017). This research showed that the SPC is not necessarily linear. For example, Model A1 showed worse model fit compared to the nonlinear models (i.e. Model A2 and A3). Therefore, the linear relationship of the internal service quality → employee satisfaction → employees loyalty does not hold for this research.

Third, according to Hogreve et al. (2017, p. 58) and Jiang, Lepak, Hu, and Baer (2012), various human resource practices has different effects on employee behaviors. This research produced similar results. For example, supervisory support and job design characteristics had stronger effect on overall job satisfaction than on organizational commitment. However, promotion had just the opposite effect, it had a stronger effect on organizational commitment than on overall job satisfaction. Again, this showed that the SPC model is not simplistic or linear.

Fourth, this research had to delete 15 latent variables due to insufficient loadings. Therefore, these results should be interpreted cautiously. Unfortunately, this research does not provide support for the holistic approach to the internal service quality. Further research is needed and it is advised to replicate existing research (Loveman, 1998; Xu & Van der Heijden, 2005).

Fifth, this research showed most of the anticipated relationships are supported. For example, job design characteristics had strong positive effect on overall job satisfaction. Previous research supports this relationship (Judge, Bono, & Locke, 2000; Morgeson & Humphrey, 2006; Paulin et al., 2006). It is interesting to note that job design characteristics had a small to moderate effect

organizational commitment (i.e. Model A2 and A3). Furthermore, a strong positive effect between supervisory support and overall job satisfaction was found. This relationship is also supported by previous research (i.e. in terms of empowerment, leadership, management support of trust in management) (Hallowell et al., 1996; Hogreve et al., 2017; Matzler & Renzl, 2006; Snipes et al., 2005). This research also found a positive relationship between promotion and overall job satisfaction. Surprisingly, little research can be found on the direct effects of promotion on overall job satisfaction (Hallowell et al., 1996). In most research, promotion is represented in as a subset of items in a facet scale for measuring overall job satisfaction (e.g. MSQ, JSS, JDI, INDSALES). This research contributes to the literature by measuring promotion as a separate construct. However, it is interesting to note that the relationship between promotion and organizational commitment is even stronger than on overall job satisfaction. And lastly, overall job satisfaction had positive strong effect on organizational commitment (i.e. Model A1, A2 and A3). Previous literature supports this finding (Brown & Peterson, 1993; Hogreve et al., 2017; José Vilares & Simões Coelho, 2003; Matzler & Renzl, 2006; Paulin et al., 2006; Rucci et al., 1998; Yee et al., 2008, 2010, 2011). All these findings provide general support for the SPC model.

Sixth, it is interesting to note that the variable colleagues did not provide significant relationship with overall job satisfaction (Model A1 and A2) or employee loyalty (Model A2). This finding was consistent with the research by Paulin et al. (2006). However, deleting the variable colleagues destroyed the validity of the structural model. Further analysis showed that colleagues and supervisory support also have a moderate effect on job design characteristics (i.e. Model A3). It is feasible that how well an employee is supported by its colleagues and their supervisors reflects on how they perceive their job. This finding is also supported by other literature (e.g. Brown & Peterson, 1993; Hartline & Ferrell, 1996; Rizzo et al., 1970). Therefore, this research recommends to further investigate this relationship.

Seventh, this research found a much stronger effect between promotion and organizational commitment than between overall job satisfaction and organizational commitment. This is a very interesting finding. Xu and Van der Heijden (2005, p. 150) stated “rewards policy is one of the factors that substantially motivates qualified employees to be loyal to the company”. Further research should provide more insight.

Eighth, Model A3 represents the ‘true model’ (i.e. parsimonious model). All the non-significant paths were removed. In addition, this model provides the best model fit.

And lastly, this research contributed by assessing the SPC to the IT business-to-business industry.

Managerial implications

There are several managerial implications. According to the SPC model achieving customer satisfaction and financial performance is through the satisfaction of employees. In addition, achieving employee loyalty contributes to better understanding of their customers and higher productivity. This research showed that achieving employee loyalty is through employee satisfaction and promotion. However, depending on the results Company ABC wants to achieve, achieving employee loyalty is best through promotion (Xu & Van der Heijden, 2005). Also, further research is needed to provide more insight on what the effects are of employee satisfaction and employee loyalty on customer satisfaction and financial performance. This might have major consequences for the choice that Company ABC will have to make to achieve their goal. For example, if employee loyalty contributes more to the customer satisfaction and financial performance than employee satisfaction would, then it is advised to focus on providing satisfactory promotion conditions as these lead to higher employee loyalty. If employee satisfaction is the goal then it is best to focus on job design characteristics (i.e. including colleagues) and supervisory support.

Limitations

Unfortunately, this research suffers from several limitations. First, the SPC model could not be fully examined due to some organizational limitations. The organizational complexity prevents the researcher to examine the entire SPC model. Customer interaction is through integrated service offerings distributed over different business units. The researcher had only limited access to the employees of Business Unite XYZ. In addition, customer interaction was not allowed and information about the financial performance was confidential.

Second, this research is based on CB-SEM. However, it might have been more appropriate to apply the PLS-SEM. For example, the first order constructs of the internal service quality were not expected to be intercorrelated and should have been considered as formative measures. Then PLS-SEM would have been more appropriate. As a consequence, the researcher had to delete 15 constructs (84 items) due to cross loadings (Fabrigar et al., 1999; Hair et al., 2014). Furthermore, when evaluating the variables more critically one might it argue that not all latent variables present within this research are reflective measures (see Appendix G). Job design characteristics and supervisory support might be considered formative measures because the items are not interchangeable. Perhaps if the researcher applies the PLS-SEM than more constructs could have be retained.

Third, this research did somewhat rely on capitalization on chance (Chin, 1998). The researcher wanted to take a holistic approach to the internal service quality (i.e. incorporated 19 constructs). Consequently, the researcher had to delete 15 constructs (84 items). In addition, 118 respondents

were deleted due to missing data (i.e. more than 10%) (Hair et al., 2014; Hoyle, 2012; Schumacker & Lomax, 2012).

Fourth, the survey was measured with an ordinal measurement scale (i.e. Likert scale). CB-SEM should not have been the appropriate choice of SEM approach. However, most research violate this assumption and take appropriate measures (i.e. evaluating data on normality assumptions) (Hair et al., 2014).

Fifth, this research collected the dependent and independent variables from the same sample. By doing so the researcher introduced potential common method bias. It could have been prevented if a marker variable was included within the survey (Podsakoff et al., 2003; Podsakoff et al., 2012; Richardson et al., 2009).

And finally, employee loyalty is measured through organizational commitment. This scale is based on attitudinal responses of employees. Employees are able provide social desirable answer which might potentially influence the research results. Results might differ if managers, supervisors, or customers were involved.

Recommendations

There are some recommendations for further research. First, this research showed that the SPC should not been seen as straightforward linear model but instead as a nonlinear relationship. Future research should at least incorporate alternative models without relying on capitalization on chance (Chin, 1998).

Second, further research is needed regarding the internal service quality construct. The holistic approach did not serve well within this research. Therefore, it would be best if the internal service quality is comprised of variables which are considered the most important to employees. In addition, future research should strive for an optimum number of variables. This should prevent potential deletion of latent variables due to (unwanted) cross loadings (Fabrigar et al., 1999; Hair et al., 2014).

Third, Model A3 needs further research to validate whether job design characteristics is the precedent for colleagues and supervisory support.

Fourth, further research based upon this research should incorporate the external part of the SPC (i.e. customer satisfaction and financial performance). This should provide more insights on the effects of employee satisfaction and employee loyalty on customer satisfaction and financial performance. As previously mentioned, this might have important managerial implications for organization with regards to their goals. This research showed that employee satisfaction can be best achieved through job design characteristics (i.e. including colleagues) and supervisory support. Whereas employee loyalty is best achieved through promotion.

Fifth, this research focused only on employees and it should be interesting to include responses from manager or supervisors and customers. This makes the application of behavioral type of variables possible. For example, managers or supervisors or customers could indicate how employees actually behave instead of potentially social desirable answer from employees. For measuring the financial performance, it would be best if financial information was available for the researcher(s).

Sixth, this research treated the data as reflective and used AMOS as its primary software. It would be interesting to see if this research would show the same results if its was treated formatively or partially formative with PLS-SEM. Perhaps this would have provided supported for the internal service quality as a second order factor. And other software (e.g. SmartPLS) might produce different result due to their underlying assumptions. Hence, AMOS is not suited for applying formative measures. SmartPLS supports formative and reflective measures simultaneously.

Seventh, future research should collect the data for their dependent and independent measures separately in order to avoid common method bias. In addition, it is best to include a marker variable to account for common method bias. And dependent variables should be at the beginning and more sensitive variables to the end of the survey. Future research should also include prevention traps (e.g. *"Please answer strongly (dis)agree here"*), time stamps (i.e. how long the employee took the

survey in order to detect biased data), and bribe (i.e. to achieve higher response rate) onto their surveys. Furthermore, the survey should be much shorter (i.e. less survey questions) than this research's survey. This would improve the response rate and might prevent missing data.

Eighth, future research should include 'true' normal distributed measurement scale. CB-SEM assumes data to be normal distributed. Violation of this assumption influence the interpretation of the results. Likert scale is an ordinal measurement scale.

And lastly, further research is needed within the fields of IT business-to-business industry.

Conclusion

This research findings provides a solution to the research question. It provides clear focus points for Company ABC. If Company ABC focuses their resources on satisfying their employees than it will be most likely that customer satisfaction and financial performance will follow. Hence, the employees are more likely to stay with the organization and as a result the customers will be better served by it. And employees are more inclined to speak up highly of their organization.

Furthermore, this research contributed to the SPC field of science. In general, it showed that the internal part of the SPC model is supported if internal service quality is treated as a multidimensional concept and if the relationships are treated nonlinear. This research also showed that employee satisfaction leads to organizational commitment. And this research provided recommendations for future research.

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Appendix A Towards a research model

Type of model	Exemplars	Description	Key construct(s)	Well-received by the literature?	Statistical Details?	Scales provided?	Can be applied to service industries?
Service Profit Chain (SPC)	Heskett, Sasser and Schlesinger (1994)	The SPC is a model for linking service operations, employee assessments, and customer assessment to a firm's profitability. The relationships must be viewed as propositions. The SPC has been adopted by several studies.	Internal service quality, employee satisfaction, employee loyalty, external service value, customer satisfaction, customer loyalty, revenue growth and profit.	Yes	Yes, shown in other studies	Yes, shown in other studies	Yes
Service Employee Management	Hartline and Ferrell (1996)	The service employee management examines constructs simultaneously across three interfaces of the service delivery process: manager-employee, employee-role, and employee-customer. By improving employee's self-efficacy and job satisfaction and reducing employee's role conflict and ambiguity, it will affect the customers' perceptions of service quality in a positive way.	Empowerment, Role conflict and Role Ambiguity, Job satisfaction, Self-Efficacy, Adaptability and Customer perceived service quality.	Yes	Yes	Yes	Yes
EFQM Excellence Model (adaptation on the original EFQM model)	EFQM (1999); Eskildsen and Dahlgaard (2000)	The EFQM Excellence Model consists of nine criteria. "The assumption behind the model is that excellent results with respect to performance, customers, people and society are achieved through leadership driving policy & strategy, people, partnerships & resources, and processes (p. 1082).	Leadership, People, Policy & Strategy, Partnerships & Resources, Processes. Results: People result, Customer results, Society Results and Key performance results.	Yes, although the original EFQM model is widely accepted but lacks the 'people results' relationship.	Yes	Yes	Yes
Value Profit Chain	Payne, Holt and Frow (2000), Heskett, Sasser and Schlesinger (2003)	The value profit chain is a conceptual model that links the concepts of employee value, customer value and shareholder value. The original relationship value management model proposed by Payne et al. (2000) has been a great influence on the value profit chain (Heskett et al., 2003).	Employee, customer and shareholder value.	No	No	No	Yes, implications for the retail financial services sector are considered.
Extended Customer Satisfaction model (adapted ECSI model)	Vilares and Coelho (2003)	The Extended customer satisfaction model proposes an extension of the European customer satisfaction index (ECSI) model. The underlying reason for this extension is the fact that the ECSI model does not consider employee satisfaction and behavior. The extended model includes nine interrelated latent variables with two exogenous variables: image and perceived employee satisfaction.	Employee satisfaction, Employee loyalty, Employee Commitment, Customer Satisfaction, Customer Loyalty.	No	Yes	No	Yes, although in this example there is a distinction between satisfaction with product and service.

Table 11. Comparison of research models.

Appendix B Survey

Hoeveel jaren werkt u al voor Company ABC?
Voor welke afdeling binnen Business Unit XYZ werkt u?
Wat is uw geslacht?
Wat is uw leeftijd?

Employee satisfaction
(R) = Reverse coded

Overall job satisfaction (Adapted from Homburg & Stock, 2004; 2005)

1. **Overall. I am quite satisfied with my job**
2. **I do not intend to work for a different company**
3. **I like my job**
4. **There are no fundamental things I dislike about my job**
5. **I like my job more than many employees of other companies**
6. **I consider this employer as first choice**
7. **I sometimes feel my job is meaningless (R) (Spector, 1985)**

Over het algemeen ben ik zeer tevreden met mijn baan
Ik ben niet van plan om te werken voor een andere werkgever
Ik vind mijn werk leuk
Er zijn geen fundamentele dingen die ik niet leuk vind aan mijn werk
Ik vind mijn baan leuker dan werknemers van andere bedrijven.
Ik beschouw Company ABC als mijn eerste keuze
Soms heb ik het gevoel dat mijn baan zinloos is

Job design characteristic (Paulin et al., 2006)

1. **I use many different skills and talents**
2. **I accomplish things that others consider to be very important**
3. **I am responsible for several tasks from beginning to end**
4. **I can easily evaluate the results of my work**

Job design kenmerken
Ik maak gebruik van verschillende vaardigheden en talenten
Ik volbreng dingen die anderen beschouwen als zeer belangrijk
Ik ben verantwoordelijk voor verschillende taken van begin tot eind
Ik kan gemakkelijk de resultaten van mijn werkzaamheden evalueren

Employee empowerment (Snipes et al., 2005)

1. **My job affords me enough power to take any corrective action I deem necessary when a customer is dissatisfied with service**
2. **The organization cares about my opinion**
3. **This organization values my contribution to its well-being**
4. **I do not have the authority necessary to take actions for tuning dissatisfied customers into satisfied ones (R)**

Medewerker empowerment
Mijn baan biedt me genoeg autoriteit om corrigerende stappen te ondernemen wanneer een klant ontevreden is over de service
Company ABC vindt mijn mening belangrijk
Company ABC waardeert mijn bijdrage aan haar welzijn
Ik heb niet de autoriteit om ontevreden klanten te veranderen in tevreden klanten

Job enablers (adapted from Gelade & Young, 2005)

1. **I have sufficient authority to do my job well**
2. **Priorities or work objectives are changed so frequently I have trouble getting my job done (R)**
3. **There are usually enough people in my team to handle the workload**

Job enablers
Ik heb voldoende bevoegdheid om mijn werk goed te doen
Prioriteiten of doelstellingen veranderen zo frequent dat ik moeite heb om mijn werk goed te doen
Er zijn meestal genoeg mensen in mijn team om de werklast te dragen

Supervisory support (adapted from Paulin et al., 2006)

1. **Helping you develop your skills**
2. **Giving you recognition for work well done**
3. **Keeping you informed of things pertaining to your work**
4. **Asking for your opinion on important decisions**
5. **Listening to your concerns**

Management support
Helpt u uw vaardigheden te ontwikkelen
Geeft u erkenning voor uw werkzaamheden
Houdt u op de hoogte van de zaken die betrekking hebben op uw werkzaamheden
Vraagt om uw mening over belangrijke beslissingen
Luistert naar uw zorgen

Operating procedures (Spector, 1985)

1. **Many of our rules and procedures make doing a good job difficult**
2. **My efforts to do a good job are seldom blocked by red tape**
3. **I have too much to do at work**
4. **I have too much paperwork**

Operationele procedures
Veel van onze regels en procedures vermoeilijken de werkzaamheden
Mijn inspanningen om goed werk te leveren worden zelden door bureaucratie geblokkeerd
Ik heb te veel te doen op het werk
Ik heb te veel papierwerk

Communication (Spector, 1985)

1. **Communications seem good within this organization**
2. **The goals of this organization are not clear to me (R)**
3. **I often feel that I do not know what is going on with the organization (R)**

4. **Work assignments are often not fully explained (R)**

Communicatie
Communicatie binnen Company ABC lijkt goed te zijn
De doelstellingen van Company ABC zijn mij niet duidelijk
Ik heb vaak het gevoel dat ik niet weet wat er gaande is binnen de organisatie
Opdrachten worden vaak onvoldoende uitgelegd

Colleagues

1. **People are treated with respect in my team. regardless of their job (Gelade & Young, 2005)**
2. **Helps you to do your work well (Paulin et al., 2006)**
3. **Initiating and developing new team members (Paulin et al., 2006)**
4. **Make you feel part of the team (Paulin et al., 2006)**
5. **Making you look forward to coming into work everyday**
6. **The people in my team are willing to help each other. even if it means doing something outside their usual duties (Gelade & Young, 2005)**
7. **If I got in difficulties at work I know my colleagues would try and help me out (Cook & Wall, 1980)**
8. **I can trust the people I work with to lend me a hand if I needed it (Cook & Wall, 1980)**
9. **Most of my colleagues can be relied upon to do as they say they will do (Cook & Wall, 1980)**

Collega's
Medewerkers worden. ongeacht het werk dat zij doen. met respect behandeld in mijn team
Helpen u om uw werk goed te doen
Initiëren en het ontwikkelen nieuwe teamleden
Geven het gevoel dat u deel uitmaakt van een team
Zorgen ervoor dat u elke dag uitkijkt naar het werk
De medewerkers zijn bereid elkaar te helpen. zelfs als dat betekent om werkzaamheden te verrichten buiten hun gebruikelijke werkgebied
Bij moeilijkheden op het werk dan zullen mijn collega's mij proberen te helpen
Ik kan erop vertrouwen dat mijn collega's mij te hulp schieten als ik het nodig heb
Van het merendeel van mijn collega's kan ik toevertrouwen dat zij doen wat ze zeggen te zullen doen

Selection criteria (Heskett et al., 1994, p. 173)

1. **Employee selection criteria and methods are geared to what lies in the best interest of the company.**

Werving en Selectie
De criteria en methoden voor werving en selectie zijn gericht op het belang van Company ABC

Tools (Hallowell et al., 1996)

1. **I have access to the information I need to serve my customers well**
2. **I have the equipment support I need to serve my customers well**

Tools
Ik heb toegang tot de informatie die ik nodig heb om mijn klanten goed te bedienen
Ik heb de ondersteunende middelen tot mijn beschikking om mijn klanten goed te bedienen

Customer-linkage satisfaction (Paulin et al., 2006)

1. **How satisfied are you with the organization's efforts at helping you to create highly satisfied customers?**

De klanttevredenheid koppeling
Hoe tevreden bent u met de inspanningen van Company ABC u te helpen bij het creëren van zeer tevreden klanten?

Fair treatment (Paulin et al., 2006)

1. **Most of the time. I am treated fairly at the organization**

Een eerlijke behandeling
Over het algemeen word ik eerlijk behandeld bij Company ABC

Pay (Spector, 1985)

1. **I feel I am being paid a fair amount for the work I do.**
2. **Raises are too few and far between (R)**
3. **I feel unappreciated by the organization when I think about what they pay me (R)**
4. **I feel satisfied with my chance for salary increases**

Salaris
Ik krijg een gepast salaris voor het werk dat ik doe
Verhogingen zijn er te weinig en volgen elkaar te langzaam op
Als ik nadenk over wat Company ABC betaalt. voel ik me niet gewaardeerd
Ik ben tevreden over mijn kansen op salarisverhogingen

Benefits (Spector, 1985)

1. **I am not satisfied with the benefits I receive (R)**
2. **The benefits we receive are as good as most other organizations offer**
3. **The benefit package we have is equitable**
4. **There are benefits we do not have which we should have (R)**

Secundaire arbeidsvoorwaarden
Ik ben niet tevreden met de secundaire arbeidsvoorwaarden die ik geniet
De secundaire arbeidsvoorwaarden van Company ABC zijn net zo goed als die van de meeste organisaties
De secundaire arbeidsvoorwaarden zijn redelijk
Er zijn secundaire arbeidsvoorwaarden die we niet krijgen maar wel zouden moeten krijgen

Contingent rewards (Spector, 1985)

1. **When I do a good job. I receive the recognition for it that I should receive**
2. **I don't feel that the work I do is appreciated (R)**
3. **There are few rewards for those who work here (R)**
4. **I don't feel my efforts are rewarded the way should be (R)**

Beloningen

Wanneer ik goed werk lever. krijg ik daar gepaste waardering daarvoor
Ik heb niet het gevoel dat het werk dat ik doe wordt gewaardeerd
Er zijn weinig beloningen voor mensen die hier werken
Ik heb niet het gevoel dat mijn inspanningen wordt beloond zoals het zou moeten

Opportunities and career development (adapted from Gelade & Young, 2005)

1. **I believe I have the opportunity for personal development in this company**
2. **The training I have received has prepared me well for the work I do**
3. **There are sufficient opportunities for me to receive training to improve my skills in my current job**

Kansen en loopbaanontwikkeling
Ik geloof dat ik de mogelijkheid heb voor persoonlijke ontwikkeling binnen Company ABC
De opleiding die ik heb genoten heeft me goed voorbereid voor het werk dat ik doe
Er zijn voldoende mogelijkheden om een opleiding te volgen om zo mijn vaardigheden te verbeteren voor mijn huidige baan.

Promotion (Spector, 1985)

1. **There is really too little chance for promotion on my job (R)**
2. **Those who do well on the job stand a fair chance of being promoted**
3. **People get ahead as fast here as they do in other places**
4. **I am satisfied with my chance for promotion**

Promotie
Er zijn echt te weinig kansen op promotie op mijn werk
Diegene die goed werk leveren krijgen een eerlijke kans op promotie
Mensen maken hier net zo snel promotie als in andere organisaties
Ik ben tevreden met mijn kans op promotie**Role ambiguity (Rizzo et al., 1970)**

1. **I feel certain about how much authority I have**
2. **Clear. planned goals and objectives for my job**
3. **I know that I have divided my time properly**
4. **I know what my responsibilities are**
5. **I know exactly what is expected of me**
6. **Explanation is clear of what has to be done**

Rol ambiguïteit (dubbelzinnigheid)
Ik ben zeker over de hoeveelheid autoriteit die ik heb
Mijn werk kent duidelijk gelande doelstellingen
Ik weet dat ik mijn tijd goed verdeel
Ik weet wat mijn verantwoordelijkheden zijn
Ik weet precies wat er van mij verwacht wordt
Uitleg geeft een duidelijk beeld wat er gedaan moet worden

Role conflict (Rizzo et al., 1970)

1. **I have to do things that should be done differently**
2. **I receive an assignment without the manpower to complete it**
3. **I have to buck a rule or policy in order to carry out an assignment**
4. **I work with two or more groups who operate quite differently**
5. **I receive incompatible requests from two or more people**

6. **I do things that are apt to be accepted by one person and not accepted by others**
7. **I receive an assignment without adequate resources and materials to execute it**
8. **I work on unnecessary things**

Rolconflict
Ik moet dingen doen die eigenlijk anders gedaan zou moeten worden
Ik krijg een opdracht zonder de mankracht om het te voltooien
Ik moet een regel of beleid omzeilen om een opdracht uit te voeren
Ik werk met twee of meer groepen die geheel anders te werk gaan
Ik krijg tegenstrijdige verzoeken van twee of meer mensen
Ik verricht werkzaamheden die door de een worden geaccepteerd en door de ander niet
Ik krijg een opdracht zonder voldoende middelen en materialen om het uit te voeren
Ik werk aan onnodige dingen

Organizational commitment (OCQ) (Mowday et al., 1979)

1. **I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.**
2. **I talk up this organization to my friends as a great organization to work for.**
3. **I feel very little loyalty to this organization. (R)**
4. **I would accept almost any type of job assignment in order to keep working for this organization.**
5. **I find that my values and the organization's values are very similar.**
6. **I am proud to tell others that I am part of this organization.**
7. **I could just as well be working for a different organization as long as the type of work was similar. (R)**
8. **This organization really inspires the very best in me in the way of job performance.**
9. **It would take very little change in my present circumstances to cause me to leave this organization. (R)**
10. **I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.**
11. **There's not too much to be gained by sticking with this organization indefinitely. (R)**
12. **Often. I find it difficult to agree with this organization's policies on important matters relating to its employees. (R)**
13. **I really care about the fate of this organization.**
14. **For me this is the best of all possible organizations for which to work.**
15. **Deciding to work for this organization was a definite mistake on my part. (R)**

Betrokkenheid
Ik ben bereid om extra werk te verrichten dan dat normaal van mij verwacht wordt. om Company ABC te helpen succesvol te zijn.
Ik raad Company ABC aan bij mijn vrienden als een geweldige organisatie om voor te werken.
Ik voel heel weinig loyaliteit aan Company ABC
Ik zou bijna elke soort baan aanvaarden om te blijven werken voor Company ABC
Ik merk dat mijn normen en waarden zeer vergelijkbaar zijn met die van Company ABC
Ik vertel anderen met trots dat ik voor Company ABC werk
Ik zou net zo goed voor een andere organisatie kunnen werken. zolang de werkzaamheden hetzelfde zijn
Company ABC haalt het beste in mij naar boven op het gebied van mijn werkzaamheden
Het vereist een kleine verandering aan mijn huidige situatie om er voor te zorgen dat ik Company ABC verlaat

Ik ben zeer tevreden met mijn keuze om voor Company ABC te kiezen in plaats van voor andere organisaties
Er valt weinig te profiteren door bij Company ABC te blijven voor onbepaalde tijd
Ik kan mij vaak moeilijk vinden in het beleid dat Company ABC voert over belangrijke aangelegenheden met betrekking tot haar medewerkers
Ik geef echt om het lot van Company ABC.
Voor mij is dit de beste van alle mogelijke organisaties om voor te werken
De beslissing om voor Company ABC te gaan werken was een duidelijk fout van mijn kant.

Organizational Citizenship behaviors (OCB) (Mackenzie et al., 1993)
Civic virtue

1. **'Keeps up' with development in the company**
2. **Attends functions that are not required. but that help the company image**
3. **Is willing to risk disapproval in order to express his/her beliefs about what's best for the company**

Sportsmanship

1. **Consumes a lot of time complaining about trivial matters (R)**
2. **Tends to make "mountains out of molehills" (makes problems bigger than they are) (R)**
3. **Always focuses on what's wrong with his/her situation. rather than the positive side of it (R)**

Altruism

1. **Helps orient new agents even though it is not required**
2. **Is always ready to help or to lend a helping hand to those around him/her**
3. **Willingly gives of his/her time to help others**

Conscientiousness

1. **Conscientiously follows company regulations and procedures**
2. **Turns in budgets. sales projections. expense reports. etc. earlier than is required**
3. **Returns phone calls and responds to other messages and requests for information promptly**

Organisatorische Burgerschap gedrag
Burgerlijke deugd
'Volgt' de ontwikkelingen op binnen het bedrijf
Verstrekt werkzaamheden die niet vereist zijn. maar die het imago van het bedrijf bevorderen
Is bereid een risico te nemen om zijn / haar mening te uiten in belang van het bedrijf
Sportiviteit
Klaagt vaak over triviale zaken
Neiging om "van een mug een olifant te maken" (maakt problemen groter dan ze zijn)
Altijd gericht op wat er mis is met zijn / haar situatie. in plaats van gericht te zijn op de positieve kant
Altruïsme (onbaatzuchtigheid)
Helpt bij het oriënteren naar nieuwe mensen. alhoewel het niet verplicht is
Is altijd bereid om te helpen of om een helpende hand bieden aan de mensen om hem / haar heen
Geeft gewillig iets van zijn / haar eigen tijd om anderen te helpen
Bewustzijn
Plichtbewust in het volgen van voorschriften en procedures van het bedrijf
Verdiept zich in budgetten. verkoop projecties. onkostennota's. enz. eerder dan nodig is
Telefoneert z.s.m. terug en reageert snel op berichten en verzoeken voor information

Appendix C Preliminary Data Analysis

Type of assessment

Type of assessment	Test	Threshold
Missing data	In SPSS display frequencies → missing data.	>10% delete respondent from data <10% replace by the median.
Unengaged responses	In Excel examining the standard deviation with visual inspection.	<0.70 standard deviation means extra visual inspection of the data. >0.70 is ideal.
Outliers	In SPSS display boxplot with outliers	n.a.
Normality	Graphical: Boxplot, histogram, and Q-Q plot	n.a.
Normality	Numerical: Skewness & Kurtosis	>-1 and <1 is ideal, >-2 and <2 is acceptable, <-2 and >2 is weak.

Table 12. Type of assessment for the preliminary data analysis.

Missing data

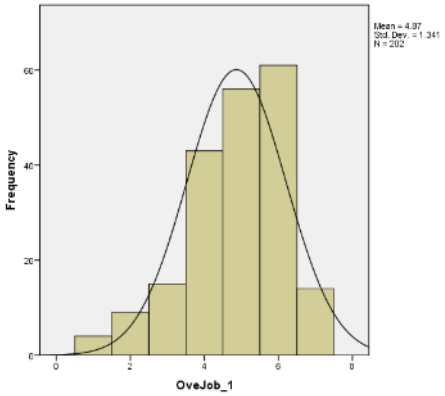
ID Respondent	Missing values	%	ID Respondent	Missing values	%
2	105	100%	195	65	62%
5	105	100%	200	27	26%
6	27	26%	202	41	39%
8	105	100%	204	105	100%
10	105	100%	207	87	83%
16	27	26%	209	105	100%
17	27	26%	211	41	39%
20	27	26%	213	105	100%
24	105	100%	214	41	39%
25	105	100%	215	105	100%
29	105	100%	217	105	100%
31	65	62%	218	87	83%
33	41	39%	220	87	83%
37	87	83%	221	105	100%
40	87	83%	223	87	83%
41	105	100%	226	87	83%
47	65	62%	227	27	26%
49	105	100%	232	87	83%
50	105	100%	237	105	100%
53	105	100%	238	105	100%
58	27	26%	239	105	100%
64	105	100%	243	27	26%
65	105	100%	245	105	100%
66	105	100%	246	105	100%
69	41	39%	248	87	83%
70	105	100%	249	105	100%
71	87	83%	250	41	39%
73	105	100%	254	105	100%
76	105	100%	255	41	39%
85	27	26%	256	41	39%
91	87	83%	257	105	100%
92	105	100%	259	87	83%
96	105	100%	263	105	100%
103	105	100%	265	105	100%
112	105	100%	266	27	26%
117	87	83%	267	105	100%
118	105	100%	271	105	100%
119	105	100%	275	105	100%
121	60	57%	278	87	83%
124	105	100%	283	105	100%
128	105	100%	284	87	83%
130	105	100%	286	41	39%
134	105	100%	288	27	26%
137	87	83%	290	105	100%
140	41	39%	291	87	83%
146	105	100%	292	105	100%
148	87	83%	297	41	39%
158	105	100%	299	105	100%
169	41	39%	300	27	26%
170	105	100%	301	105	100%
172	27	26%	303	105	100%
175	105	100%	308	105	100%
179	105	100%	309	41	39%
181	105	100%	310	27	26%
182	105	100%	312	105	100%
183	105	100%	315	41	39%
185	105	100%	318	105	100%
190	87	83%	320	105	100%
193	105	100%	321	105	100%

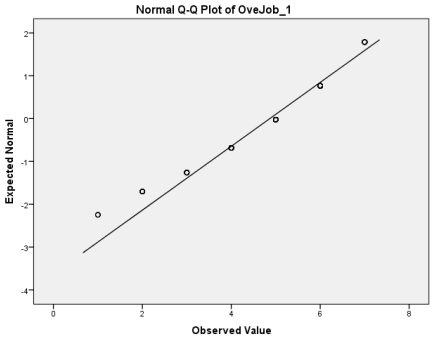
Table 13 Missing data.

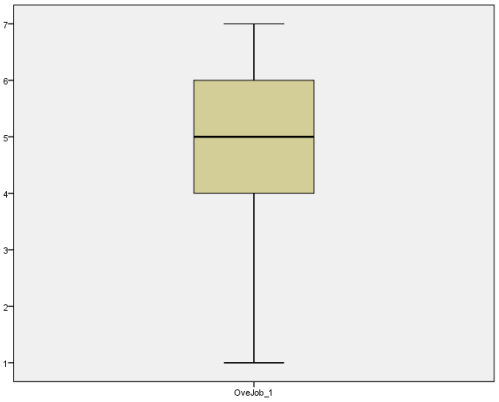
Normality graphical analysis

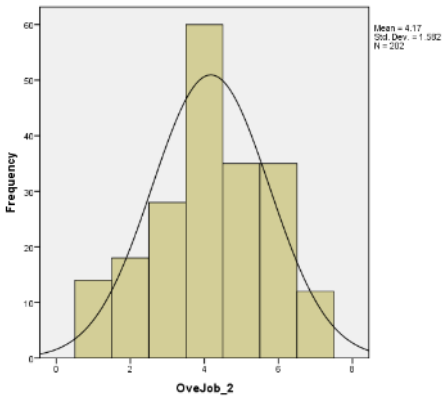
Histograms, Q-Q plots and box plots with outliers

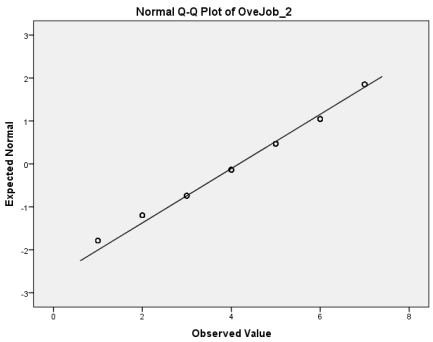
Overall Job Satisfaction

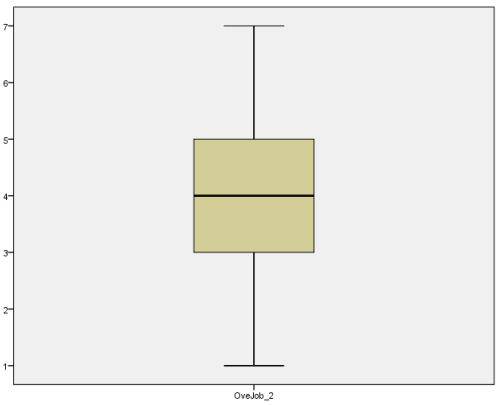


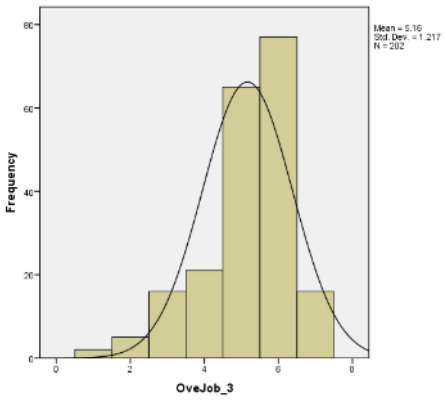


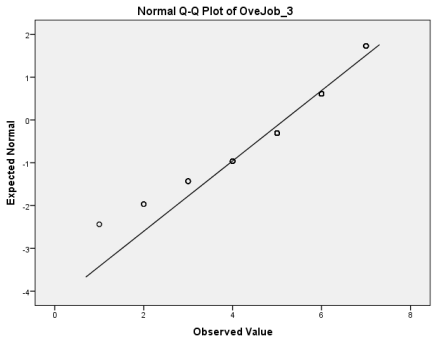


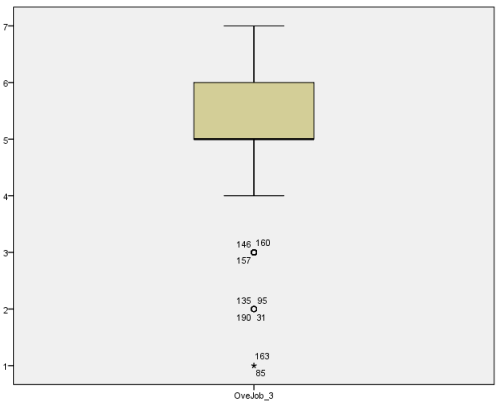


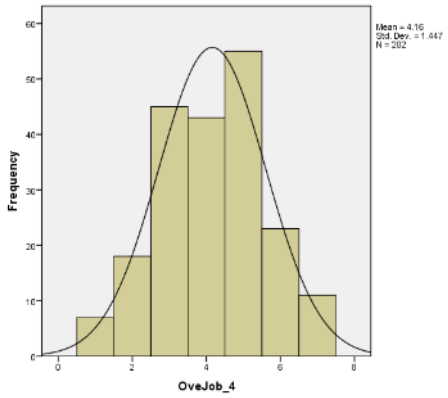








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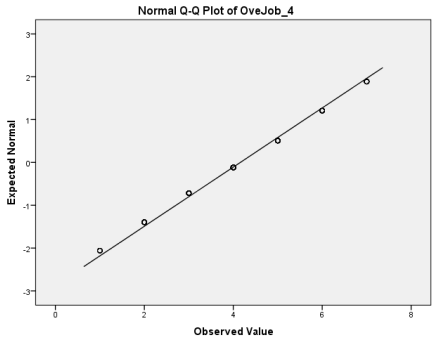
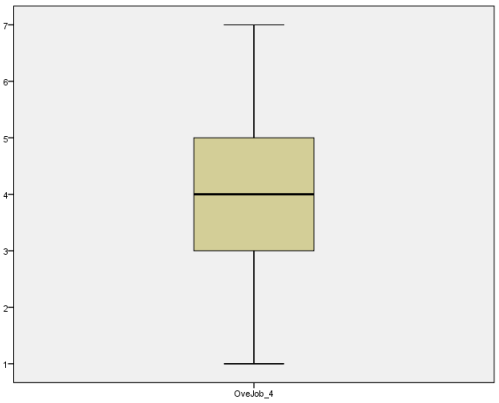
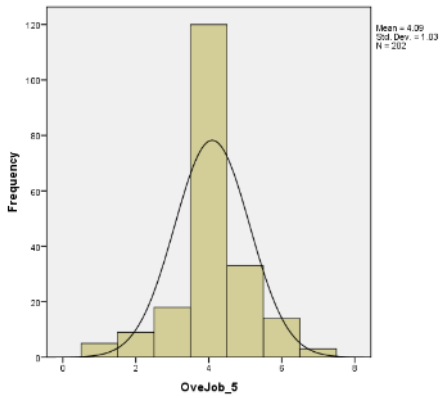
N = 202
Frequency
OveJob_4


Normal Q-Q Plot of OveJob_4
Expected Normal
Observed Value


OveJob_4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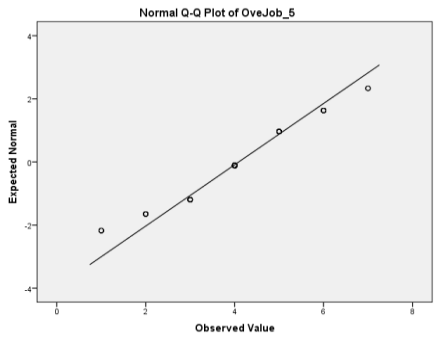
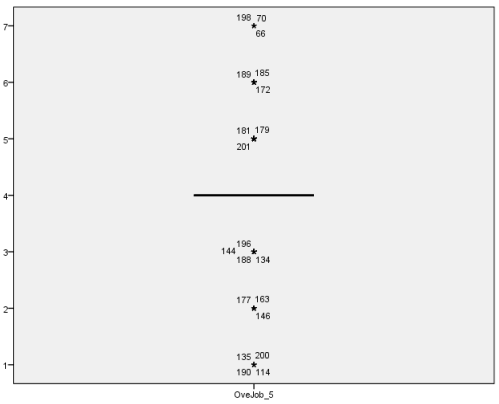
Std. Dev. = 1.83
N = 202
Frequency
OveJob_5


Normal Q-Q Plot of OveJob_5
Expected Normal
Observed Value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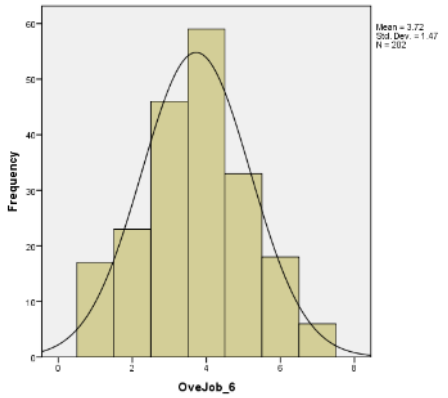
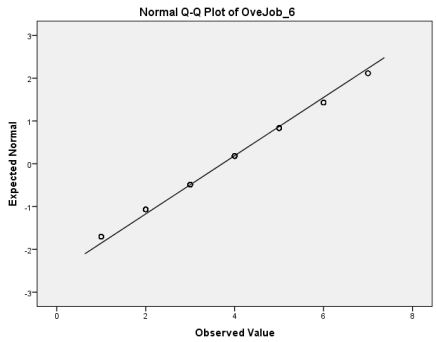
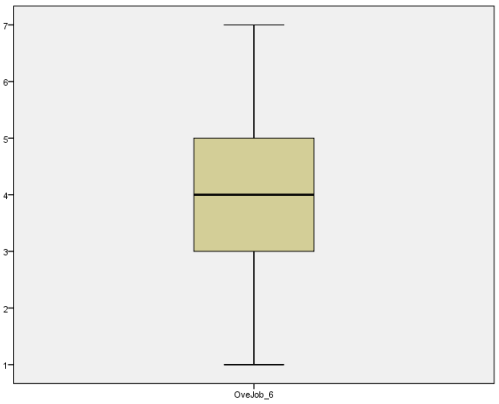
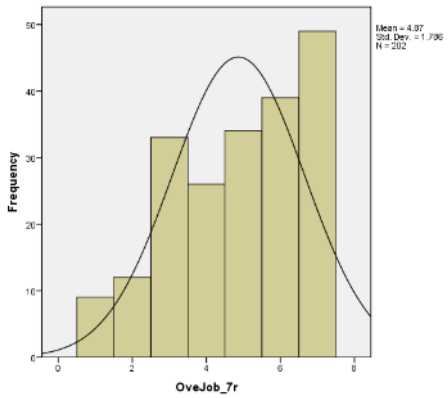
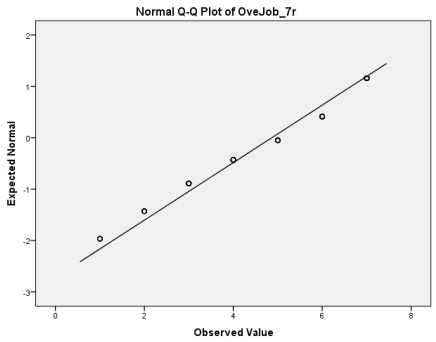
66
189 185
172
181 179
201
196
144
188 134
177 163
146
135 200
190 114
OveJob_5

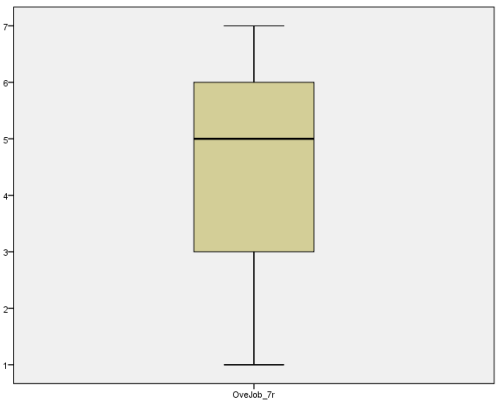

Mean = 3.72
Std. Dev. = 1.47
N = 202
Frequency
OveJob_6


Normal Q-Q Plot of OveJob_6
Expected Normal
Observed Value

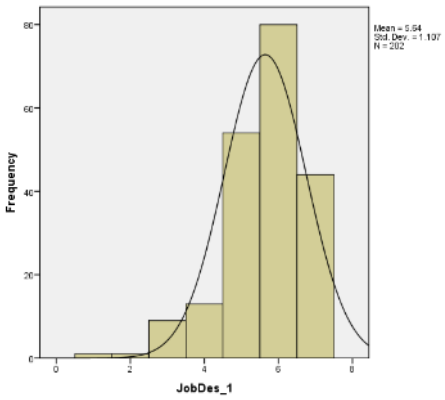

OveJob_6

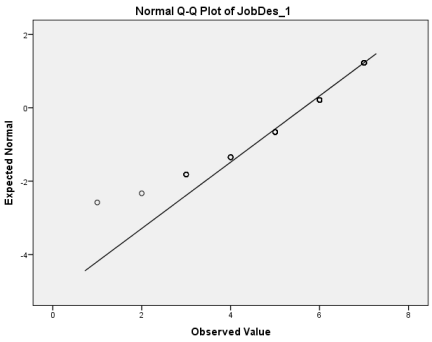

Mean = 4.97
Std. Dev. = 1.796
N = 202
Frequency
OveJob_7r

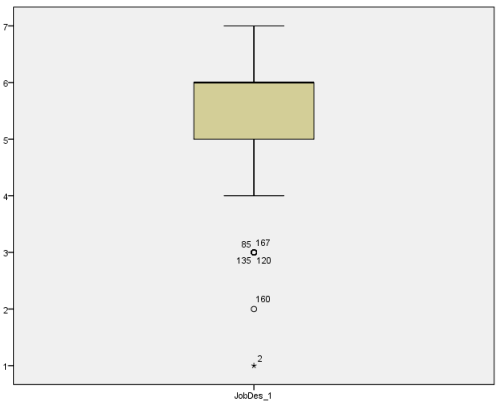

Normal Q-Q Plot of OveJob_7r
Expected Normal
Observed Value

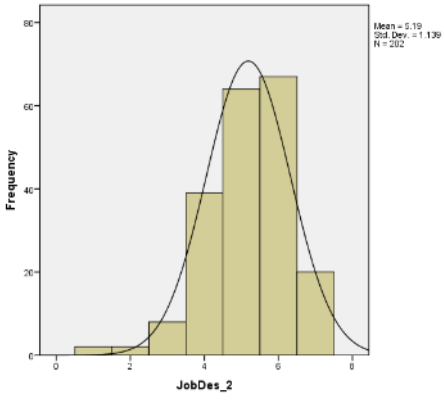

OveJob_7r

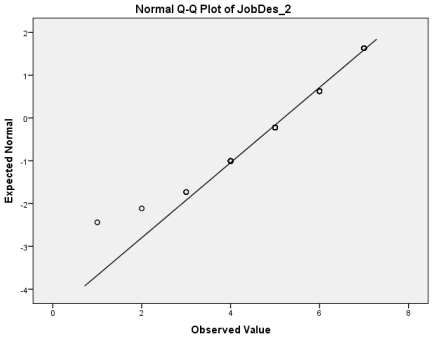
Job Design Characteristics

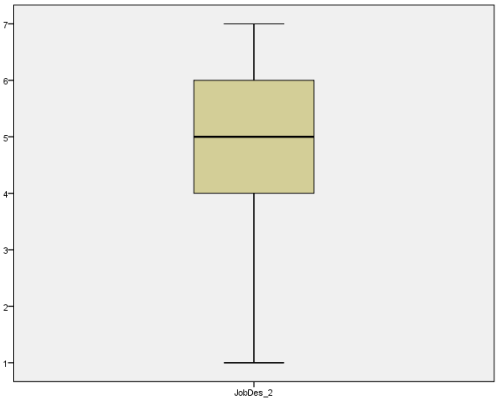


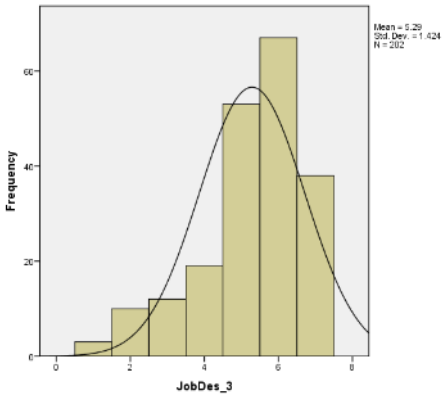


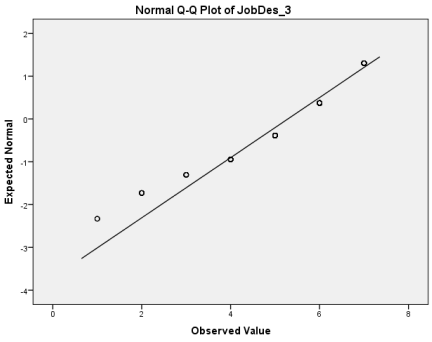


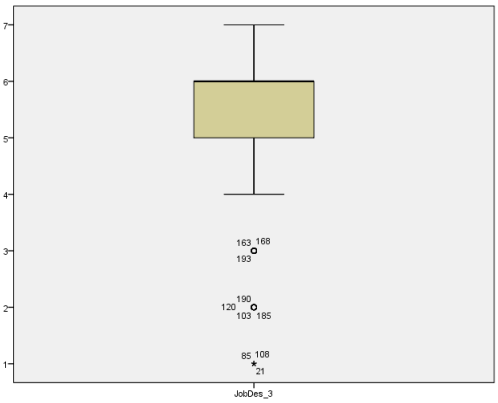


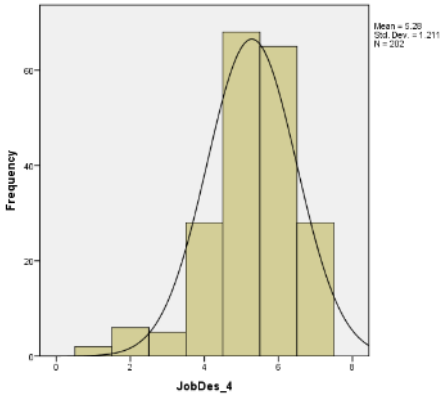


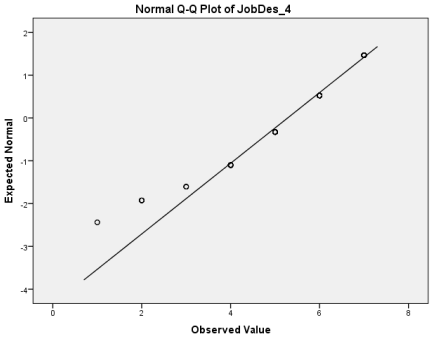


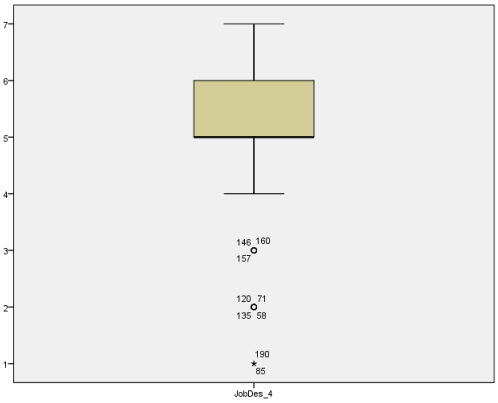




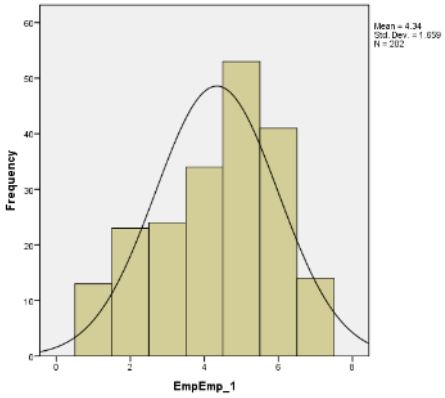


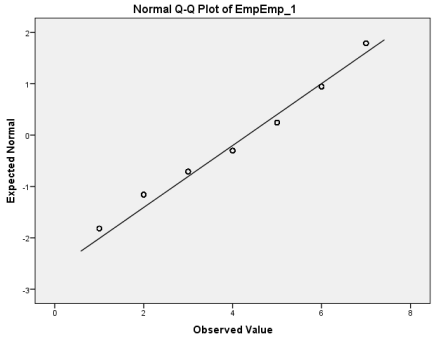


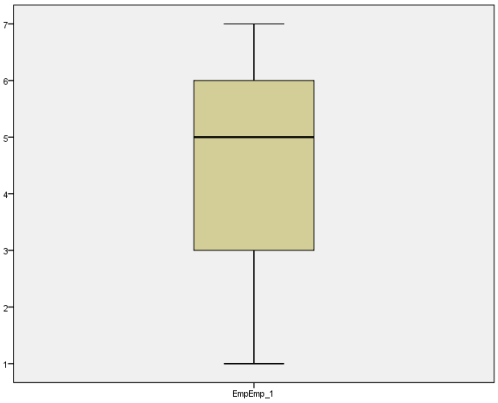


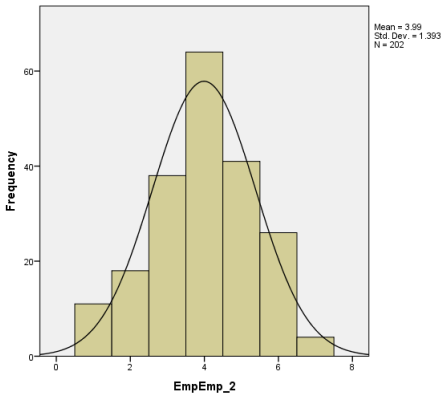


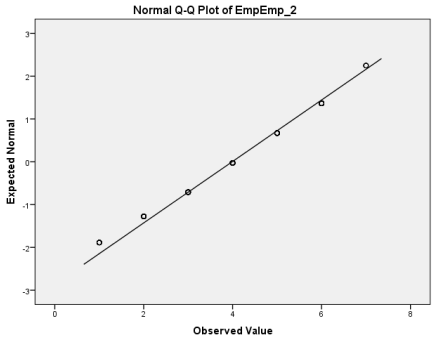
Employee Empowerment

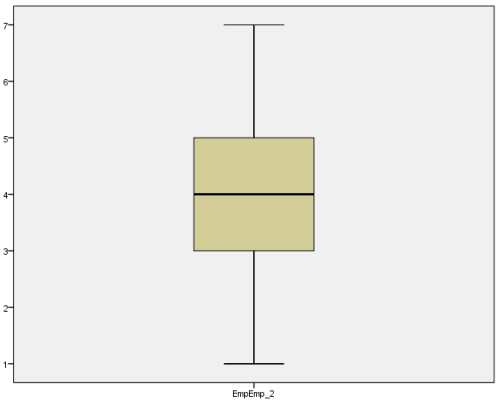


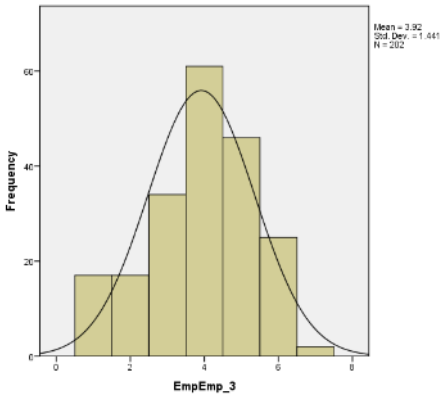


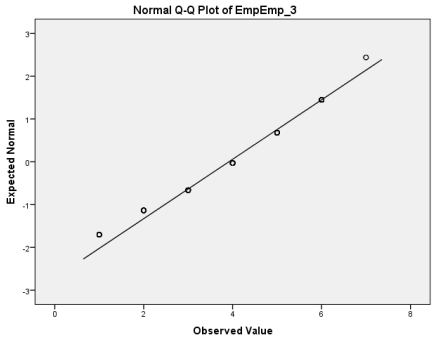


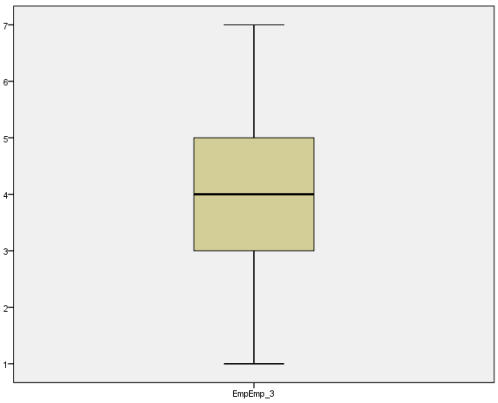


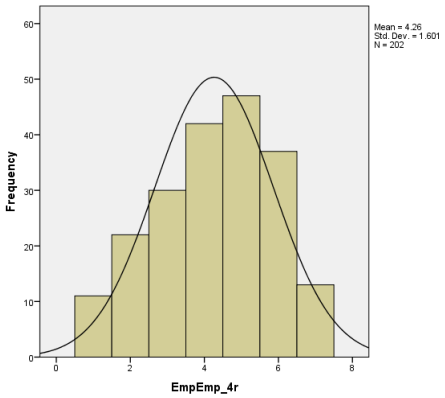


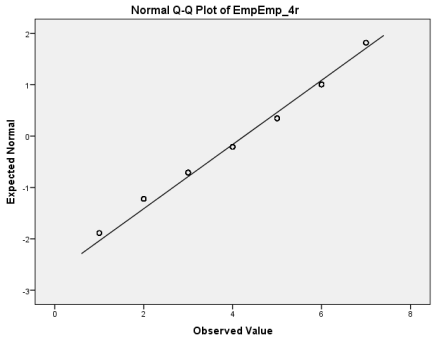


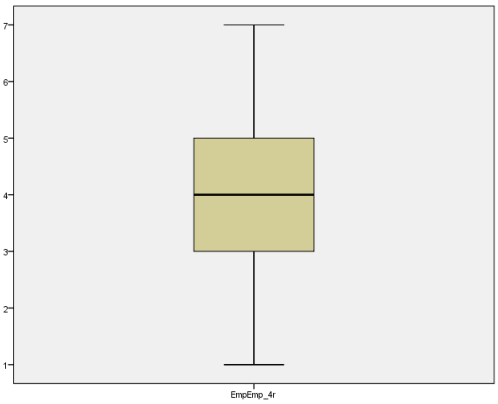




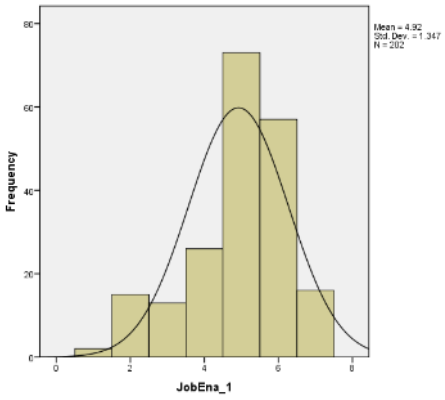


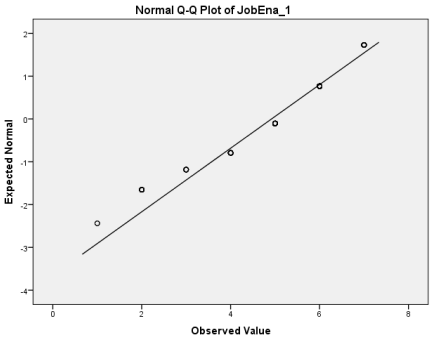


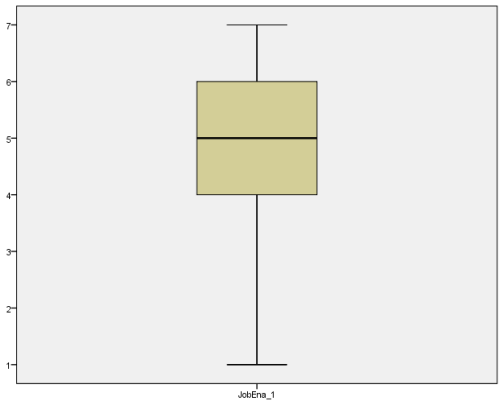


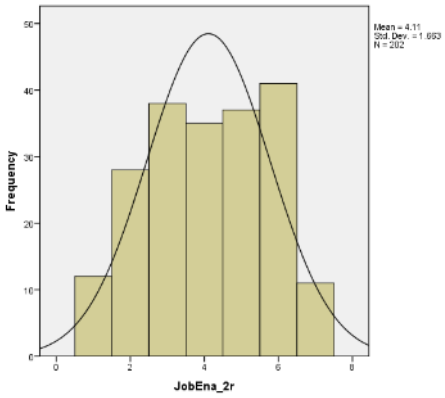


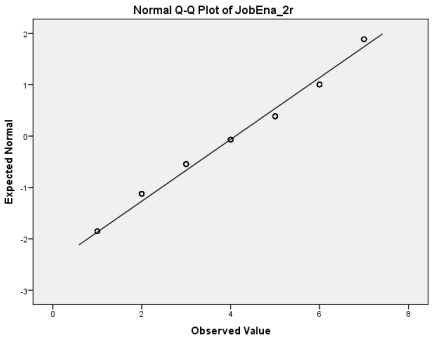
Job Enablers

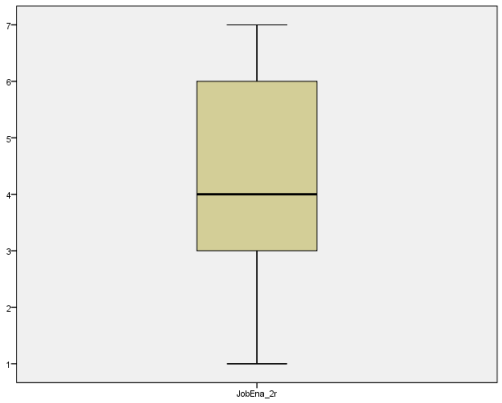


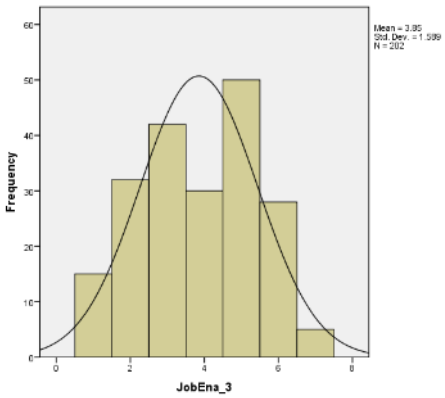


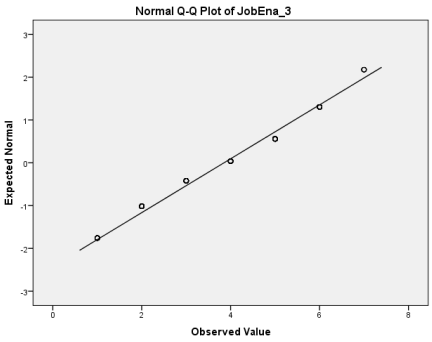


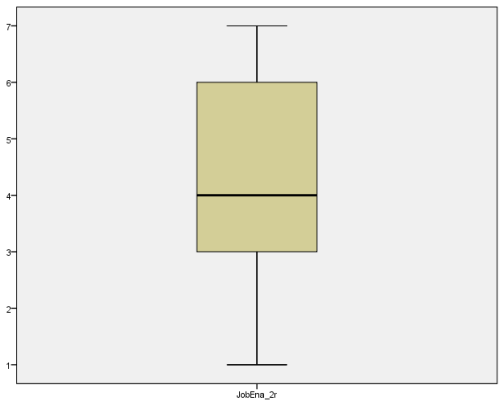




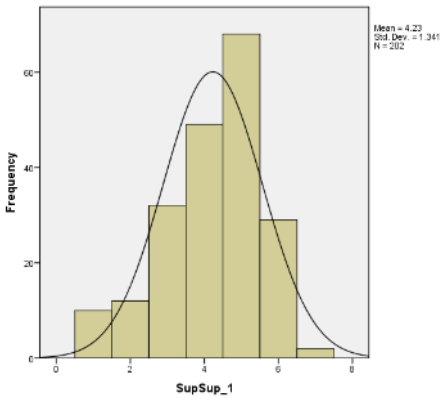


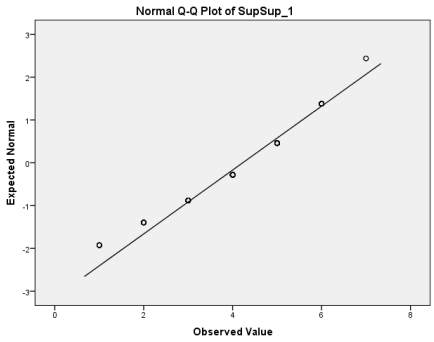


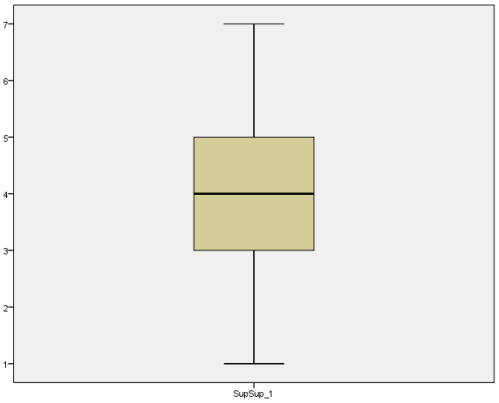


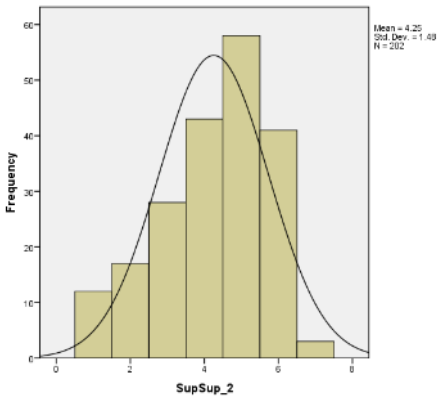


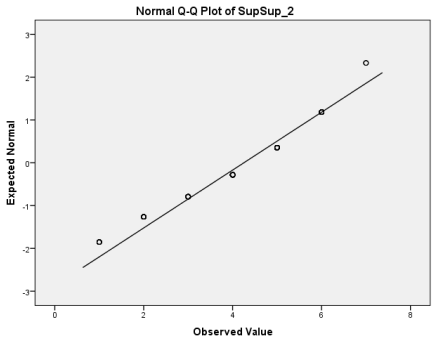
Supervisory Support

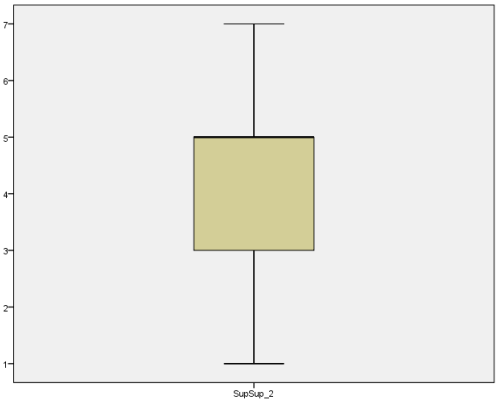


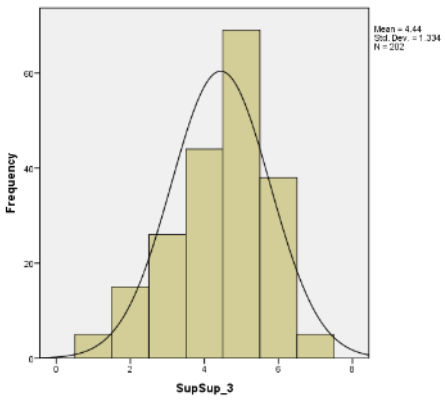


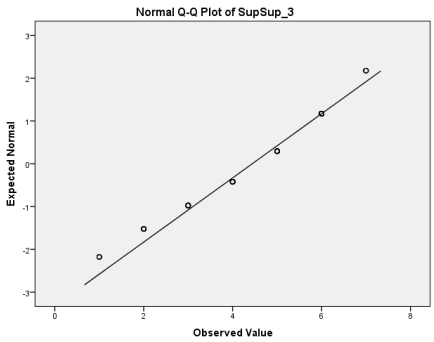


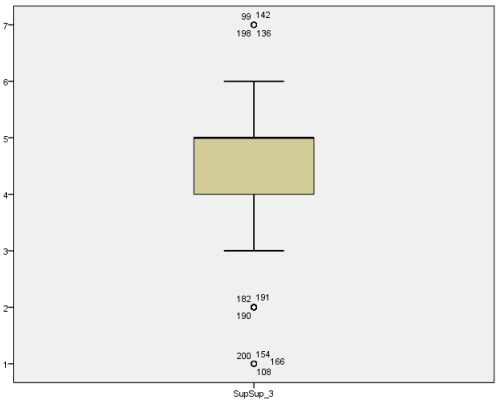


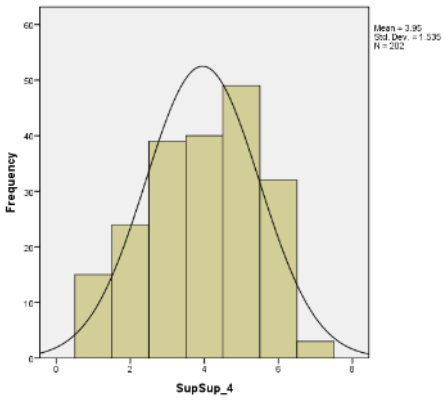


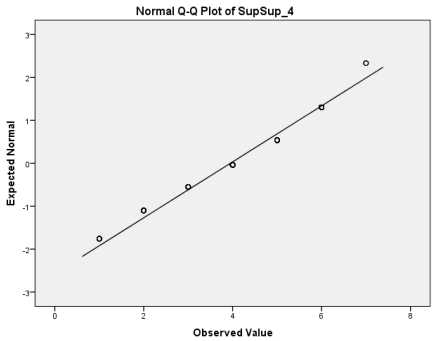


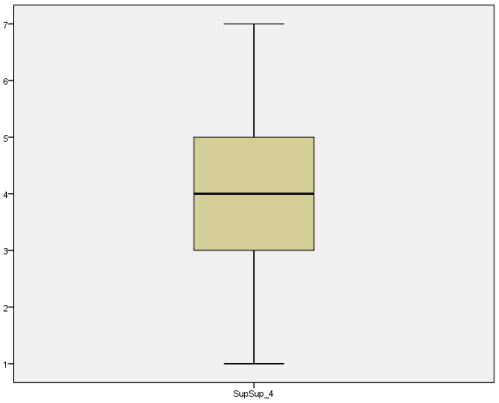


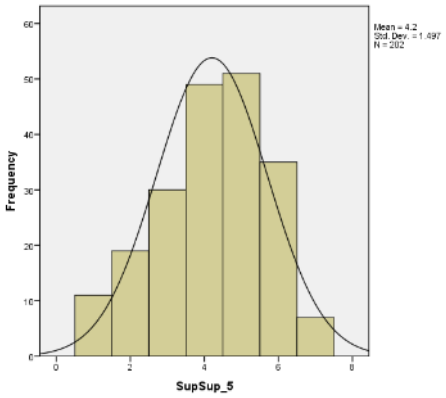


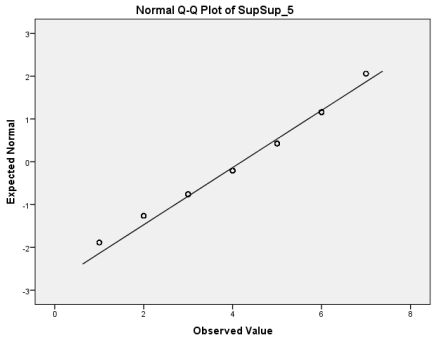


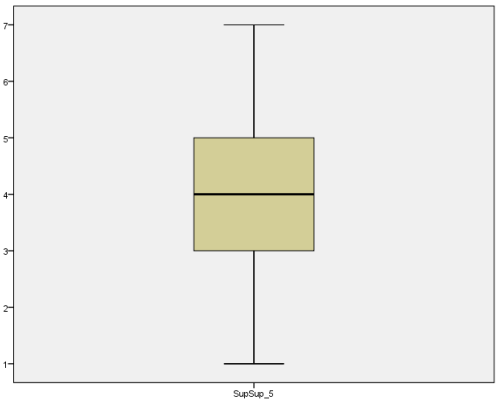




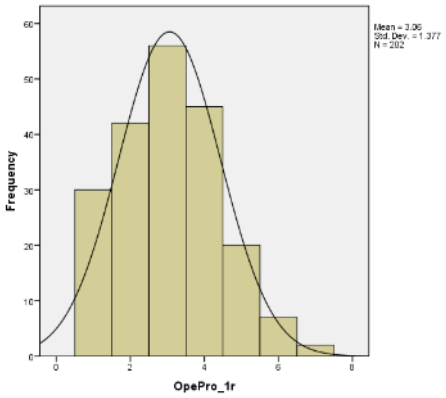


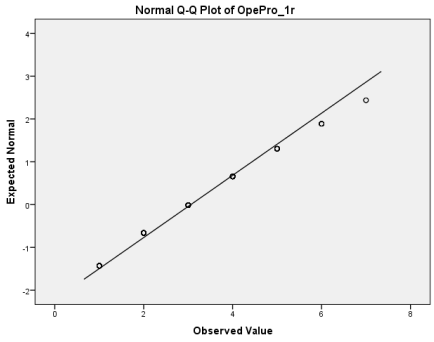


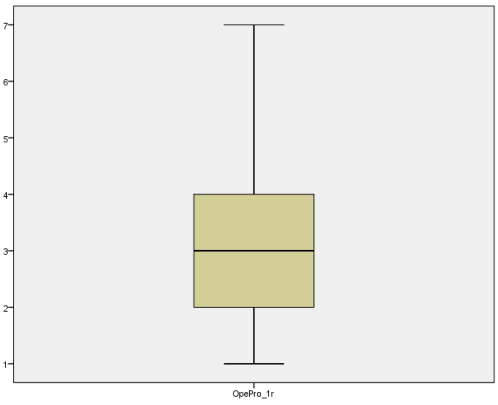


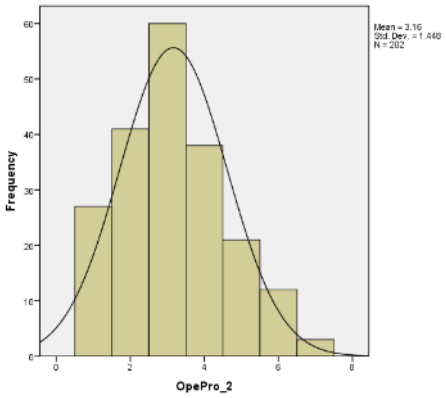


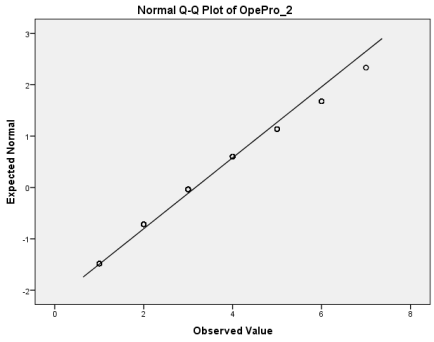
Operating procedures

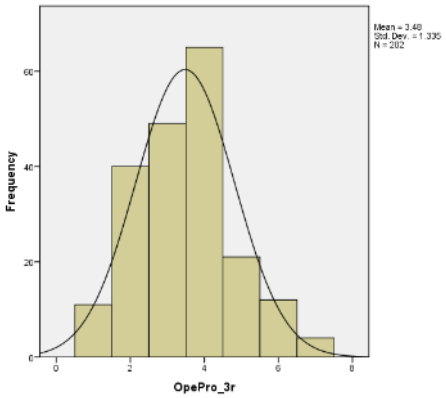


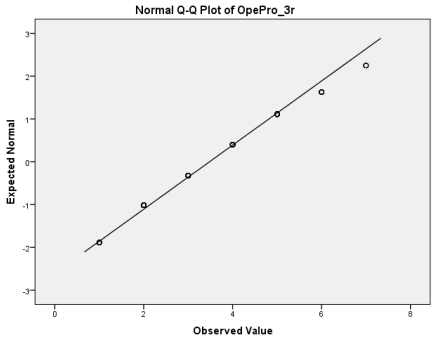


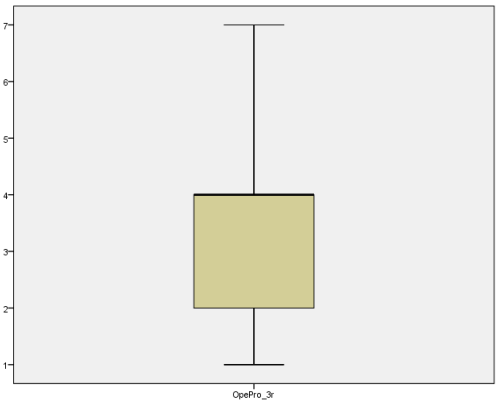


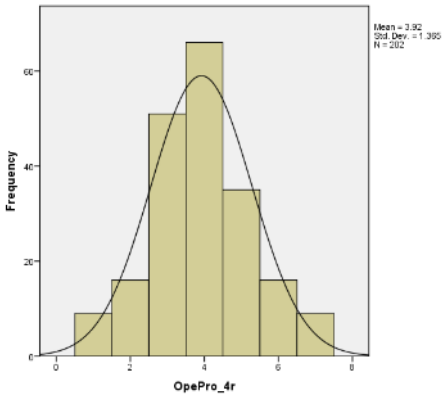


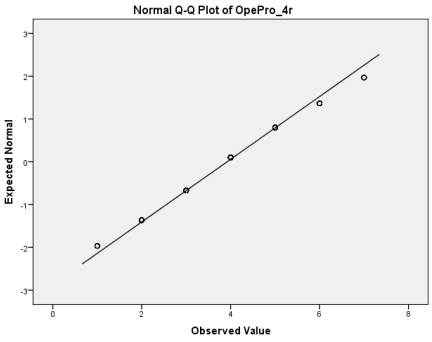


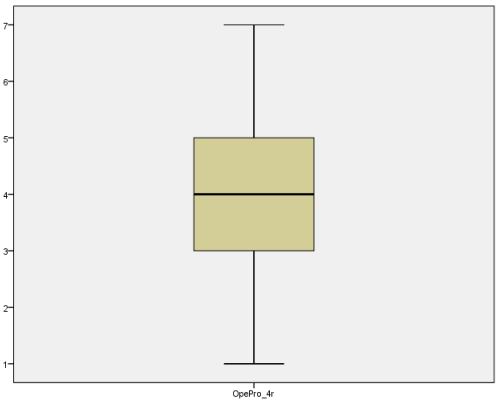




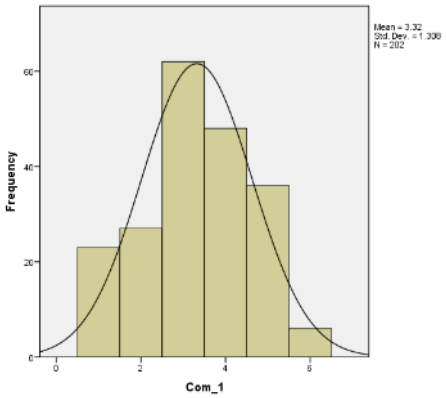


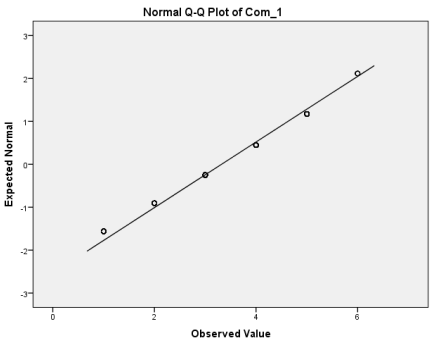


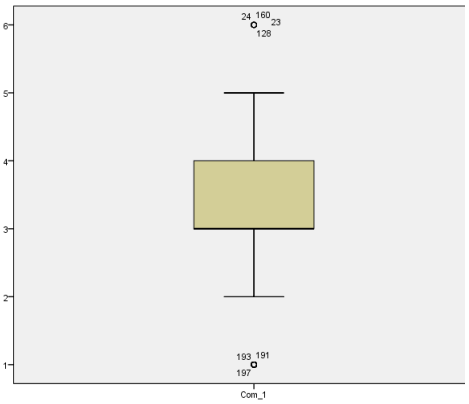


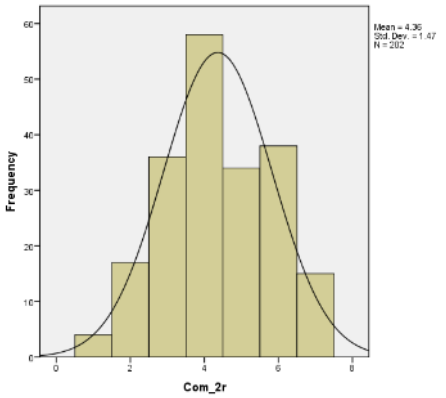


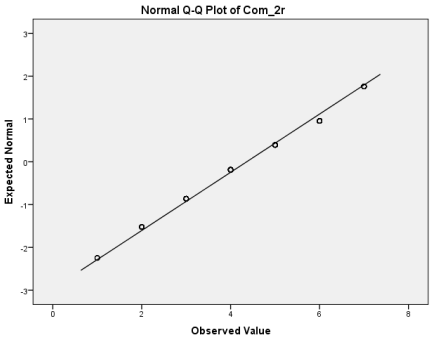
Communication

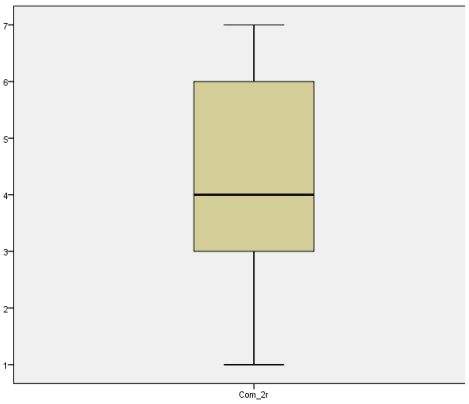


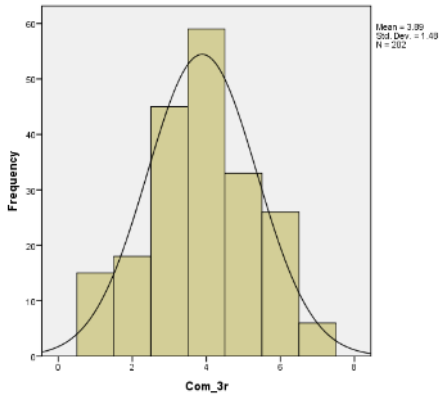








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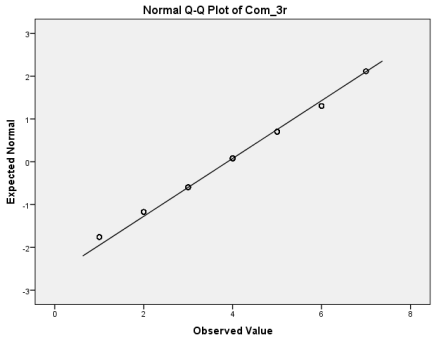
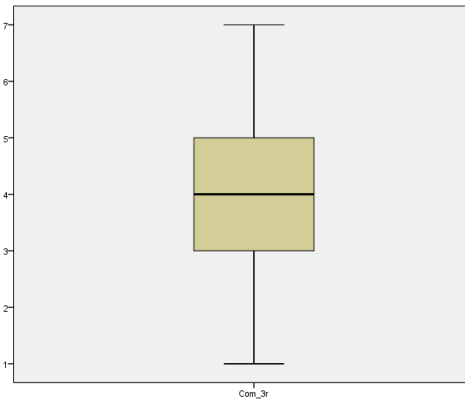
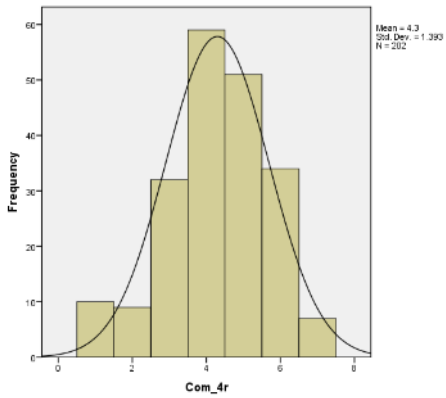
Std. Dev. = 1.49
N = 202
Frequency
Com_3r


Normal Q-Q Plot of Com_3r
Expected Normal
Observed Value


Com_3r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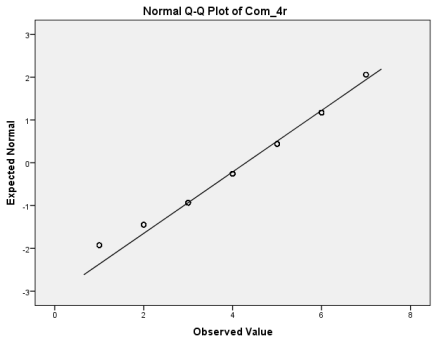
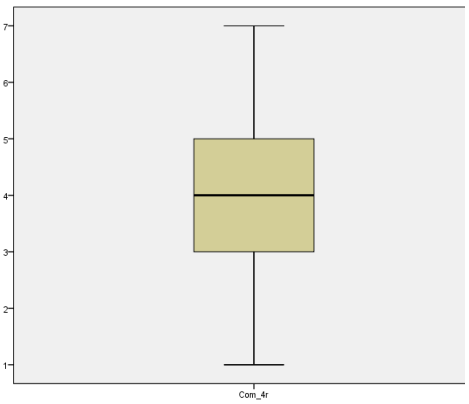
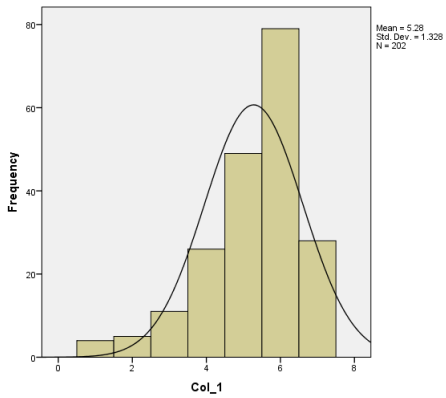
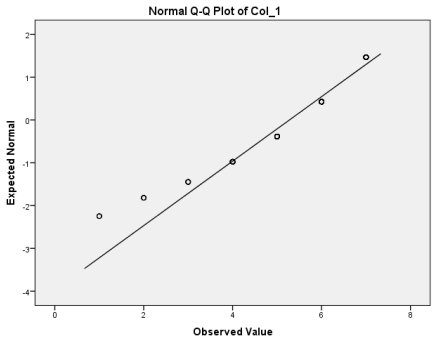
Std. Dev. = 1.390
N = 202
Frequency
Com_4r

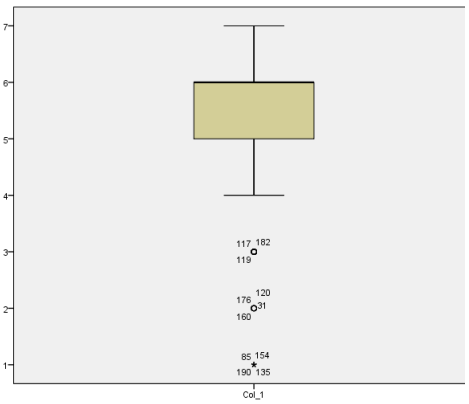

Normal Q-Q Plot of Com_4r
Expected Normal
Observed Value

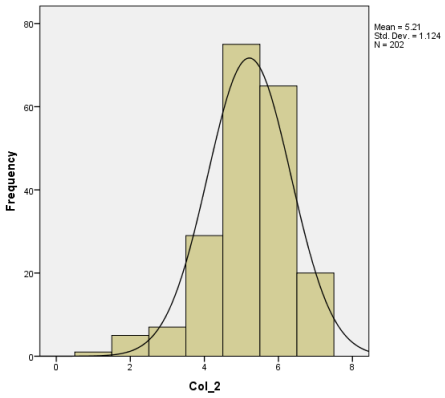

Com_4r

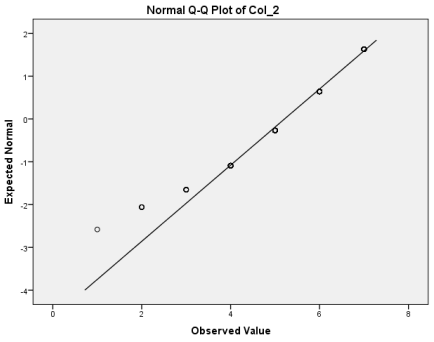
Colleagues

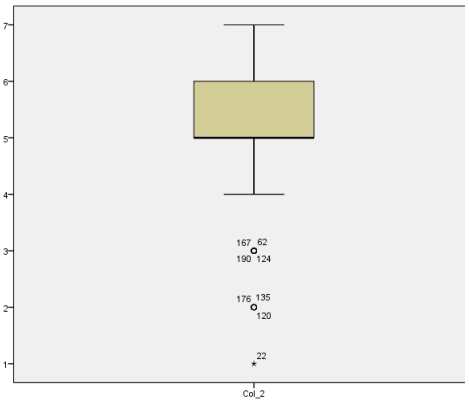

Mean = 5.28
Std. Dev. = 1.328
N = 202
Frequency
Col_1

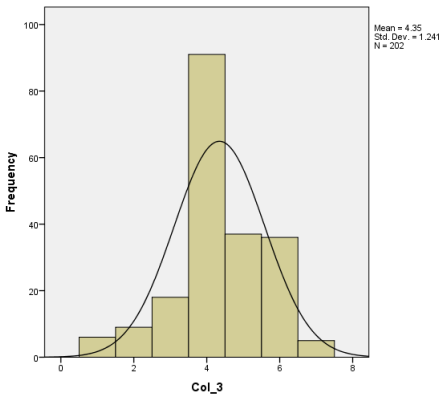

Normal Q-Q Plot of Col_1
Expected Normal
Observed Value

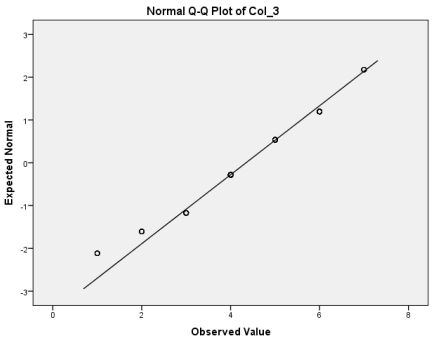

117
182
119
176
120
31
160
85
154
190
135
Col_1

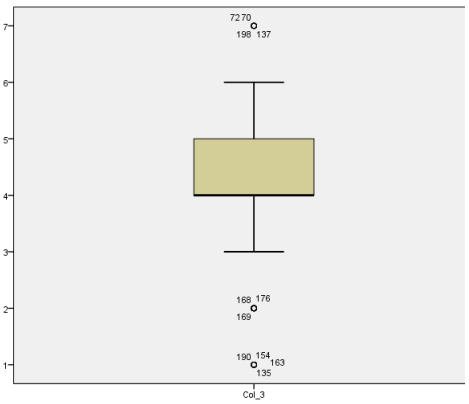

Mean = 5.21
Std. Dev. = 1.124
N = 202
Frequency
Col_2

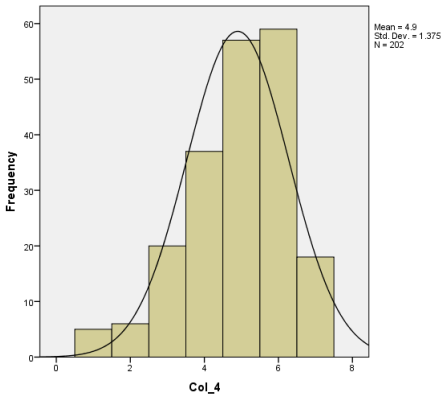

Normal Q-Q Plot of Col_2
Expected Normal
Observed Value

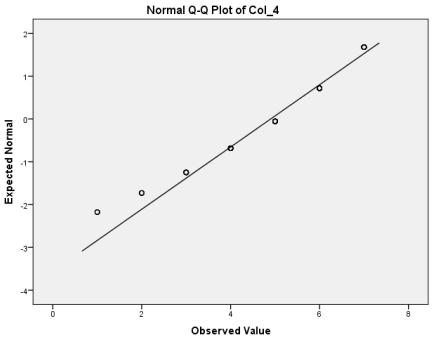

167 62
190 124
176 135
120
22
Col_2

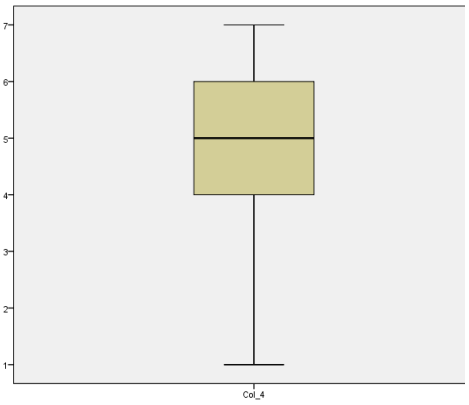

Mean = 4.35
Std. Dev. = 1.241
N = 202
Frequency
Col_3

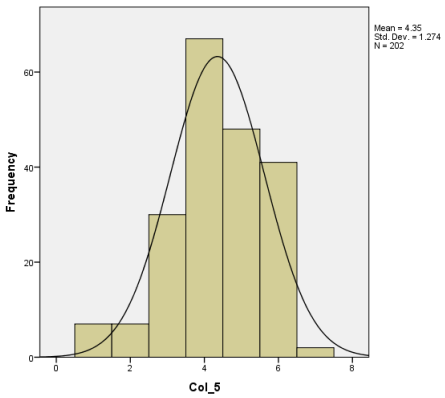

Normal Q-Q Plot of Col_3
Expected Normal
Observed Value

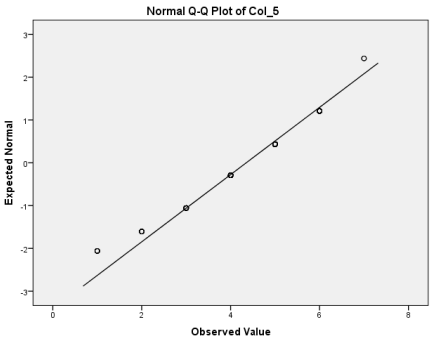

72 70
198 137
168 176
169
190 154
163
135
Col_3

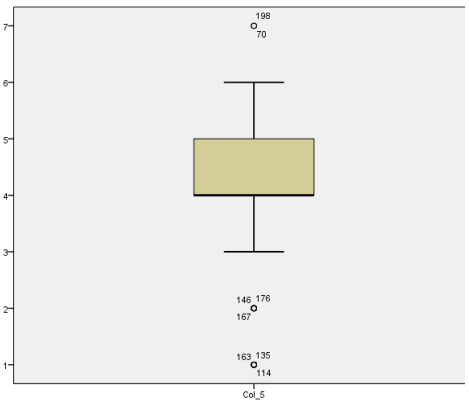

Mean = 4.9
Std. Dev. = 1.375
N = 202
Frequency
Col_4

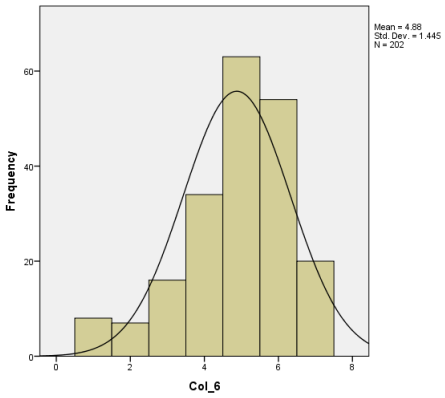

Normal Q-Q Plot of Col_4
Expected Normal
Observed Value

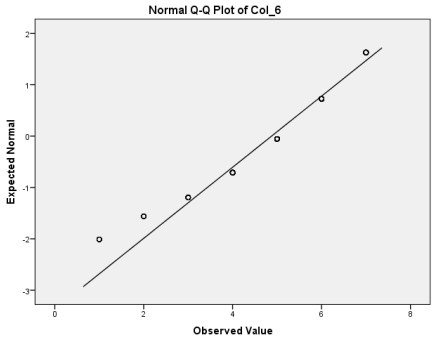

Col_4

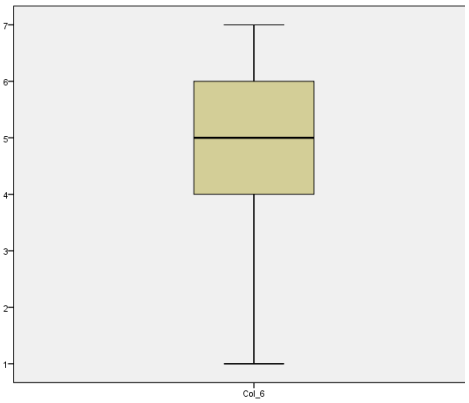

Mean = 4.35
Std. Dev. = 1.274
N = 202
Frequency
Col_5

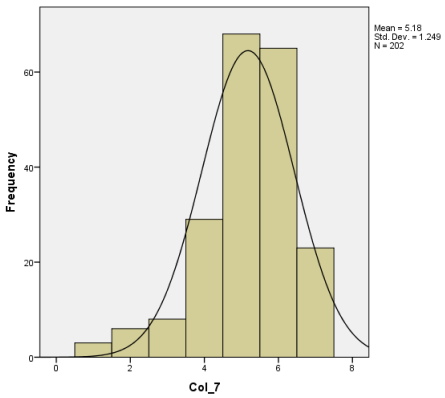

Normal Q-Q Plot of Col_5
Expected Normal
Observed Value

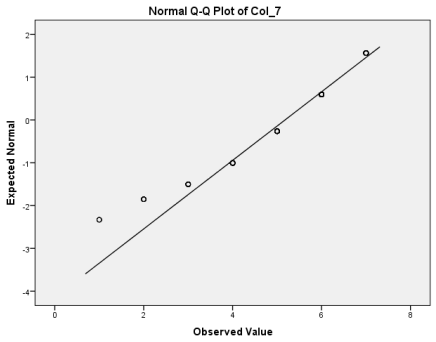

198
70
146 176
167
163 135
114
Col_5

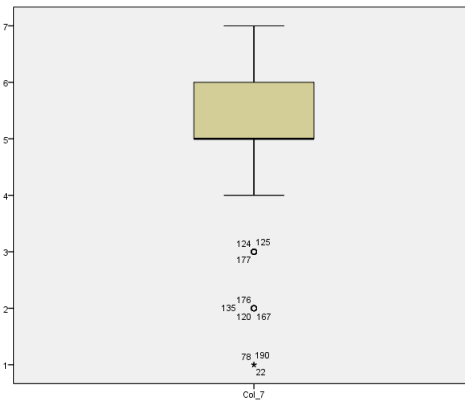

Mean = 4.88
Std. Dev. = 1.445
N = 202
Frequency
Col_6

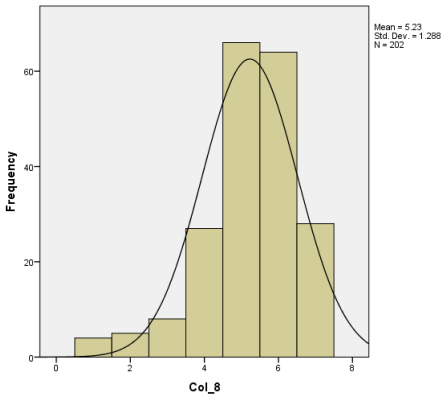

Normal Q-Q Plot of Col_6
Expected Normal
Observed Value

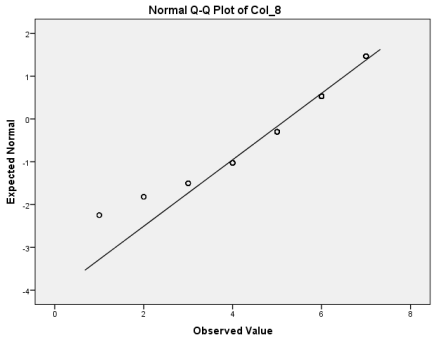

Col_6

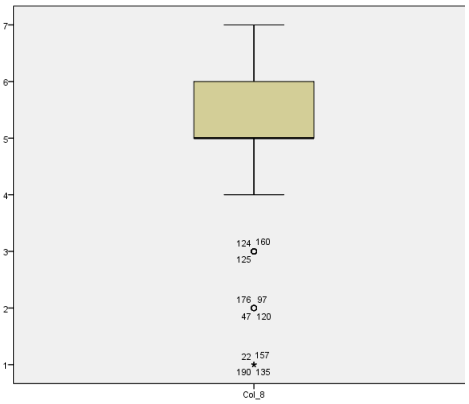

Mean = 5.18
Std. Dev. = 1.249
N = 202
Frequency
Col_7

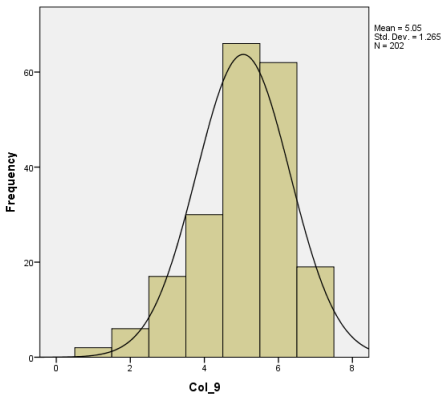

Normal Q-Q Plot of Col_7
Expected Normal
Observed Value

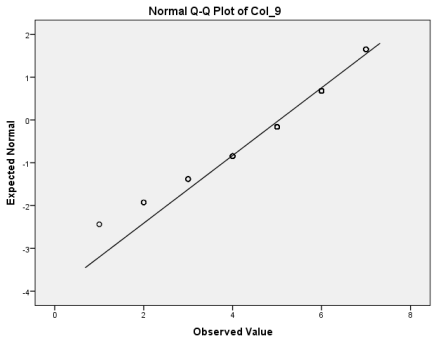

124
125
177
176
135
120
167
78
190
22
Col_7

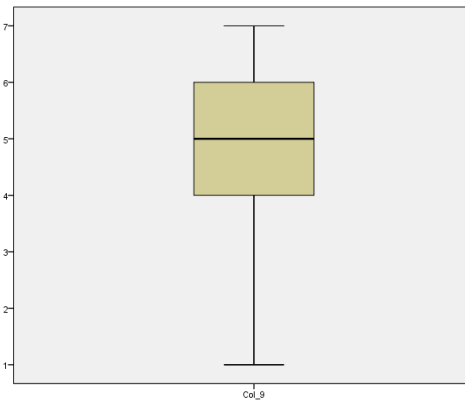

Mean = 5.23
Std. Dev. = 1.288
N = 202
Frequency
Col_8


Normal Q-Q Plot of Col_8
Expected Normal
Observed Value

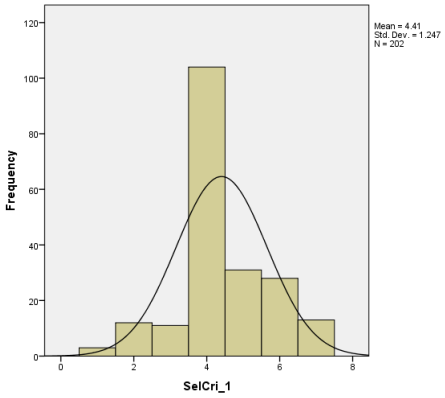

124
160
125
176
97
47
120
22
157
190
135
Col_8

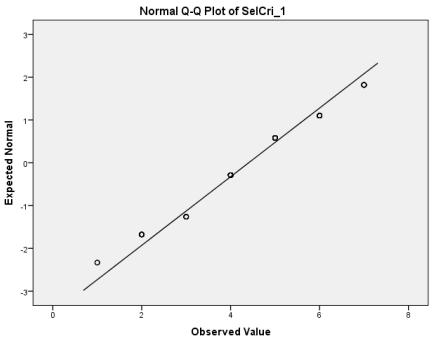

Mean = 5.05
Std. Dev. = 1.265
N = 202
Frequency
Col_9

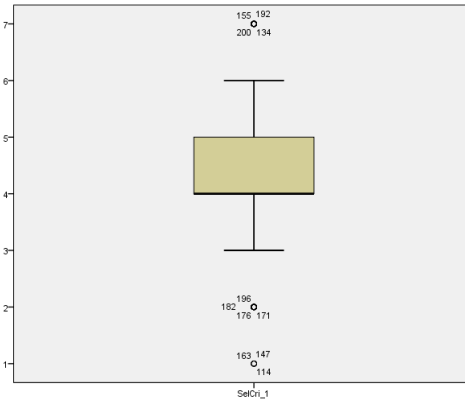

Normal Q-Q Plot of Col_9
Expected Normal
Observed Value


Col_9

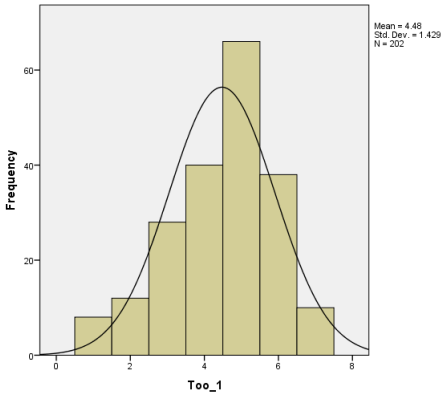
Selection Criteria

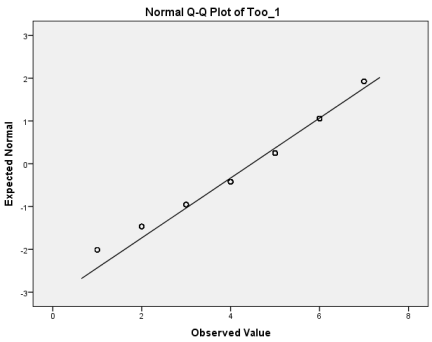


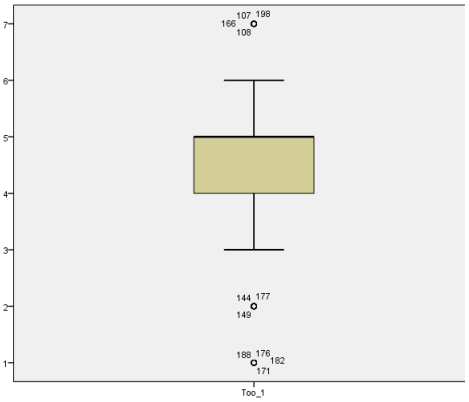


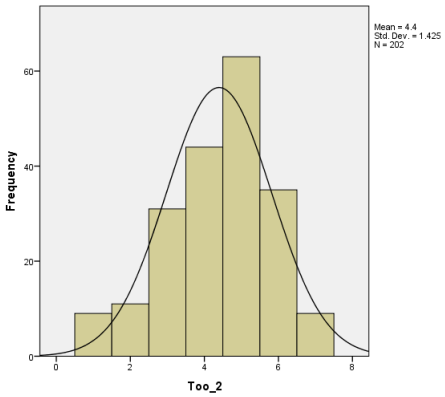


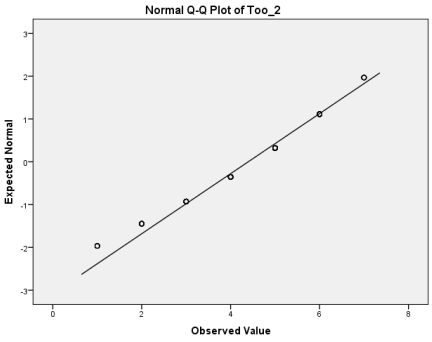
Tools

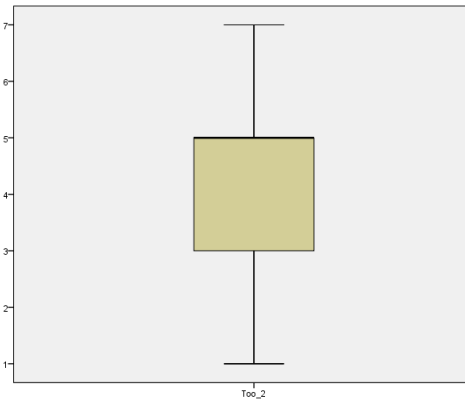




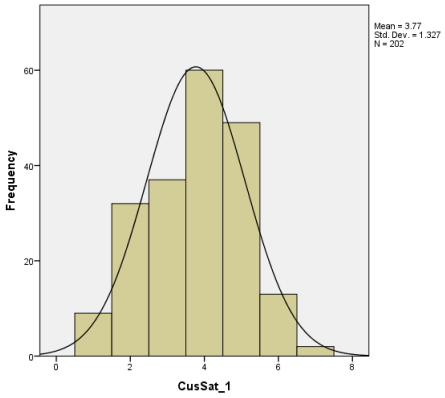


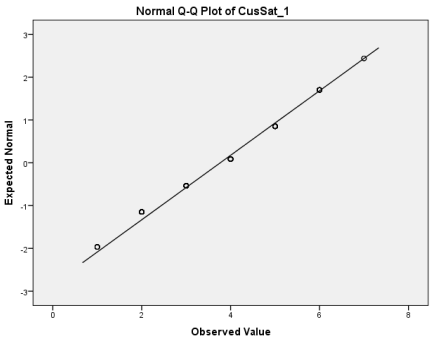


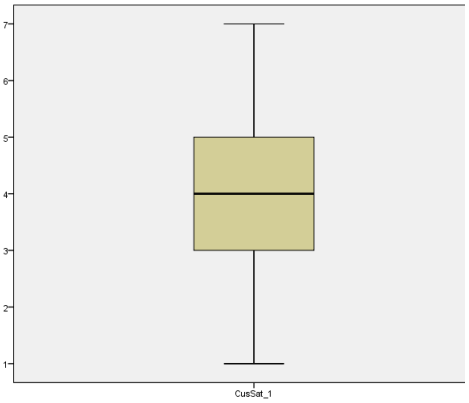




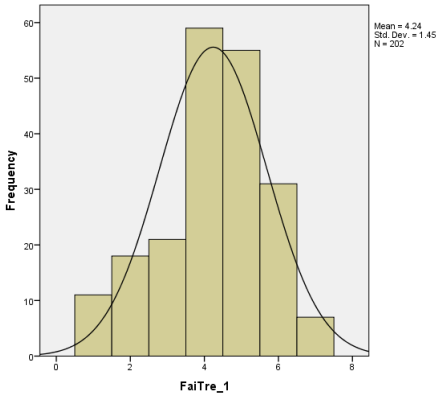
Customer-linkage Satisfaction

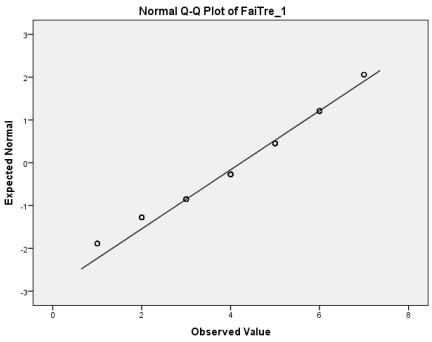


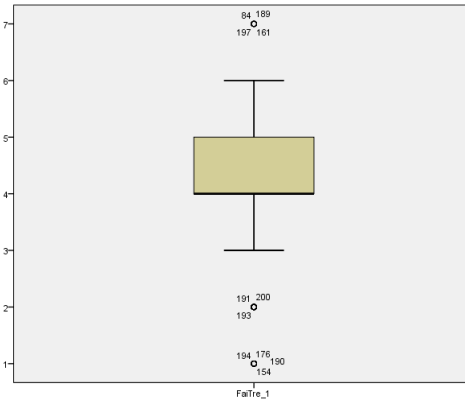




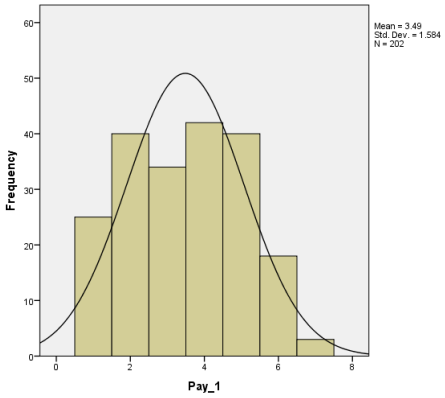
Fair Treatment

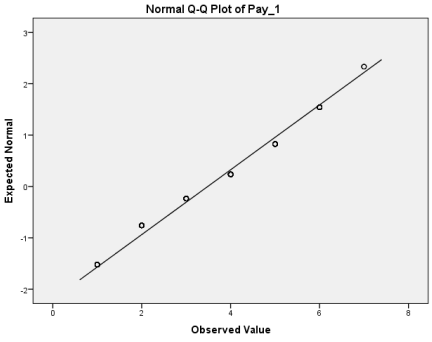


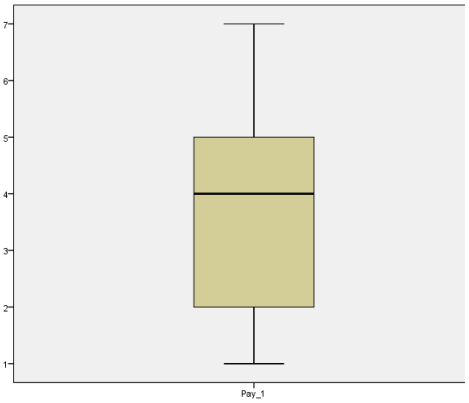


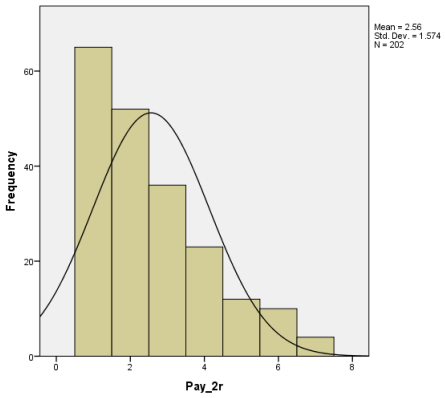


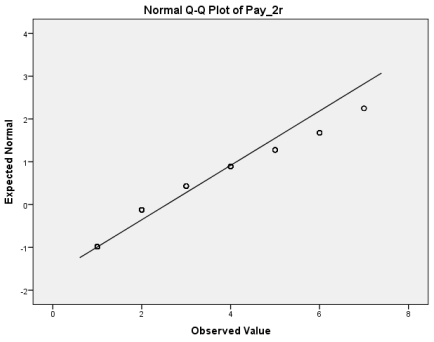
Pay

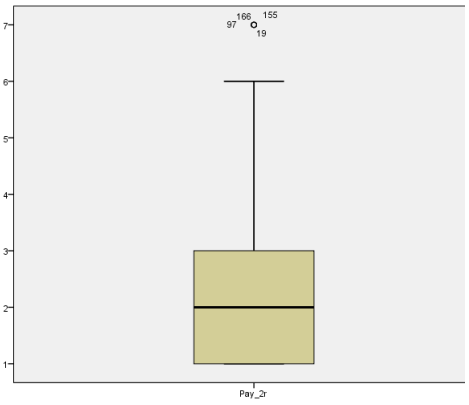


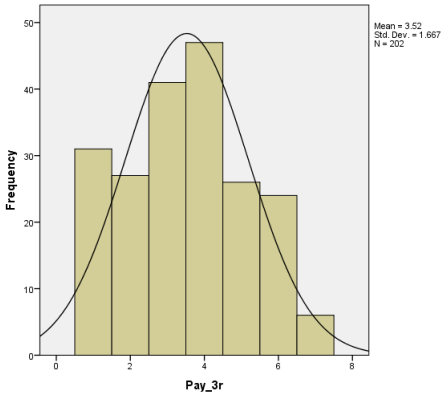


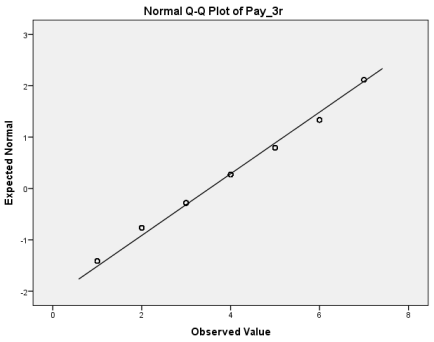


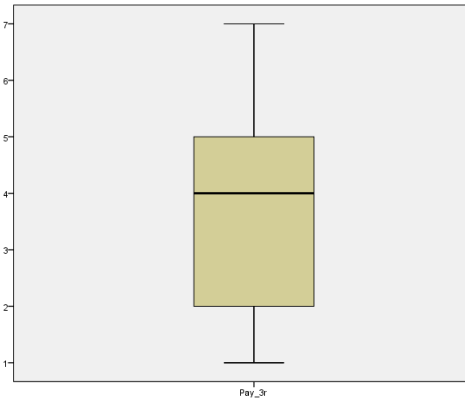

Mean = 2.56
Std. Dev. = 1.574
N = 202
Frequency
Pay_2r

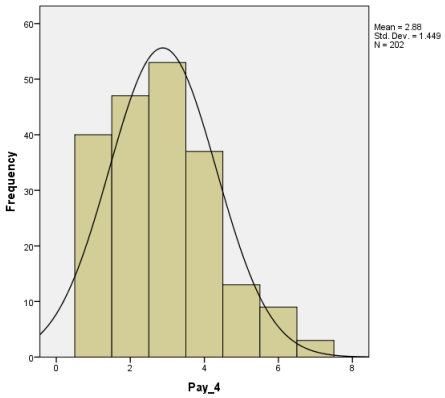

Normal Q-Q Plot of Pay_2r
Expected Normal
Observed Value

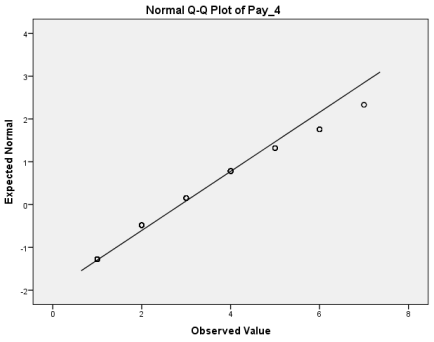

166
155
97
19
Pay_2r

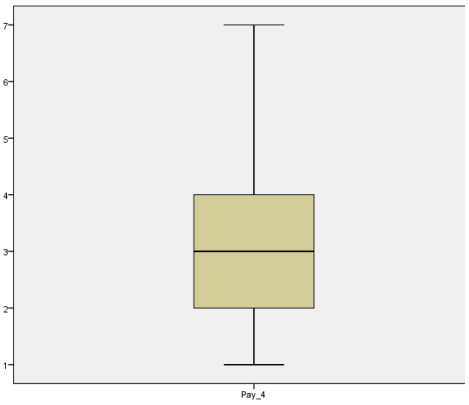

Mean = 3.52
Std. Dev. = 1.667
N = 202
Frequency
Pay_3r


Normal Q-Q Plot of Pay_3r
Expected Normal
Observed Value

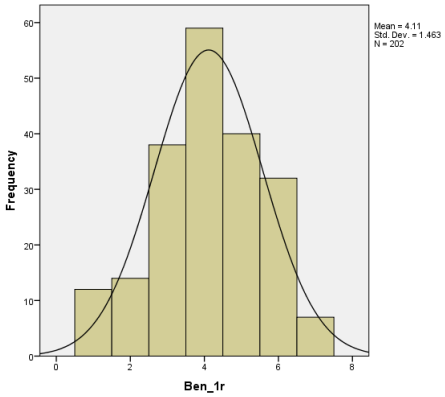

Pay_3r

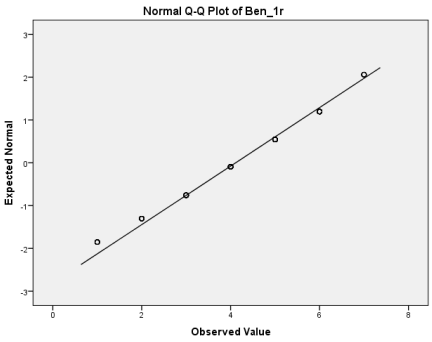

Mean = 2.88
Std. Dev. = 1.449
N = 202
Frequency
Pay_4

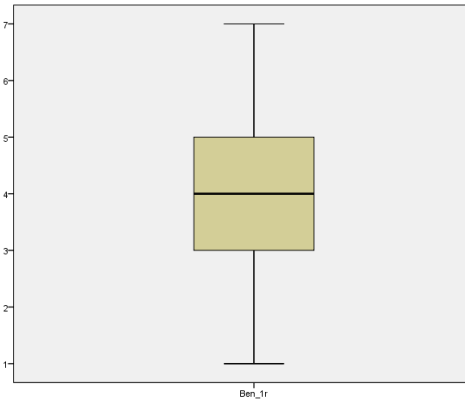

Normal Q-Q Plot of Pay_4
Expected Normal
Observed Value

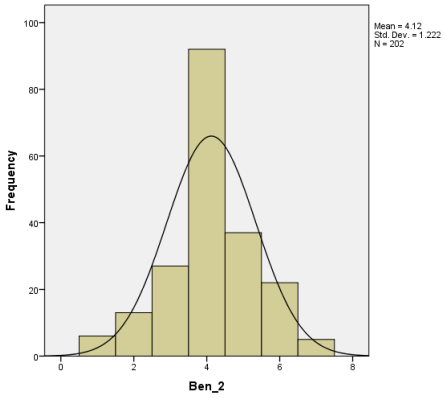

Pay_4

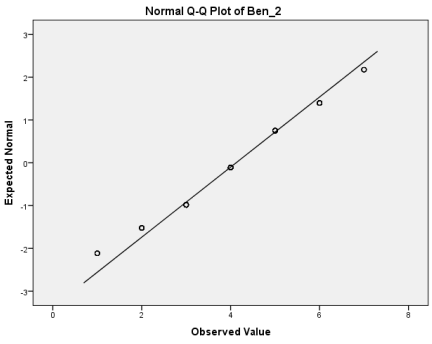
Benefits

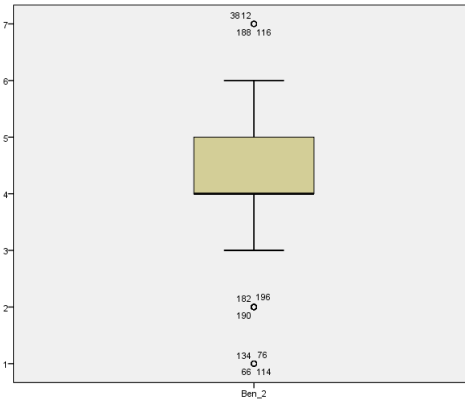

Mean = 4.11
Std. Dev. = 1.463
N = 202
Frequency
Ben_1r

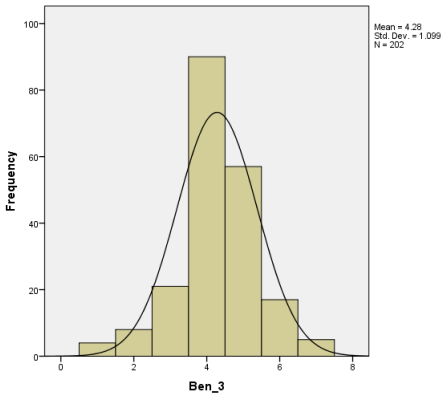

Normal Q-Q Plot of Ben_1r
Expected Normal
Observed Value

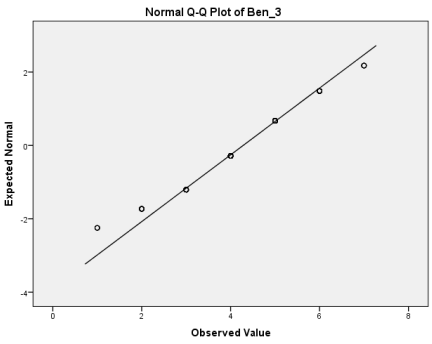

Ben_1r

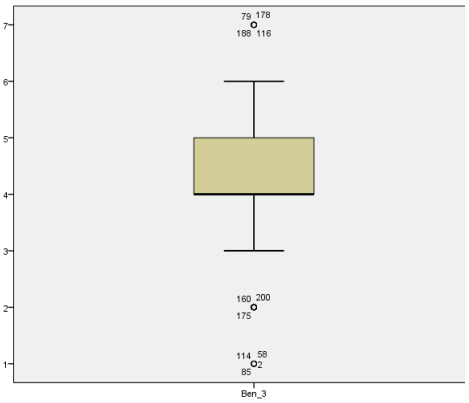

Mean = 4.12
Std. Dev. = 1.222
N = 202
Frequency
Ben_2

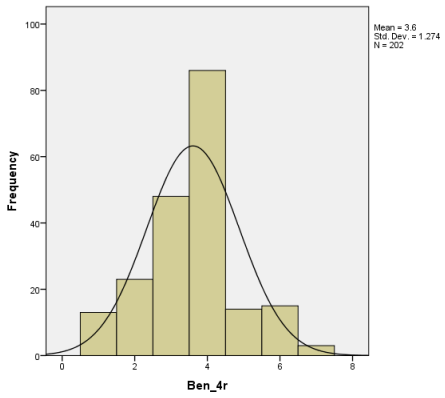

Normal Q-Q Plot of Ben_2
Expected Normal
Observed Value

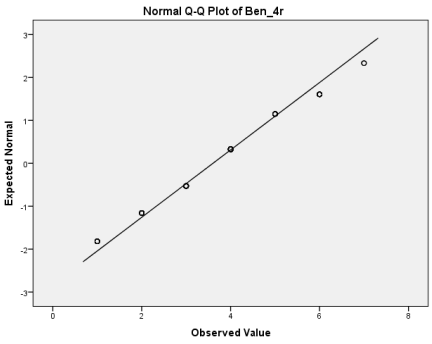

38 12
188 116
182 196
190
134 76
66 114
Ben_2

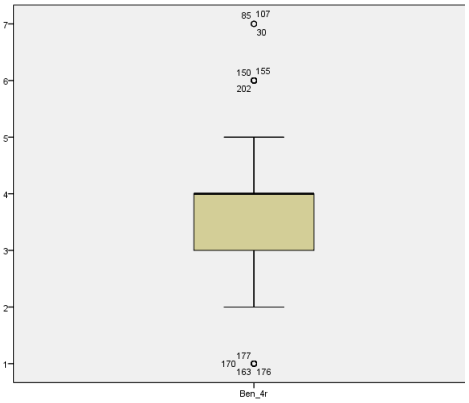

Mean = 4.28
Std. Dev. = 1.099
N = 202
Frequency
Ben_3


Normal Q-Q Plot of Ben_3
Expected Normal
Observed Value

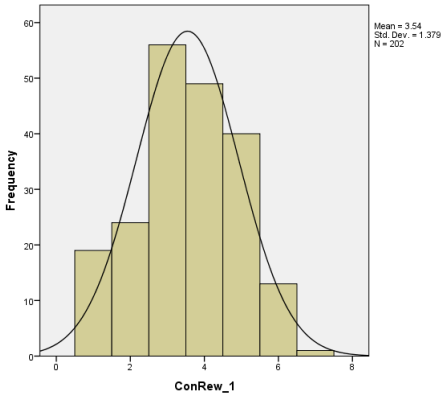

79 178
188 116
160 200
175
114 58
85 2
Ben_3

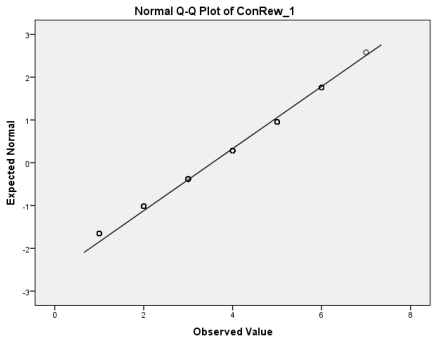

Mean = 3.6
Std. Dev. = 1.274
N = 202
Frequency
Ben_4r

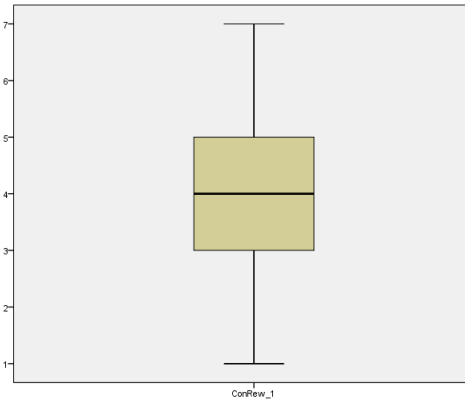

Normal Q-Q Plot of Ben_4r
Expected Normal
Observed Value

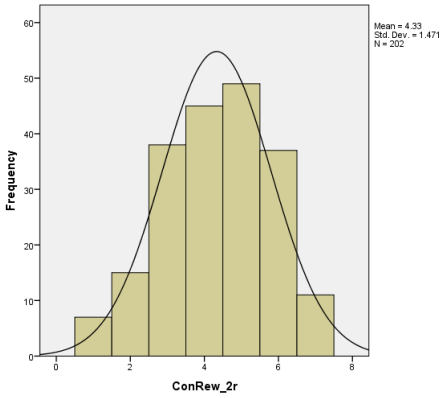

85 107
30
150 155
202
177
170 176
163
Ben_4r

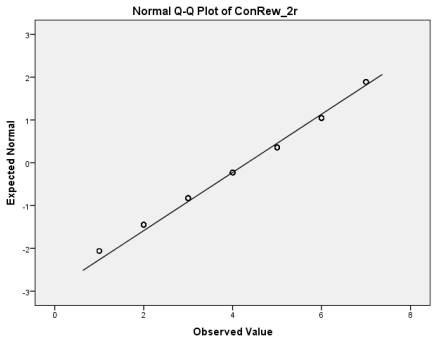
Contingent Rewards

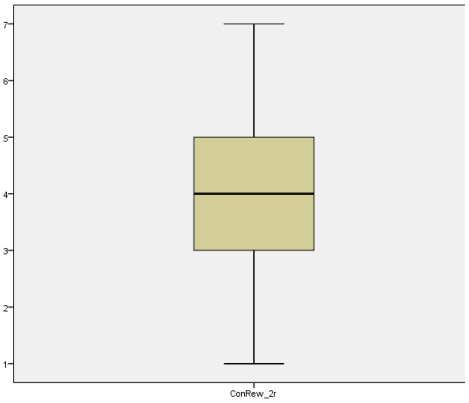


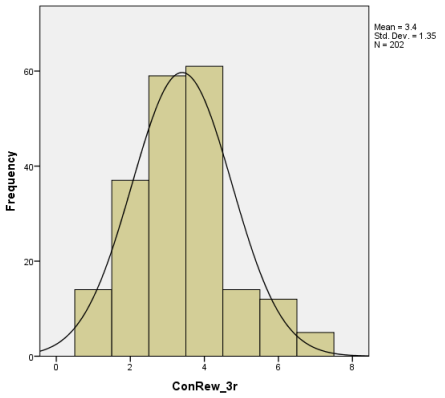


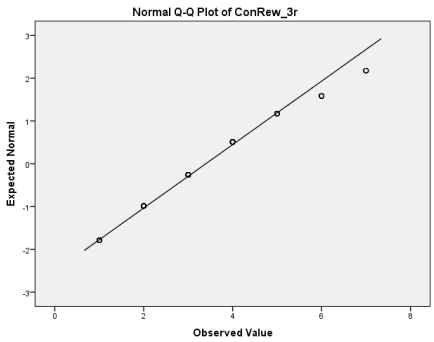


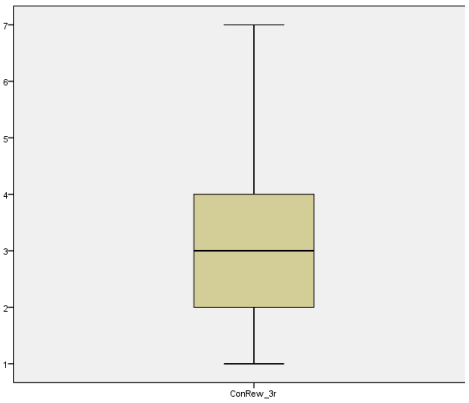


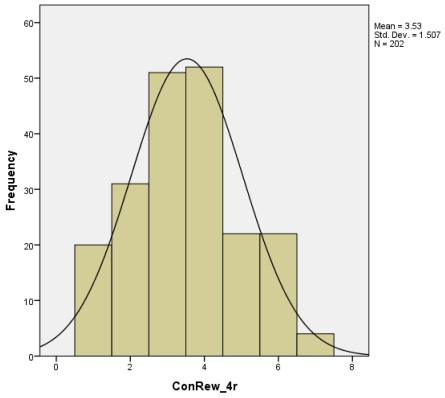


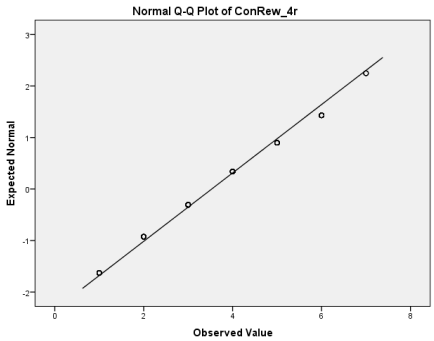


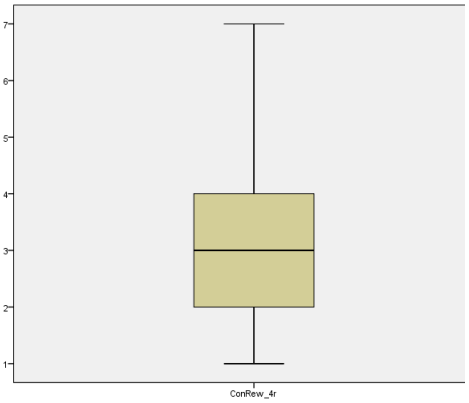




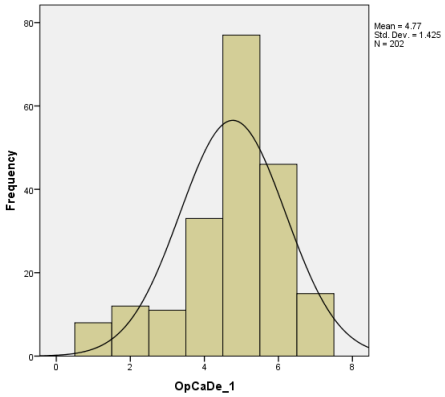


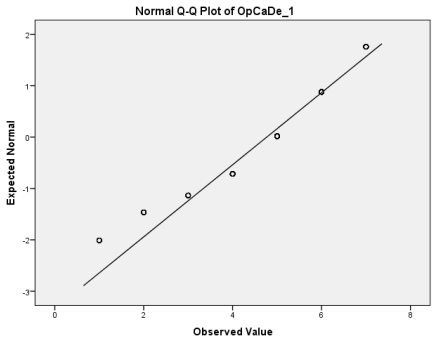


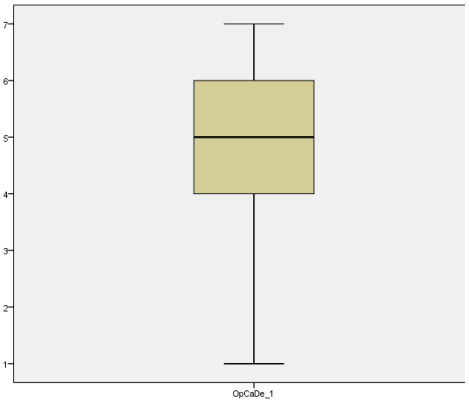


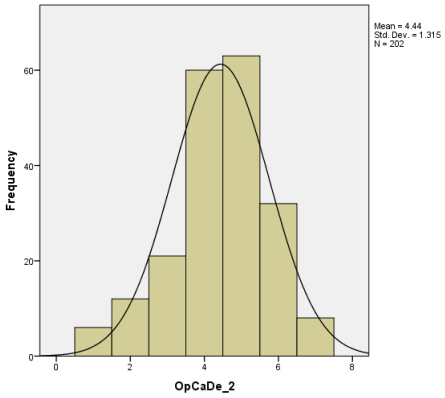


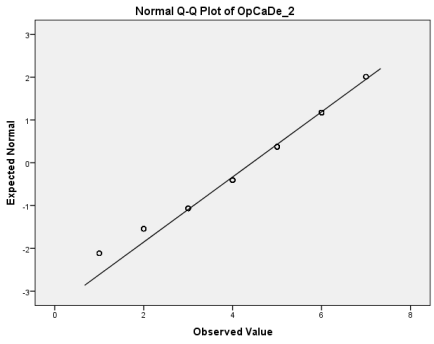
Opportunities and Career Development

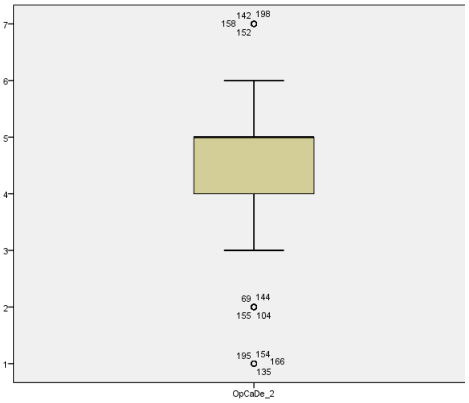


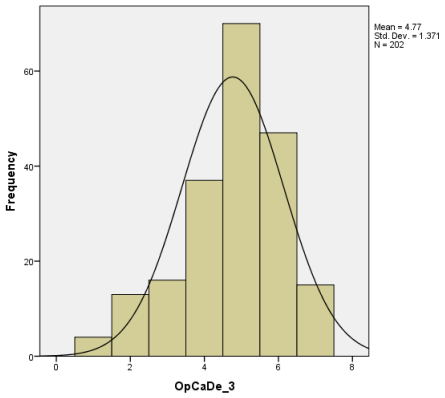


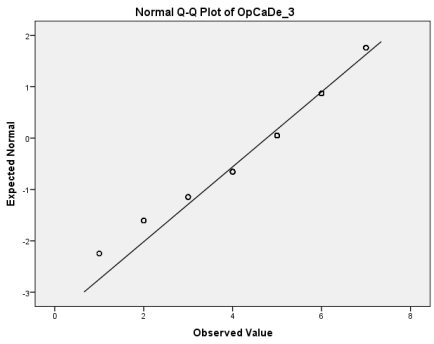


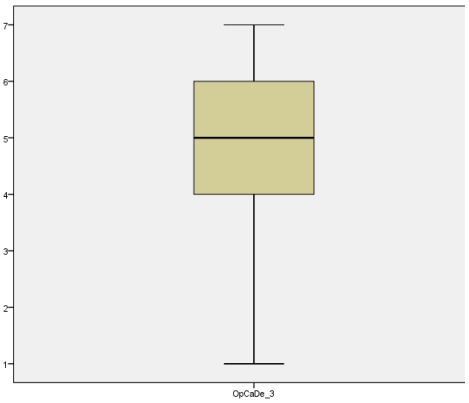




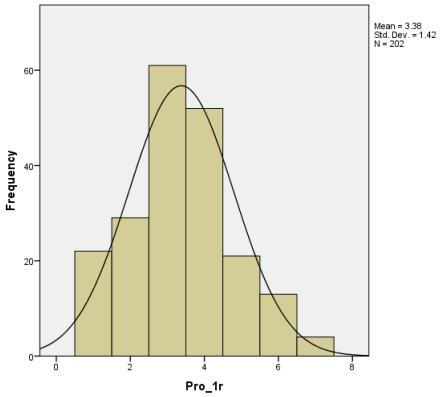








Promotion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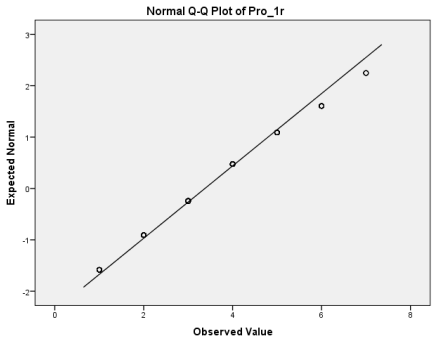
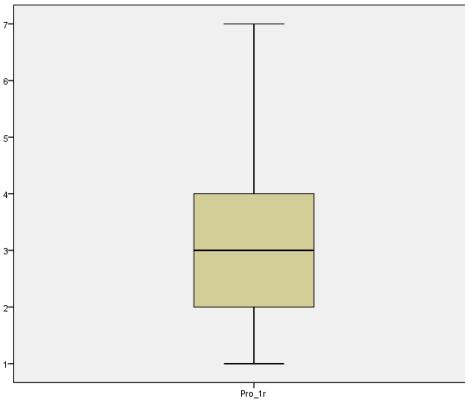
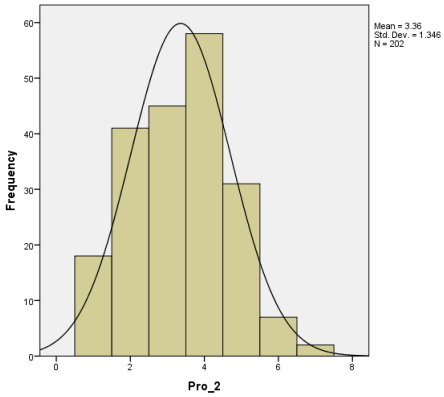
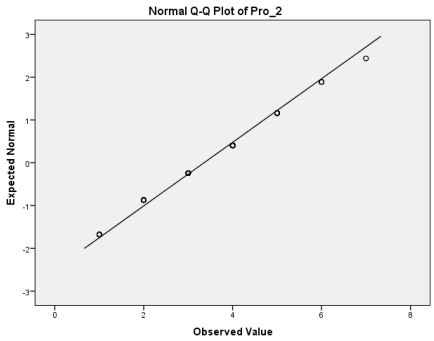
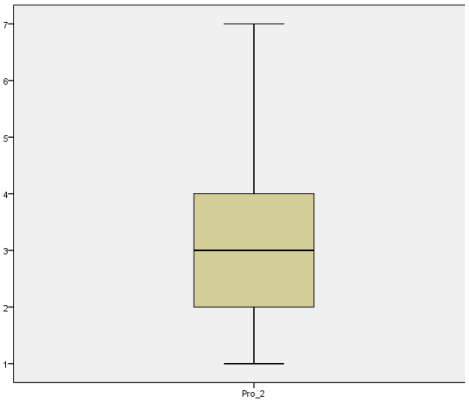
Std. Dev. = 1.42
N = 202
Frequency
Pro_1r

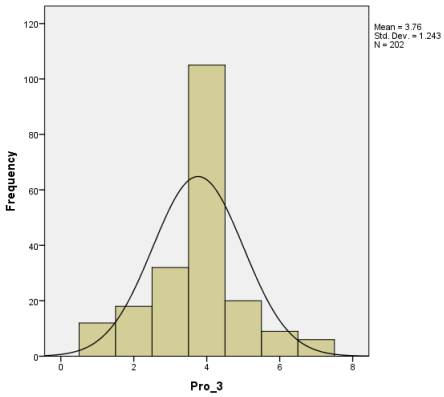

Normal Q-Q Plot of Pro_1r
Expected Normal
Observed Value

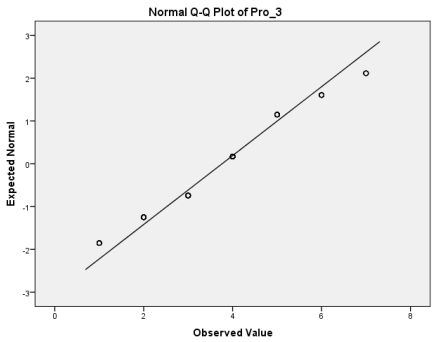

Pro_1r

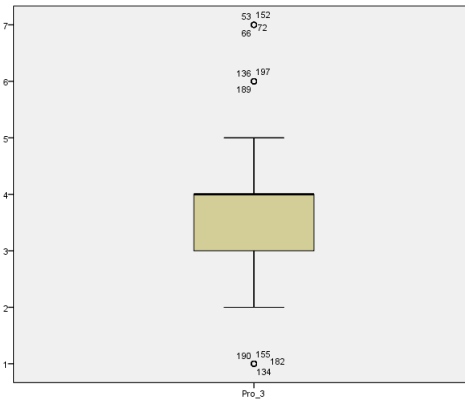

Mean = 3.36
Std. Dev. = 1.346
N = 202
Frequency
Pro_2

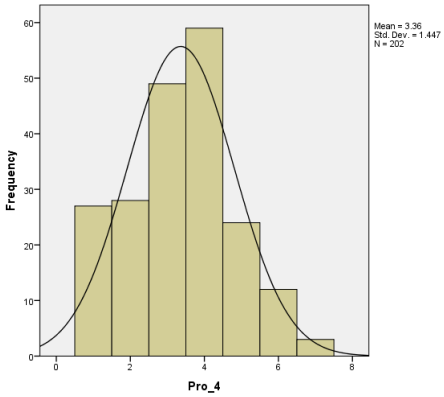

Normal Q-Q Plot of Pro_2
Expected Normal
Observed Value

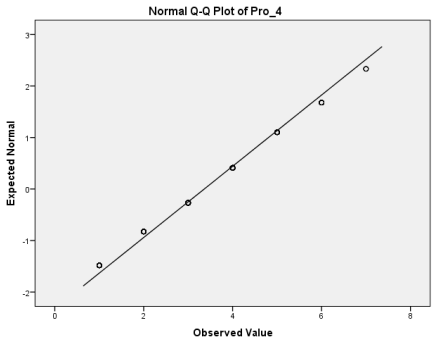

Pro_2

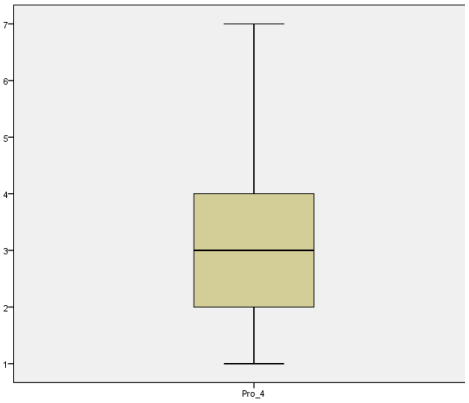

Mean = 3.76
Std. Dev. = 1.243
N = 202
Frequency
Pro_3


Normal Q-Q Plot of Pro_3
Expected Normal
Observed Value

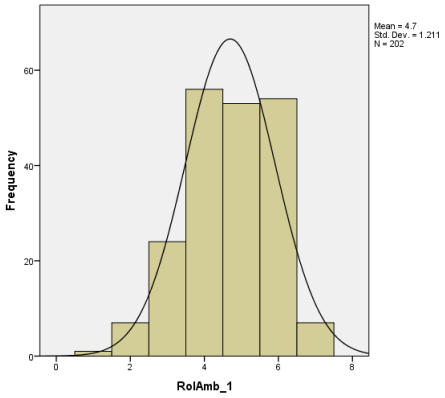

53
152
72
66
136
197
189
190
155
182
134
Pro_3

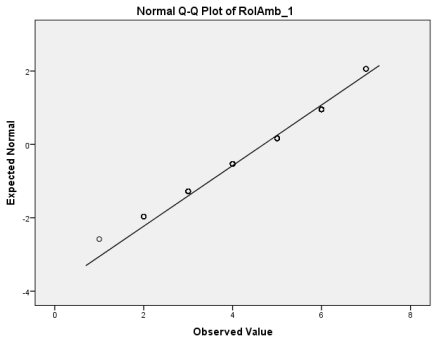

Mean = 3.36
Std. Dev. = 1.447
N = 202
Frequency
Pro_4

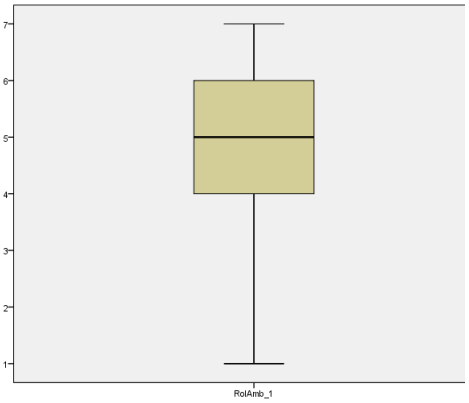

Normal Q-Q Plot of Pro_4
Expected Normal
Observed Value

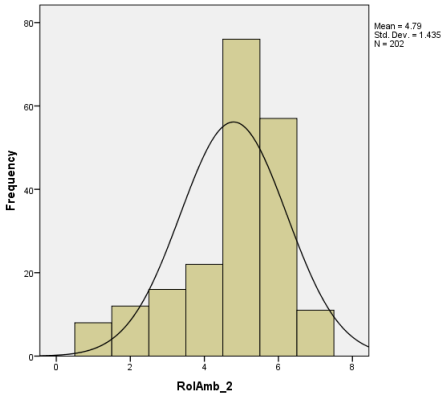

Pro_4

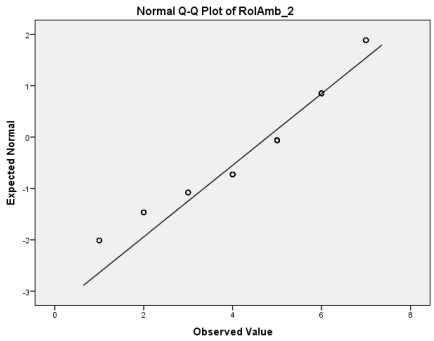
Role Ambiguity

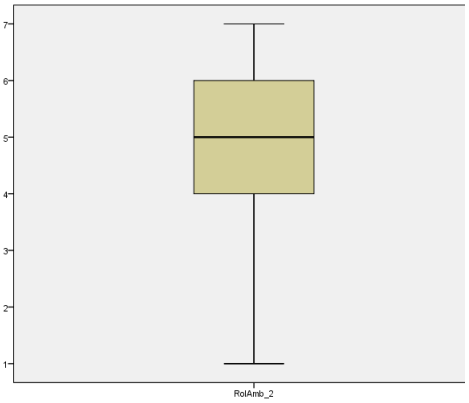


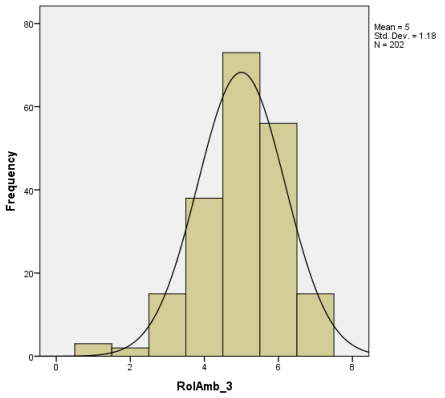


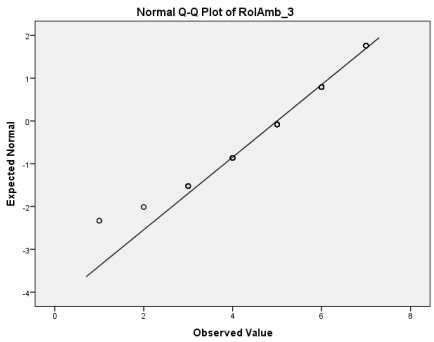


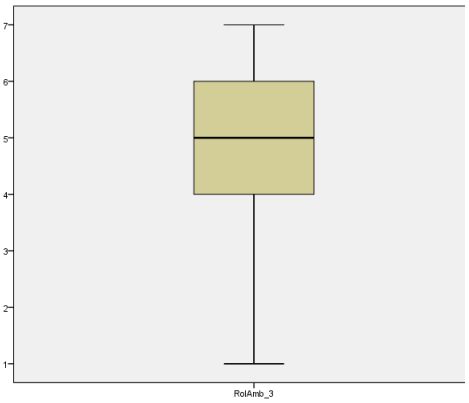


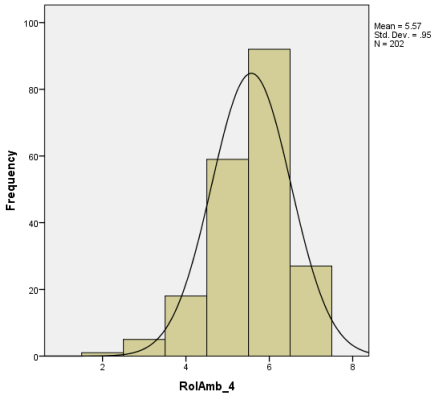


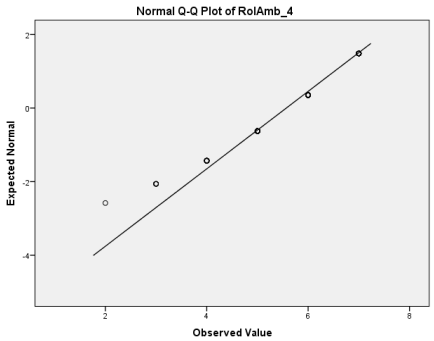


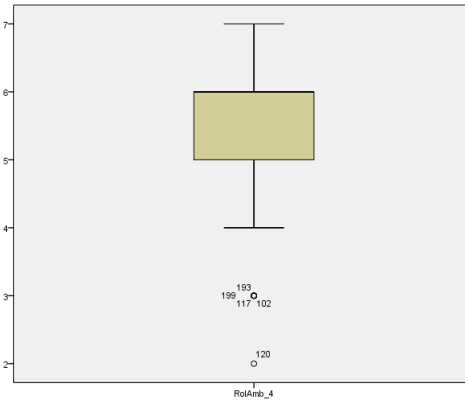


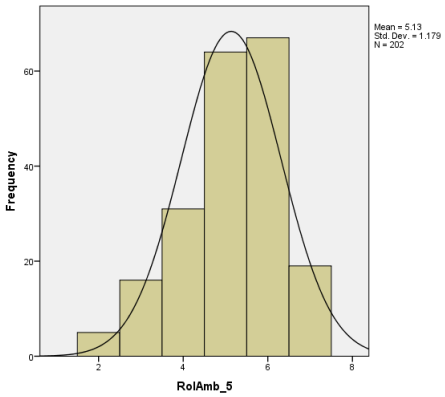


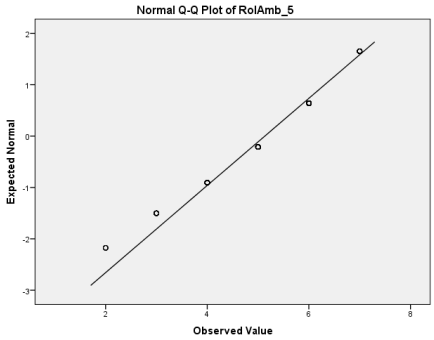


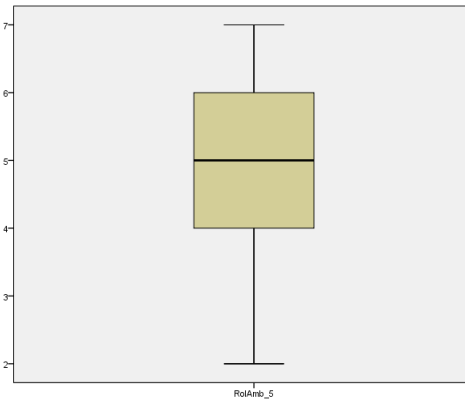


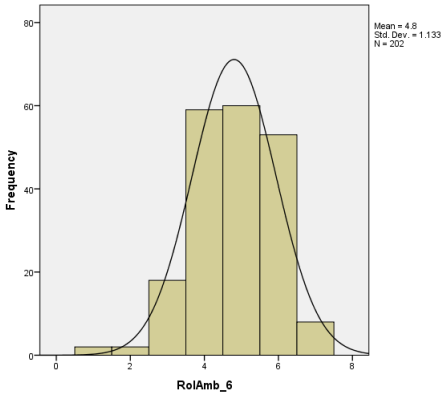


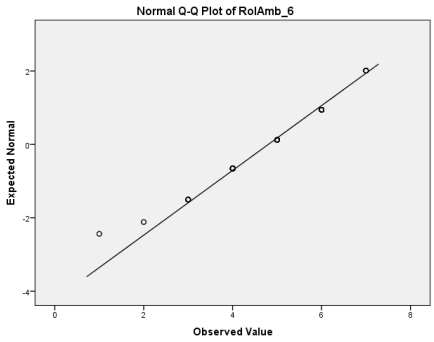


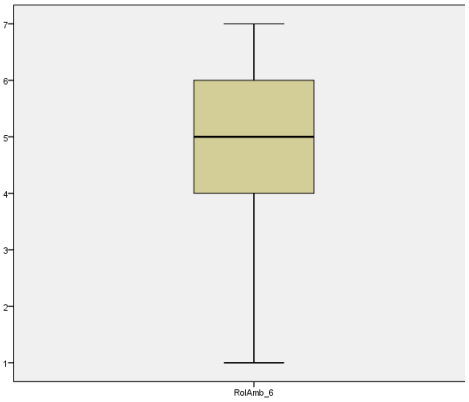




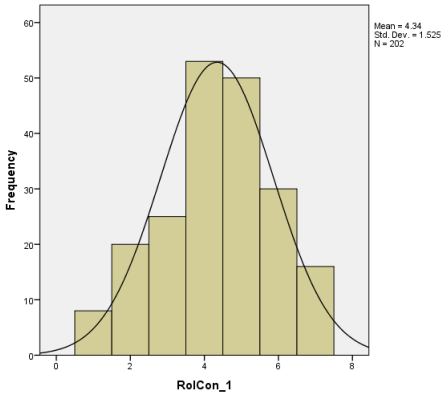


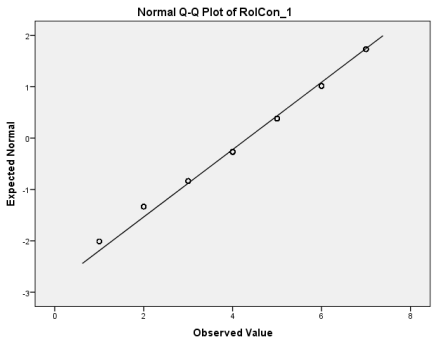


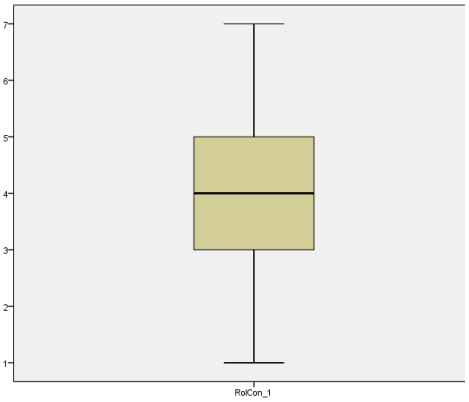


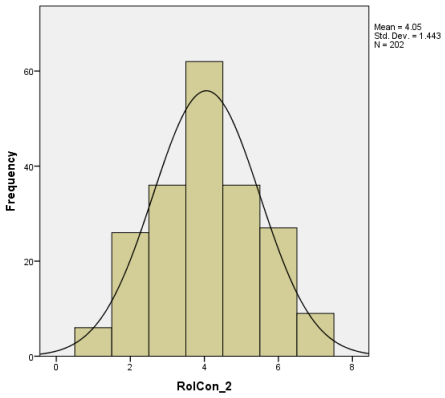


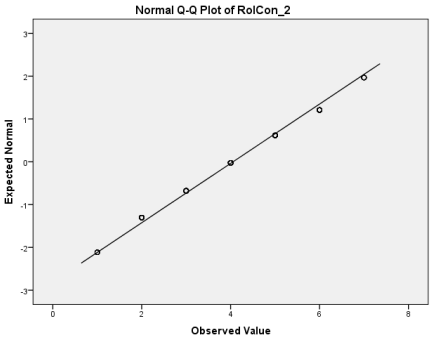
Role Conflict

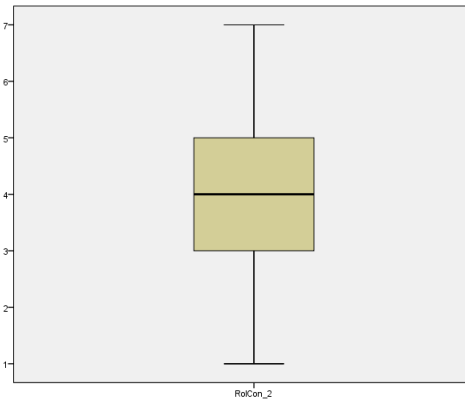


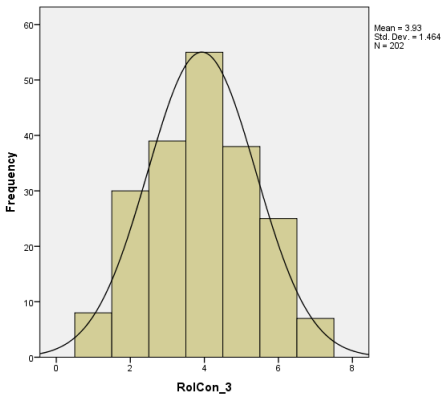


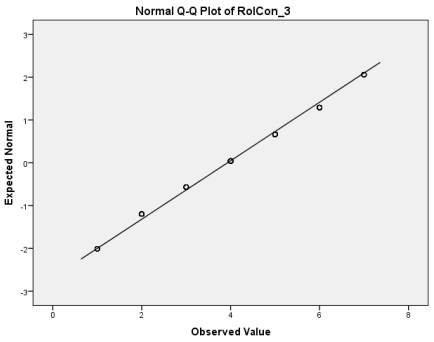


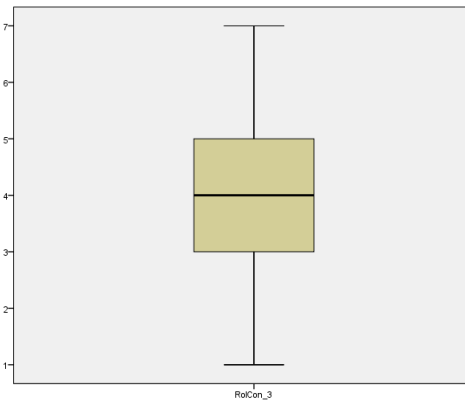

Mean = 4.05
Std. Dev. = 1.443
N = 202
Frequency
RolCon_2

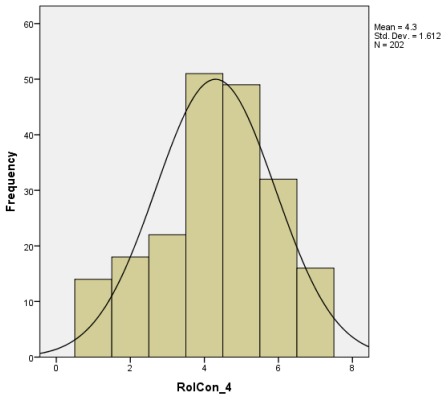

Normal Q-Q Plot of RolCon_2
Expected Normal
Observed Value

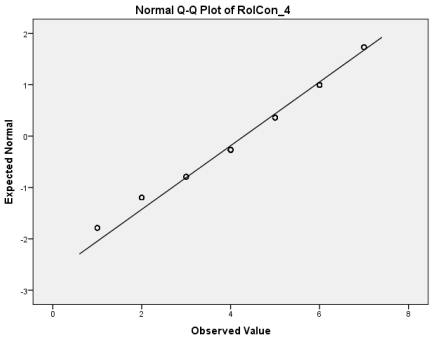

RolCon_2

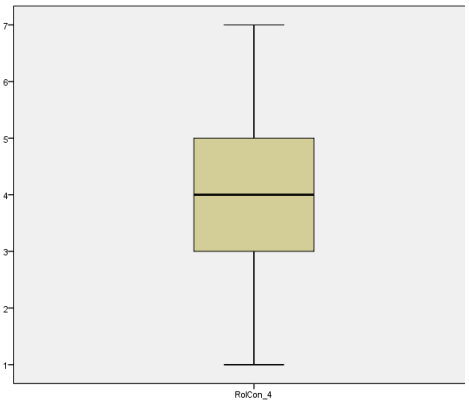

Mean = 3.93
Std. Dev. = 1.464
N = 202
Frequency
RolCon_3

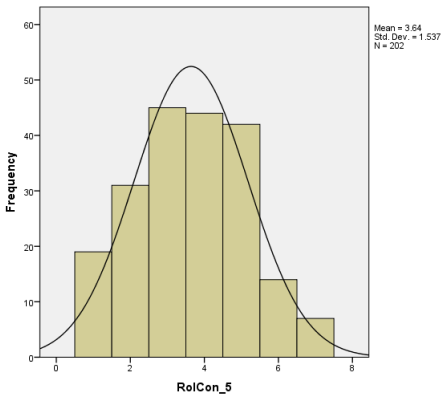

Normal Q-Q Plot of RolCon_3
Expected Normal
Observed Value

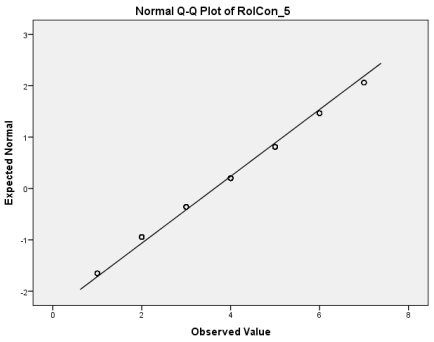

RolCon_3

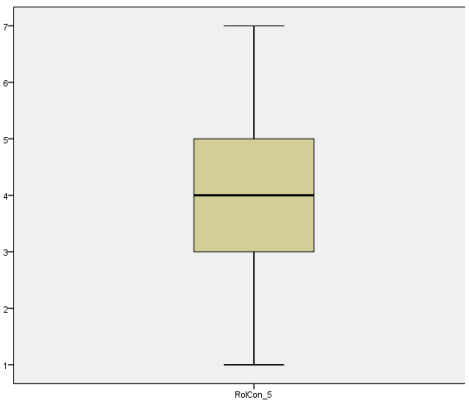

Mean = 4.3
Std. Dev. = 1.612
N = 202
Frequency
RolCon_4

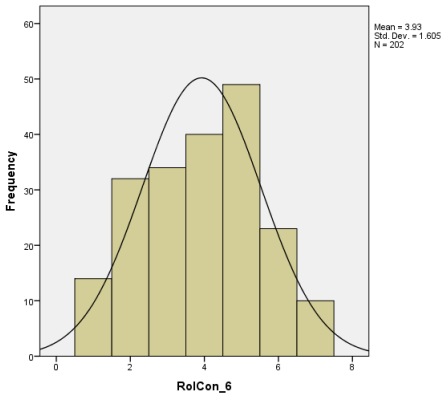

Normal Q-Q Plot of RolCon_4
Expected Normal
Observed Value

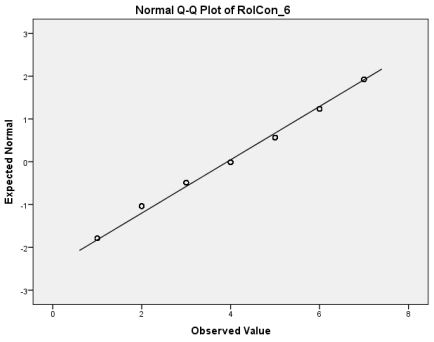

RolCon_4

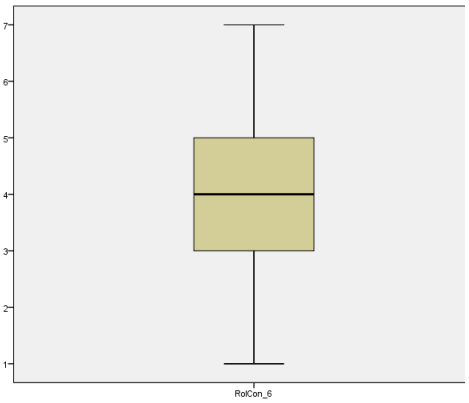

Mean = 3.64
Std. Dev. = 1.537
N = 202
Frequency
RolCon_5

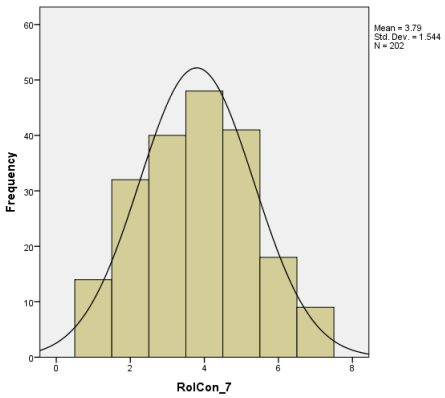

Normal Q-Q Plot of RolCon_5
Expected Normal
Observed Value

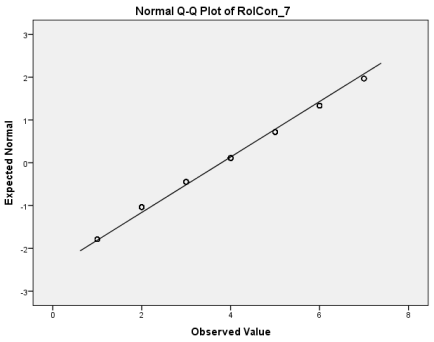

RolCon_5

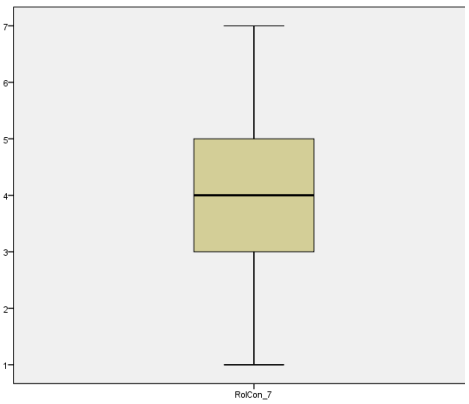

Mean = 3.93
Std. Dev. = 1.605
N = 202
Frequency
RolCon_6

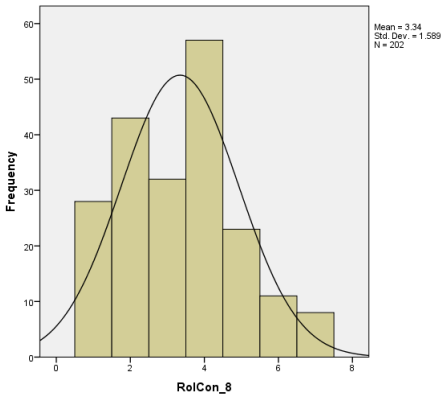

Normal Q-Q Plot of RolCon_6
Expected Normal
Observed Value

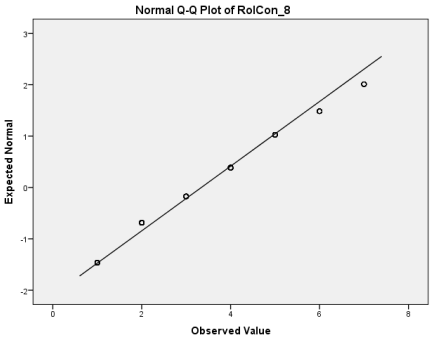

RolCon_6

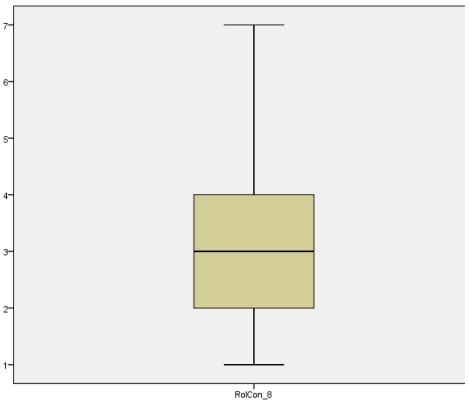

Mean = 3.79
Std. Dev. = 1.544
N = 202
Frequency
RolCon_7


Normal Q-Q Plot of RolCon_7
Expected Normal
Observed Value

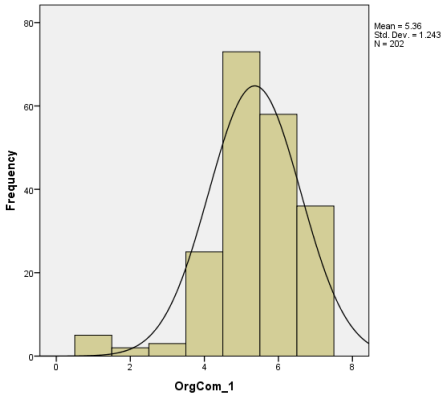

RolCon_7

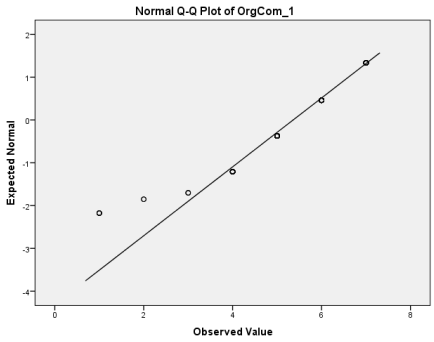

Mean = 3.34
Std. Dev. = 1.589
N = 202
Frequency
RolCon_8

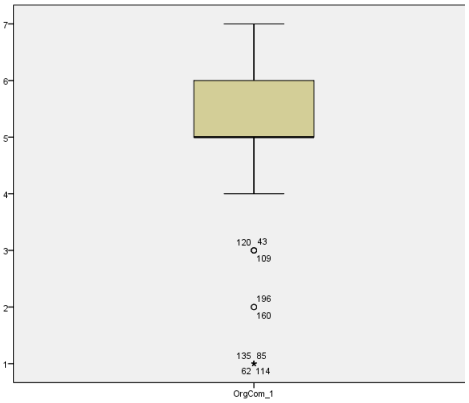

Normal Q-Q Plot of RolCon_8
Expected Normal
Observed Value

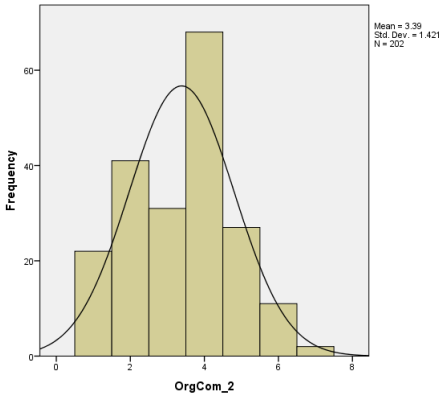

RolCon_8

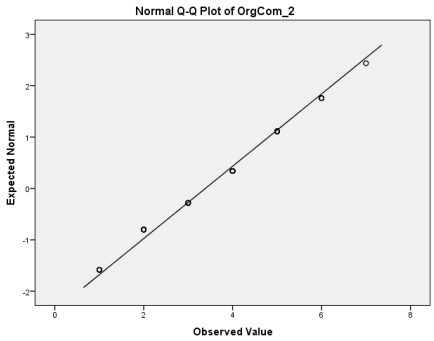
Organizational commitment

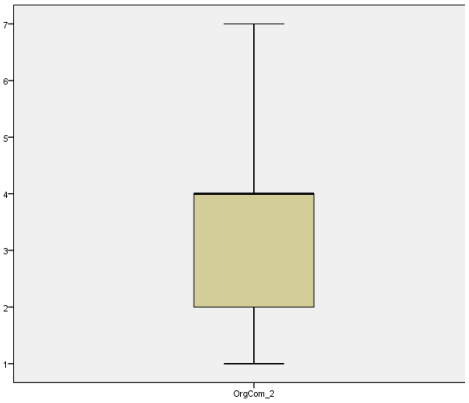


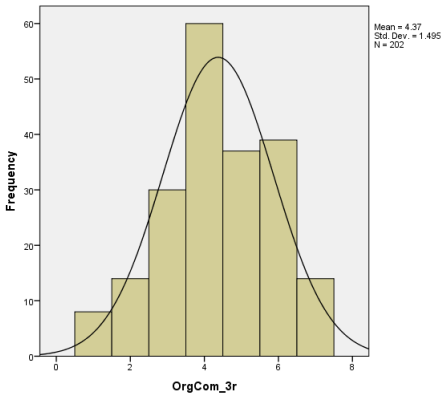


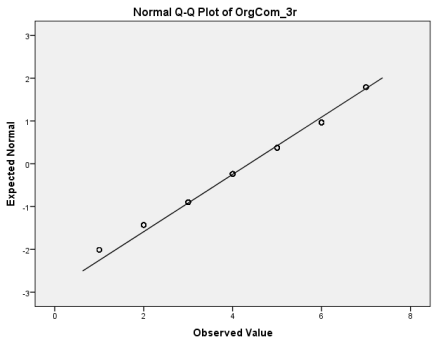


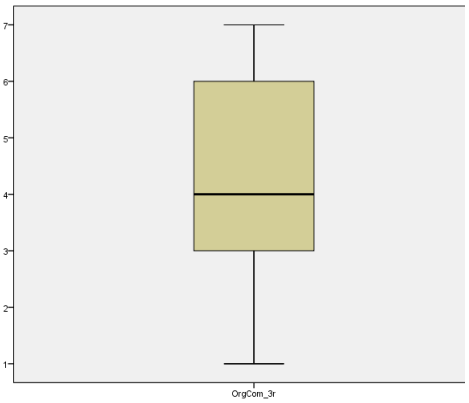


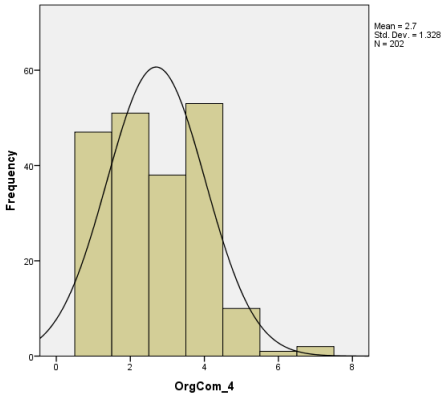


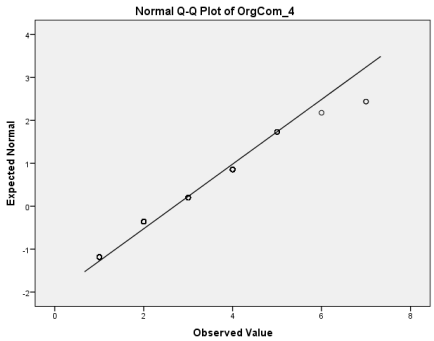


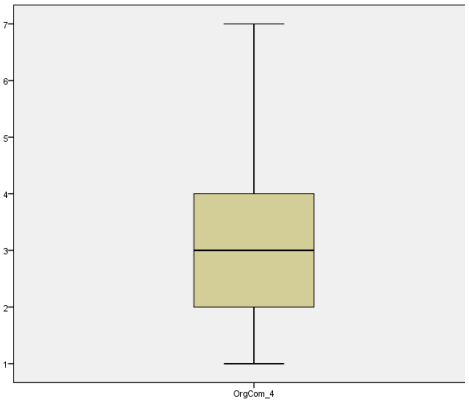


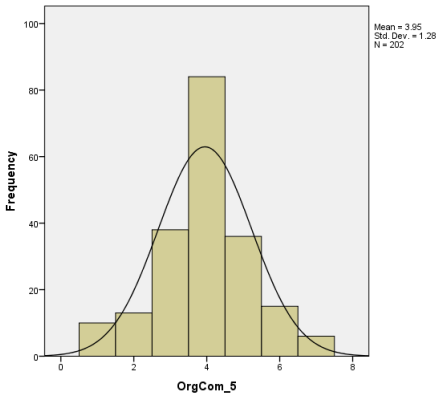


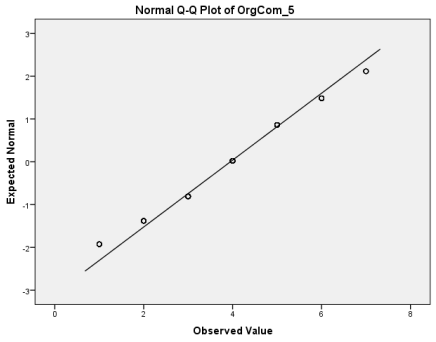


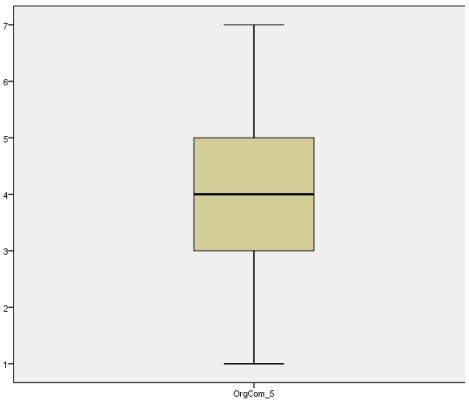


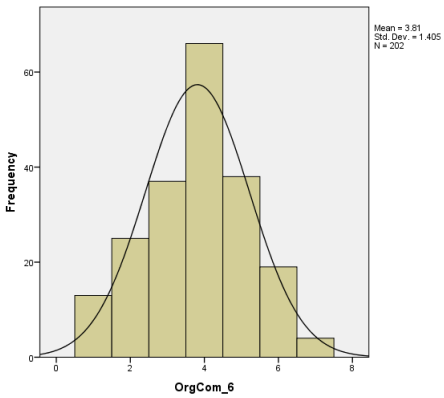


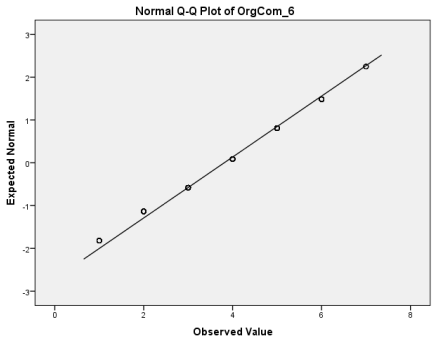


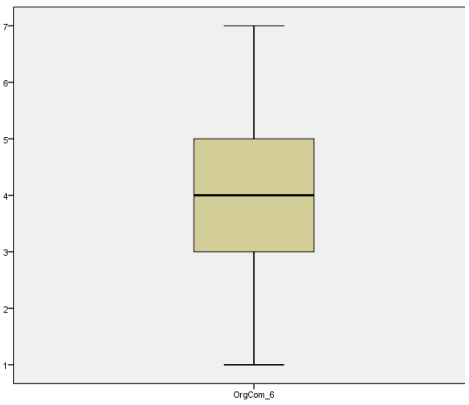

Mean = 3.95
Std. Dev. = 1.28
N = 202
Frequency
OrgCom_5

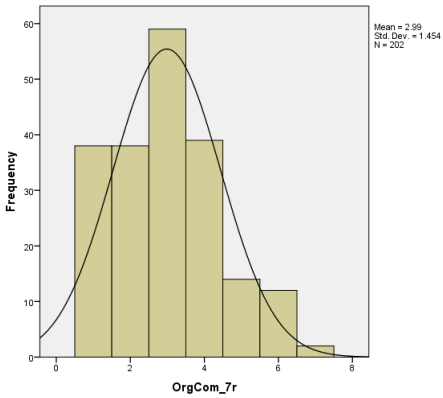

Normal Q-Q Plot of OrgCom_5
Expected Normal
Observed Value

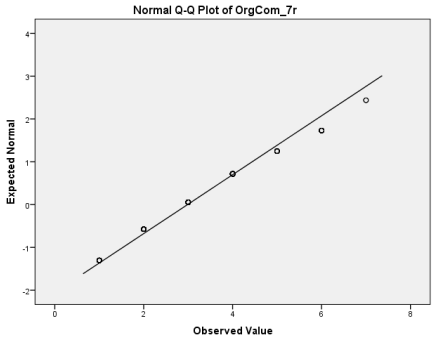

OrgCom_5


Mean = 3.81
Std. Dev. = 1.405
N = 202
Frequency
OrgCom_6

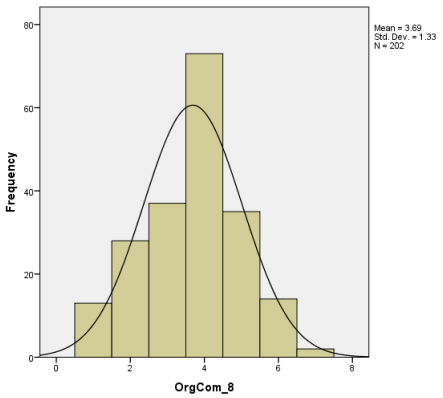

Normal Q-Q Plot of OrgCom_6
Expected Normal
Observed Value

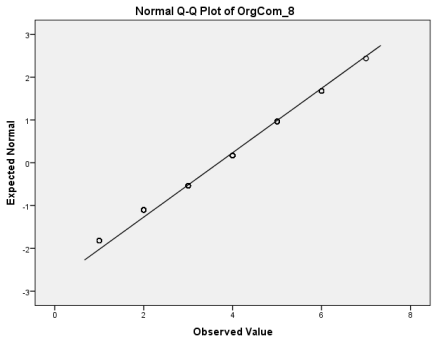

OrgCom_6

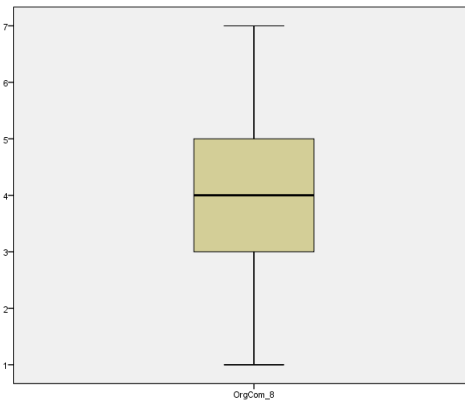

Mean = 2.99
Std. Dev. = 1.454
N = 202
Frequency
OrgCom_7r

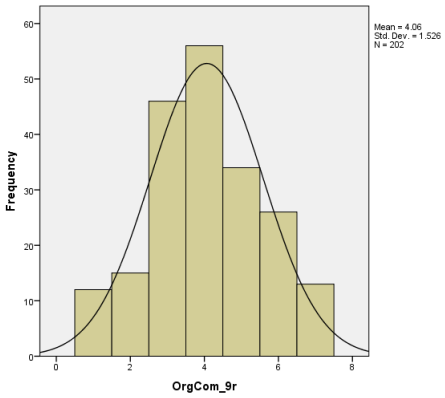

Normal Q-Q Plot of OrgCom_7r
Expected Normal
Observed Value

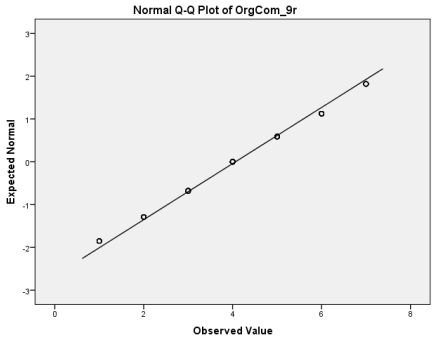

OrgCom_7r

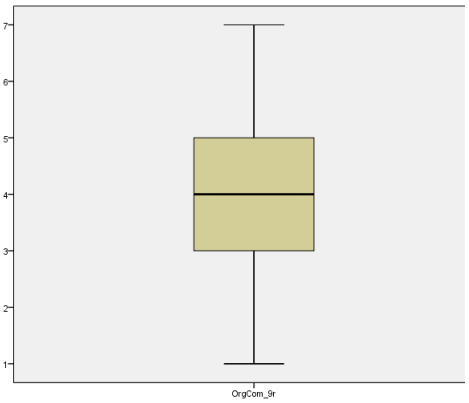

Mean = 3.69
Std. Dev. = 1.33
N = 202
Frequency
OrgCom_8

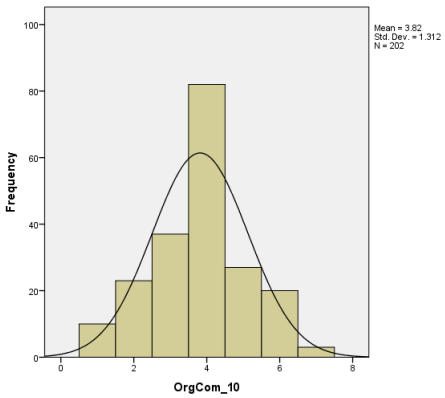

Normal Q-Q Plot of OrgCom_8
Expected Normal
Observed Value

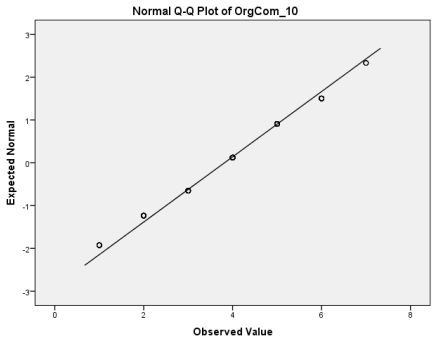

OrgCom_8

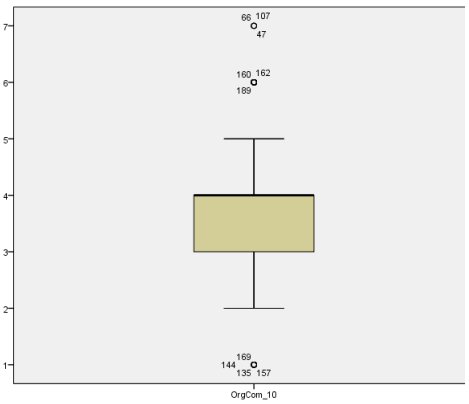

Mean = 4.06
Std. Dev. = 1.526
N = 202
Frequency
OrgCom_9r

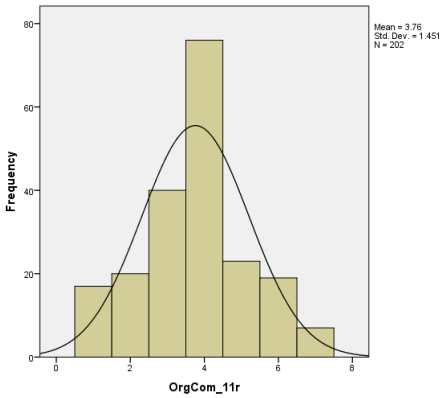

Normal Q-Q Plot of OrgCom_9r
Expected Normal
Observed Value

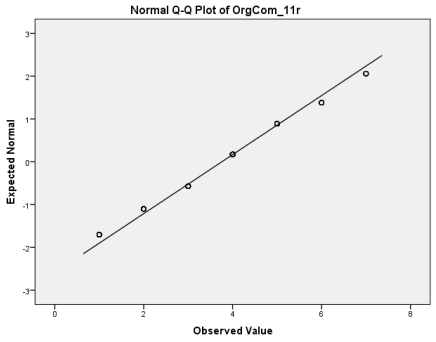

OrgCom_9r

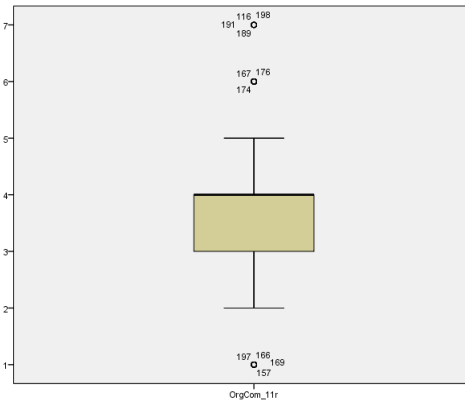

Mean = 3.82
Std. Dev. = 1.312
N = 202
Frequency
OrgCom_10

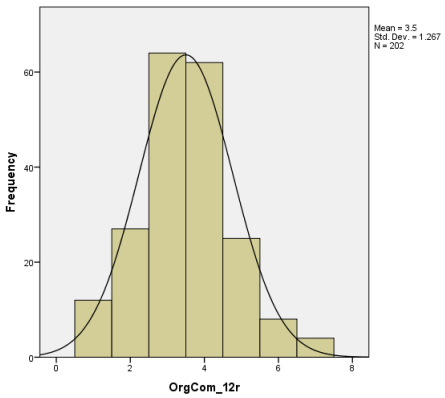

Normal Q-Q Plot of OrgCom_10
Expected Normal
Observed Value

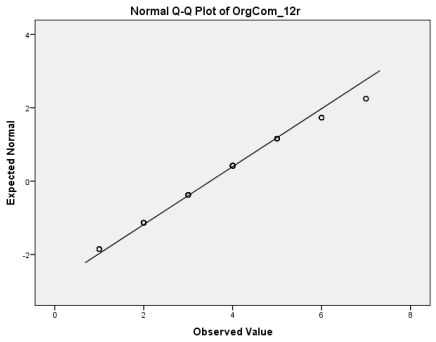

66 107
47
160 162
189
169
144
135 157
OrgCom_10

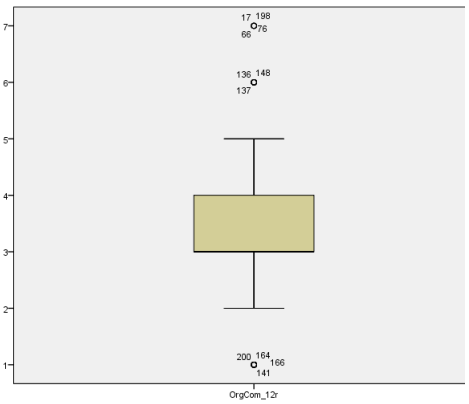

Mean = 3.76
Std. Dev. = 1.451
N = 202
Frequency
OrgCom_11r

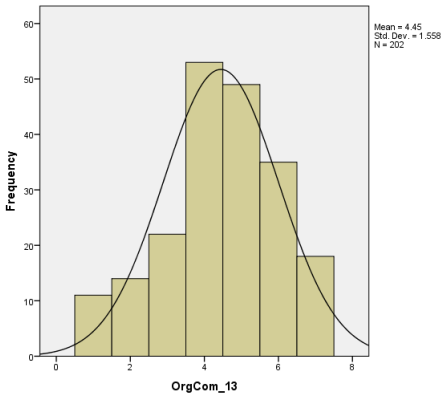

Normal Q-Q Plot of OrgCom_11r
Expected Normal
Observed Value

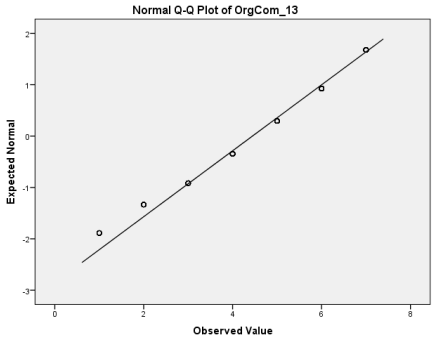

116 198
191
189
167 176
174
197 166
169
157
OrgCom_11r

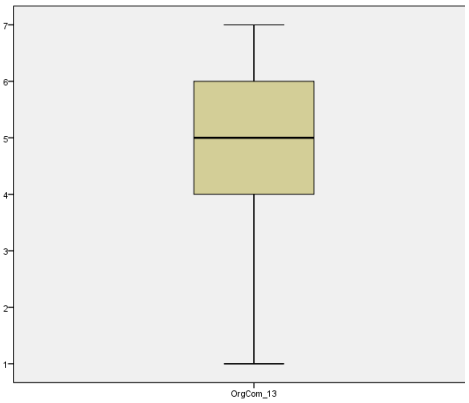

Mean = 3.5
Std. Dev. = 1.267
N = 202
Frequency
OrgCom_12r

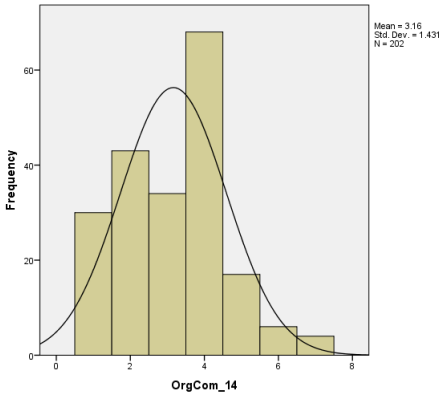

Normal Q-Q Plot of OrgCom_12r
Expected Normal
Observed Value

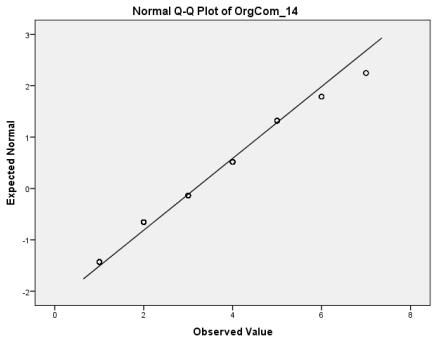

17 198
66
76
136 148
137
200 164
166
141
OrgCom_12r


Mean = 4.45
Std. Dev. = 1.558
N = 202
Frequency
OrgCom_13

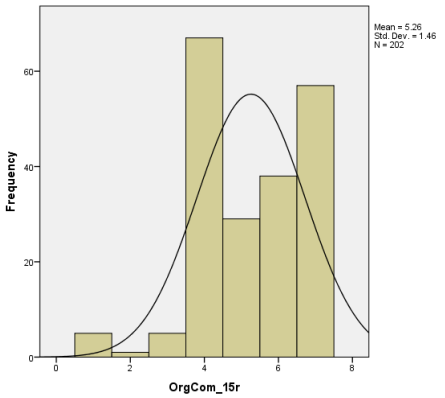

Normal Q-Q Plot of OrgCom_13
Expected Normal
Observed Value

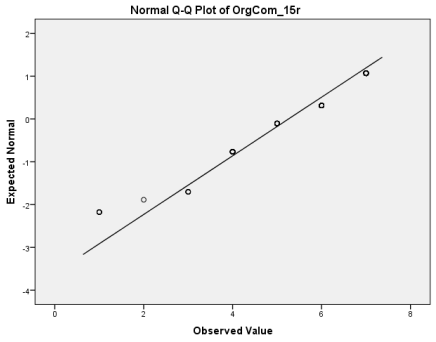

OrgCom_13

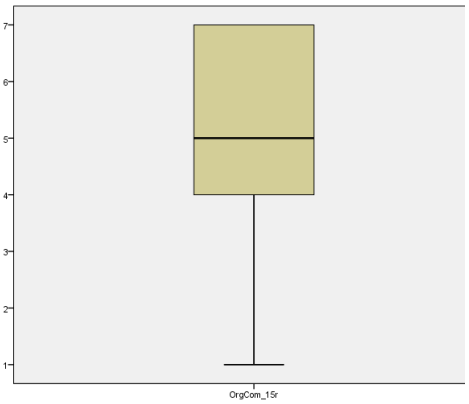

Mean = 3.16
Std. Dev. = 1.431
N = 202
Frequency
OrgCom_14


Normal Q-Q Plot of OrgCom_14
Expected Normal
Observed Value

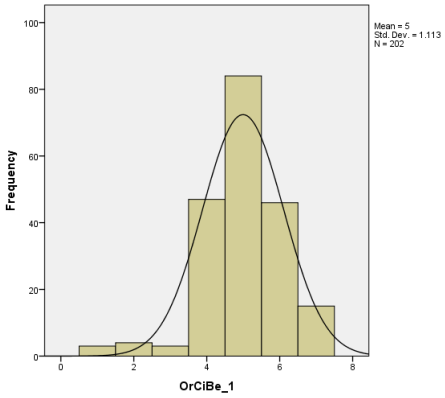

OrgCom_14

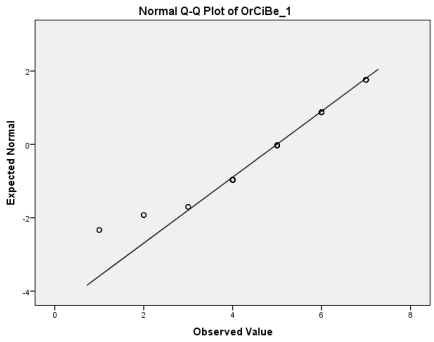

Mean = 5.26
Std. Dev. = 1.46
N = 202
Frequency
OrgCom_15r

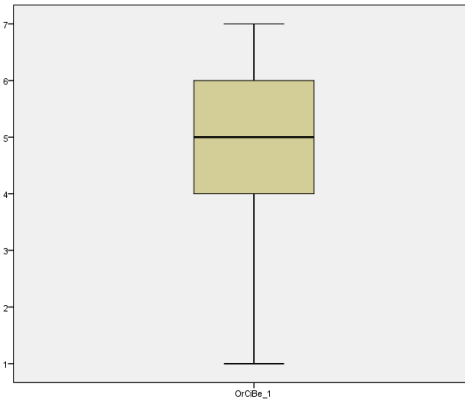

Normal Q-Q Plot of OrgCom_15r
Expected Normal
Observed Value

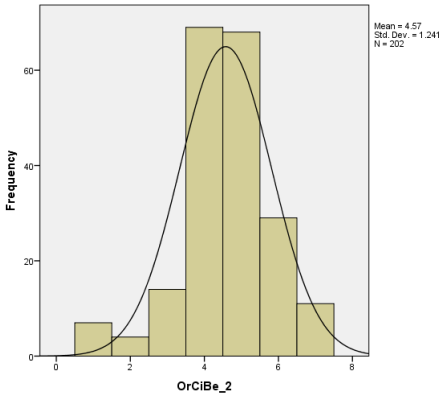

OrgCom_15r

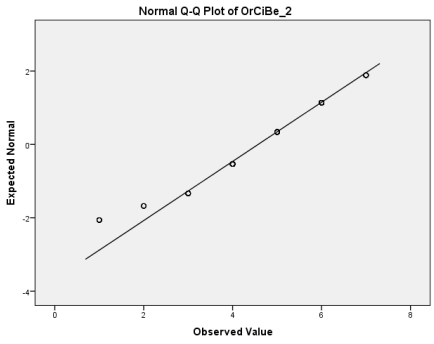
Organizational Citizenship behaviors

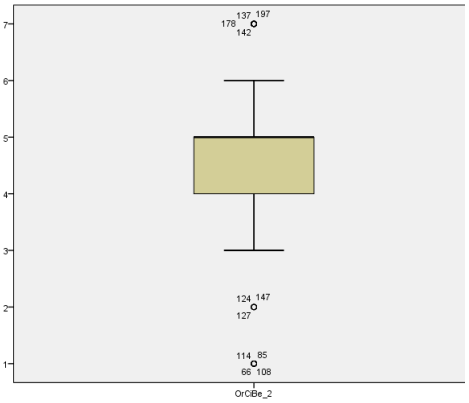


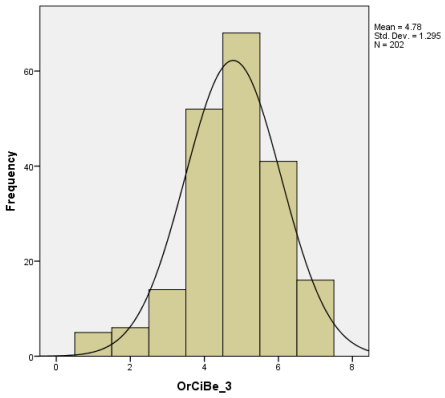


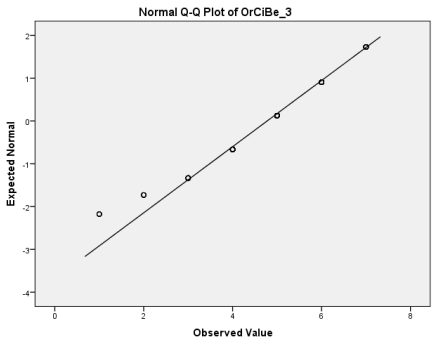


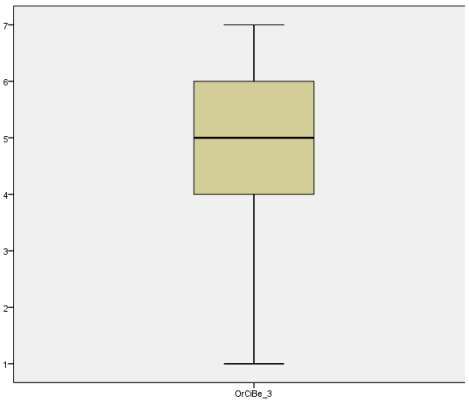


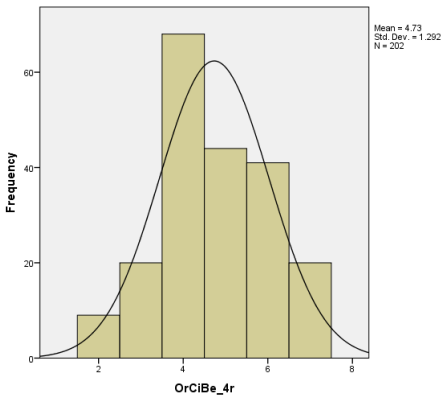


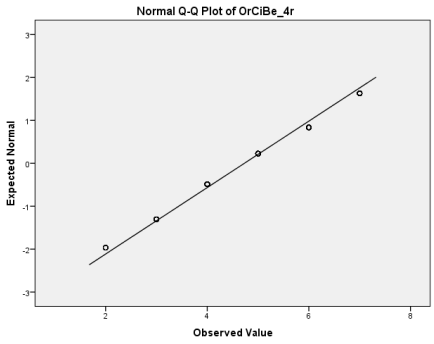


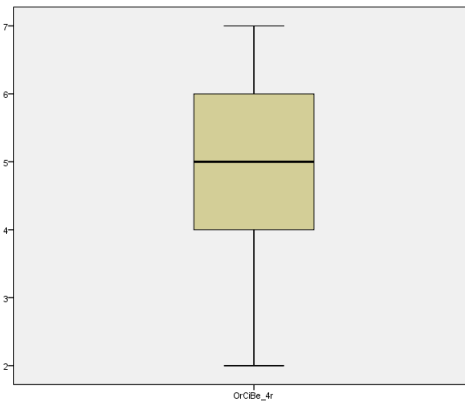


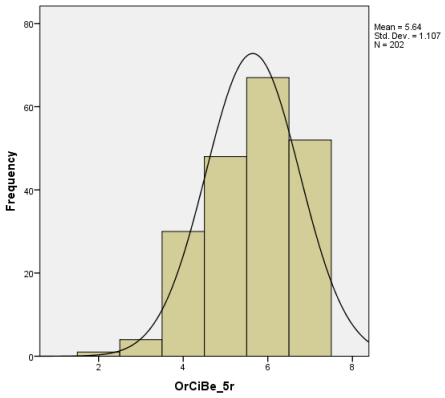


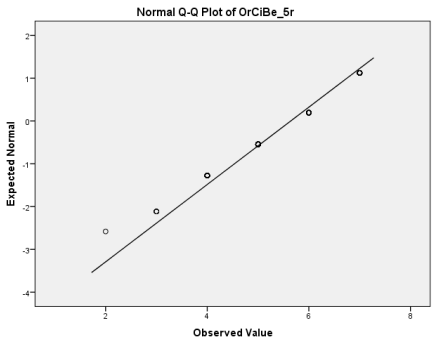


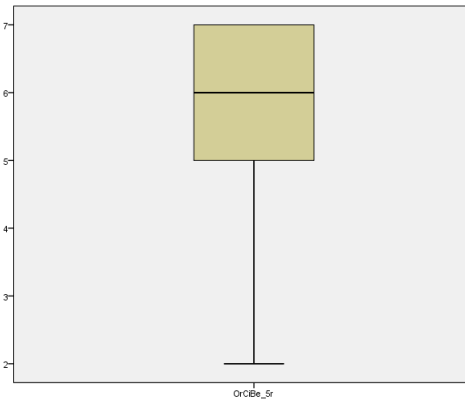


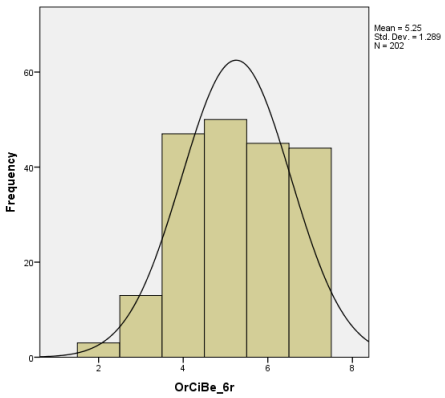


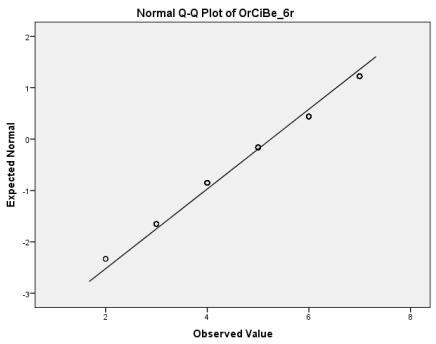


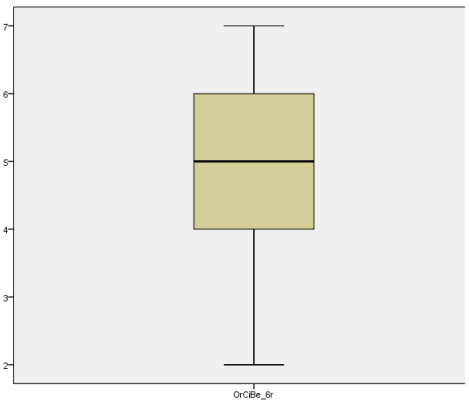

Mean = 5.64
Std. Dev. = 1.107
N = 202
Frequency
OrCiBe_5r

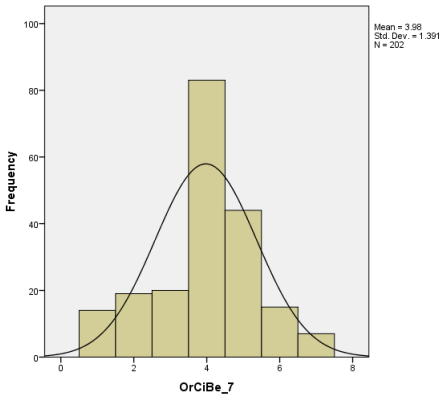

Normal Q-Q Plot of OrCiBe_5r
Expected Normal
Observed Value

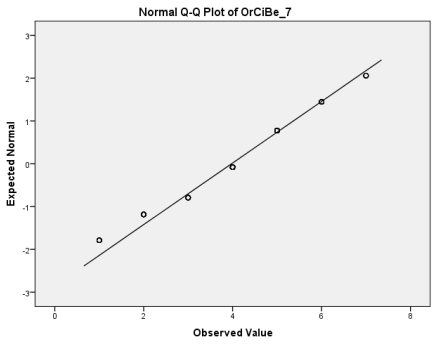

OrCiBe_5r

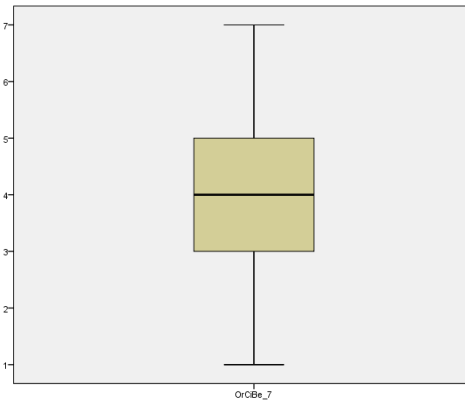

Mean = 5.25
Std. Dev. = 1.289
N = 202
Frequency
OrCiBe_6r

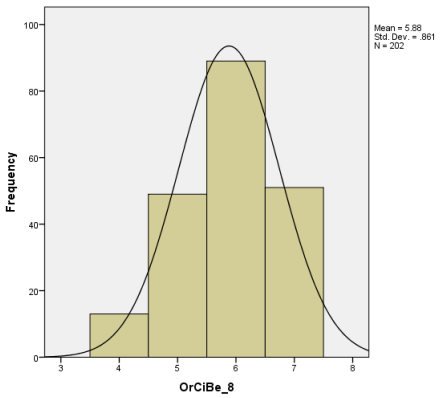

Normal Q-Q Plot of OrCiBe_6r
Expected Normal
Observed Value

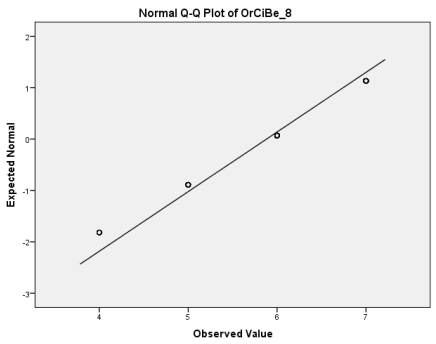

OrCiBe_6r

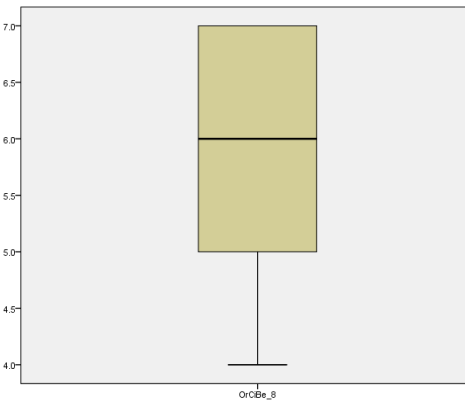

Mean = 3.98
Std. Dev. = 1.391
N = 202
Frequency
OrCiBe_7

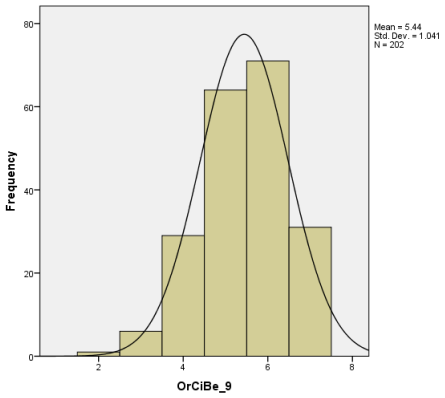

Normal Q-Q Plot of OrCiBe_7
Expected Normal
Observed Value

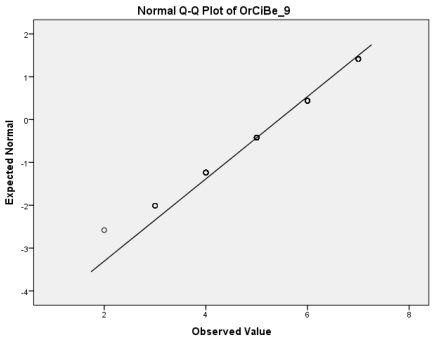

OrCiBe_7

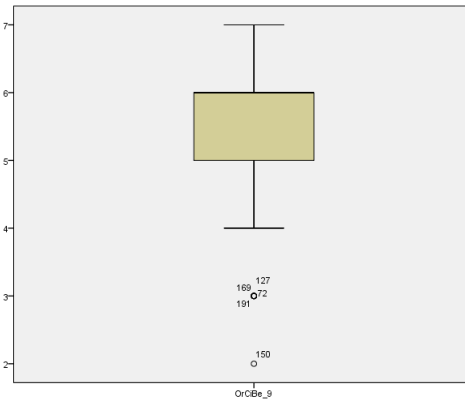

Mean = 5.88
Std. Dev. = .861
N = 202
Frequency
OrCiBe_8

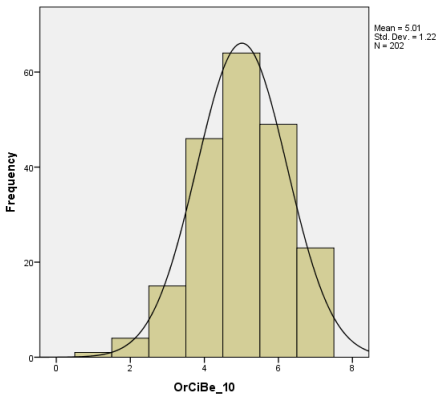

Normal Q-Q Plot of OrCiBe_8
Expected Normal
Observed Value

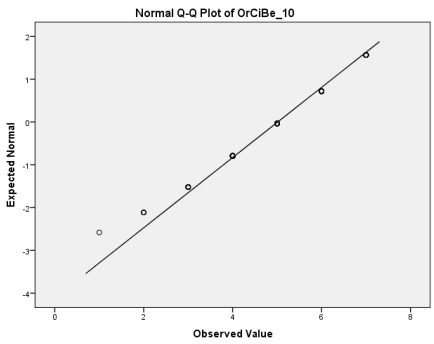

OrCiBe_8

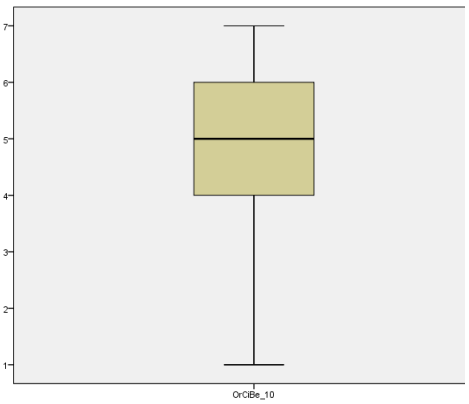

Mean = 5.44
Std. Dev. = 1.041
N = 202
Frequency
OrCiBe_9

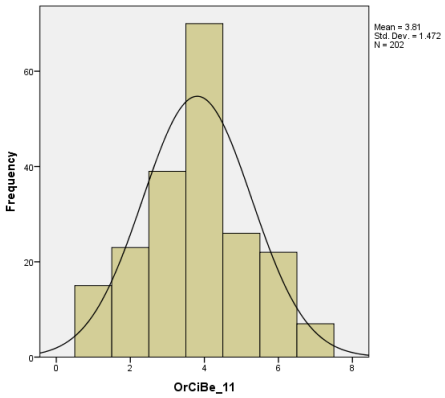

Normal Q-Q Plot of OrCiBe_9
Expected Normal
Observed Value

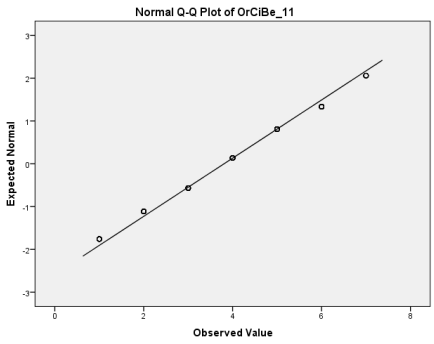

127
169
72
191
150
OrCiBe_9

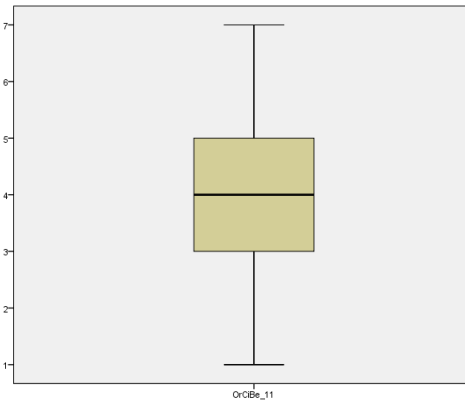

Mean = 5.01
Std. Dev. = 1.22
N = 202
Frequency
OrCiBe_10

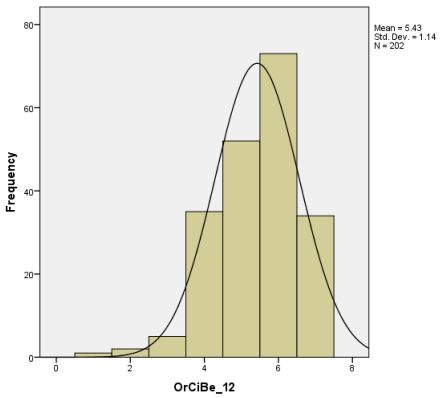

Normal Q-Q Plot of OrCiBe_10
Expected Normal
Observed Value

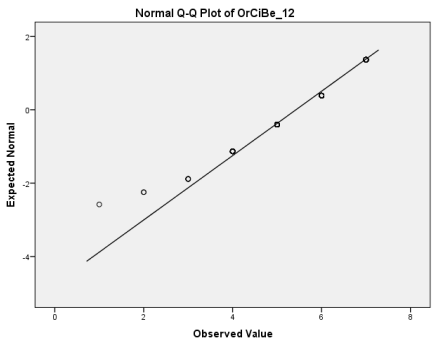

OrCiBe_10

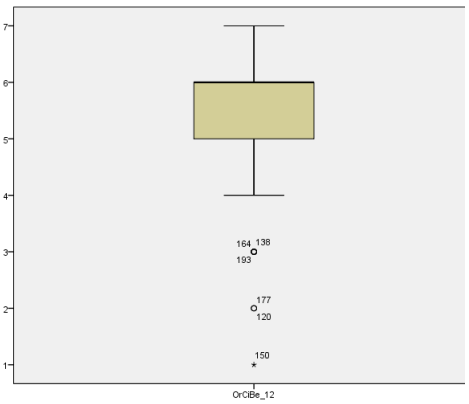

Mean = 3.81
Std. Dev. = 1.472
N = 202
Frequency
OrCiBe_11


Normal Q-Q Plot of OrCiBe_11
Expected Normal
Observed Value


OrCiBe_11


Mean = 5.43
Std. Dev. = 1.14
N = 202
Frequency
OrCiBe_12


Normal Q-Q Plot of OrCiBe_12
Expected Normal
Observed Value


164
138
193
177
120
150
OrCiBe_12

Outliers

Observed variable	Outliers (Scale item / SPSS ID Respondent)*
Experience	*1=163, 85; 2=190,31,95,135; 3=157,146,160*
OveJob_2	*1=190,114,200,135; 2=146,163,177; 3=134,188,144,196; 5=201,181,179; 6=172,185,189; 7=66,70,196*
OveJob_5	*1=2; 2=160; 3=120,135,167,85*
OveJob_7r	*1=21,108,85; 2=103,185,190,120; 3=193,163,168*
JobDes_1	*1=85,190; 2=58,71,135,120; 3=157,146,160*
JobEna_3	*1=108,166,154,200; 2=190,191,182; 7=198,136,142,99*
OpePro_2	*1=197,191,193; 6=128,23,160,24*
Com_2r	*1=135,154,85,190; 2=31,120,160,176; 3=119,117,182*
Com_3r	*1=22; 2=120,135,176; 3=124,62,167,190*
Com_4r	*1=135,163,154,190; 2=169,176,168;770,72,137,198*
Col_2	*1=114,135,163; 2=167,176,146;7=70,198*
Col_4	*1=22,78,190; 2=120,167,135,176; 3=177,125,124*
Col_5	*1=190,135,157,22; 2=47,120,97,176; 3=125,124,160*
Col_7	*1=114,147,163; 2=171,176,182,196; 7=134,200,155,192*
Col_8	*1=171,182,176,188; 2=149,144,177; 7=108,107,198,166*
Too_1	*1=154,176,190,194 ;2=193,191,200; 7=161,84,189,197*
CusSat_1	*7=19,155,166,97*
Pay_3r	*1=66,114,76,134; 2=190,196,182; 7=116,12,38,188*
Pay_4	*1=2,85,58,114; 2=175,160,200; 7=116,79,178,188*
Ben_1r	*1=176,163,177,170; 6=202,150,155; 7=30,85,107*
ConRew_3r	*1=135,166,154,195; 2=104,144,155,69; 7=152,198,142,158*
OpCaDe_2	*1=163, 85; 2=190,31,95,135; 3=157,146,160*
Pro_3	*1=134,182,155,190; 6=189,197,136; 7=66,72,152,53*
RolAmb_4	*2=120; 3=102,117,193,199*
OrgCom_1	*1=62,114,85,135; 2=160,196; 3=109,43,120*
OrgCom_10	*1=135,157,144,169; 6=189,162,160; 7=47,66,107*
OrgCom_11r	*1=157,169,166,197; 6=174,167,176; 7=189,198,116,191*
OrgCom_12r	*1=141,166,164,200;6=137,136,148;7=66,76,198,17*
OrCiBe_2	*1=66,108,85,114; 2=127,124,147; 7=142,197,137,178*
OrCiBe_9	*1=150; 2=72,127,169,191*
OrCiBe_12	*1=150; 2=120,177; 3=193,138,164*
Pro_3	*1=134,182,155,190; 6=189,197,136; 7=66,72,152,53*
RolAmb_4	*2=120; 3=102,117,193,199*

Table 14. Outliers.

* These outliers are not corrected to the original ID of respondents. SPSS tends to restart with counting. However, the outliers of interests for this paper are already converted in the main text.

Skewness and Kurtosis

Observed variable	Skewness	Kurtosis	Observed variable	Skewness	Kurtosis
Gender	2,802	5,910	OpCaDe_3	-0,659	0,169
Age	-0,108	-0,639	Pro_1r	0,270	-0,190
Experience	0,962	0,528	Pro_2	0,081	-0,510
OveJob_1	-0,716	0,282	Pro_3	-0,057	0,852
OveJob_2	-0,220	-0,551	Pro_4	0,095	-0,439
OveJob_3	-0,987	0,954	RolAmb_1	-0,336	-0,365
OveJob_4	-0,071	-0,500	RolAmb_2	-0,978	0,496
OveJob_5	-0,273	1,865	RolAmb_3	-0,697	0,927
OveJob_6	0,025	-0,397	RolAmb_4	-0,728	0,800
OveJob_7r	-0,442	-0,873	RolAmb_5	-0,575	-0,039
JobDes_1	-1,013	1,511	RolAmb_6	-0,391	0,224
JobDes_2	-0,702	0,996	RolCon_1	-0,235	-0,471
JobDes_3	-0,978	0,582	RolCon_2	0,034	-0,534
JobDes_4	-0,914	1,340	RolCon_3	0,035	-0,631
EmpEmp_1	-0,403	-0,742	RolCon_4	-0,343	-0,498
EmpEmp_2	-0,205	-0,331	RolCon_5	0,085	-0,631
EmpEmp_3	-0,375	-0,435	RolCon_6	-0,060	-0,825
EmpEmp_4r	-0,267	-0,719	RolCon_7	0,075	-0,643
JobEna_1	-0,804	0,280	RolCon_8	0,319	-0,513
JobEna_2r	-0,116	-1,000	OrgCom_1	-1,107	2,351
JobEna_3	-0,084	-0,983	OrgCom_2	0,018	-0,641
SupSup_1	-0,611	-0,063	OrgCom_3r	-0,213	-0,446
SupSup_2	-0,555	-0,457	OrgCom_4	0,403	-0,344
SupSup_3	-0,557	-0,145	OrgCom_5	-0,108	0,396
SupSup_4	-0,250	-0,829	OrgCom_6	-0,117	-0,385
SupSup_5	-0,352	-0,515	OrgCom_7r	0,458	-0,283
OpePro_1r	0,331	-0,315	OrgCom_8	-0,155	-0,324
OpePro_2	0,426	-0,306	OrgCom_9r	0,018	-0,451
OpePro_3r	0,309	-0,103	OrgCom_10	-0,070	-0,088
OpePro_4r	0,144	0,000	OrgCom_11r	0,026	-0,158
Com_1	-0,116	-0,674	OrgCom_12r	0,252	0,245
Com_2r	-0,028	-0,666	OrgCom_13	-0,380	-0,327
Com_3r	-0,062	-0,450	OrgCom_14	0,234	-0,334
Com_4r	-0,399	-0,059	OrgCom_15r	-0,475	-0,126
Col_1	-1,075	1,156	OrCiBe_1	-0,734	1,861
Col_2	-0,790	1,157	OrCiBe_2	-0,551	1,097
Col_3	-0,322	0,429	OrCiBe_3	-0,578	0,631
Col_4	-0,702	0,258	OrCiBe_4r	0,007	-0,588
Col_5	-0,481	0,087	OrCiBe_5r	-0,502	-0,398
Col_6	-0,820	0,474	OrCiBe_6r	-0,214	-0,800
Col_7	-0,946	1,263	OrCiBe_7	-0,314	0,092
Col_8	-0,997	1,382	OrCiBe_8	-0,381	-0,511
Col_9	-0,720	0,398	OrCiBe_9	-0,402	-0,117
SelCri_1	0,061	0,396	OrCiBe_10	-0,328	-0,057
Too_1	-0,528	-0,132	OrCiBe_11	0,026	-0,335
Too_2	-0,475	-0,148	OrCiBe_12	-0,669	0,578
CusSat_1	-0,170	-0,555	OpCaDe_3	-0,659	0,169
FaiTre_1	-0,452	-0,222	Pro_1r	0,270	-0,190
Pay_1	0,054	-0,977	Pro_2	0,081	-0,510
Pay_2r	0,965	0,191	Pro_3	-0,057	0,852
Pay_3r	0,113	-0,847	Pro_4	0,095	-0,439
Pay_4	0,605	-0,054	RolAmb_1	-0,336	-0,365
Ben_1r	-0,219	-0,383	RolAmb_2	-0,978	0,496
Ben_2	-0,156	0,444	RolAmb_3	-0,697	0,927
Ben_3	-0,284	1,077	RolAmb_4	-0,728	0,800
Ben_4r	0,078	0,271	RolAmb_5	-0,575	-0,039
ConRew_1	-0,094	-0,585	RolAmb_6	-0,391	0,224
ConRew_2r	-0,229	-0,548	RolCon_1	-0,235	-0,471
ConRew_3r	0,450	0,195	RolCon_2	0,034	-0,534
ConRew_4r	0,194	-0,561	RolCon_3	0,035	-0,631
OpCaDe_1	-0,875	0,578	RolCon_4	-0,343	-0,498
OpCaDe_2	-0,475	0,199	RolCon_5	0,085	-0,631

Table 15. Skewness and Kurtosis.

Appendix D Exploratory Factor Analysis

Type of assessment

Type of assessment	Test	Threshold / Criteria
Number of factors	Eigenvalues & Scree plot	Number of factors above the 1.0
Sampling adequacy	Kaiser-Meyer-Olkin (KMO)	Marvelous: >.90 Meritorious: >.80 Middling: >.70 Mediocre: >.60 Miserable: >.50 Unacceptable: <.50
Sampling adequacy	Bartlett's test of Sphericity	Sig. <0.05 is desired
Sampling adequacy	Communalities	>.50 is desired. >.40 is acceptable.
Convergent validity	Factor coefficient	±.30 to ±.40 is acceptable. ±.50 or greater is desired.
Convergent validity	Factor coefficient based on sample size. Sample size is 202 therefore factor coefficient should be above 0.40.	Sample size: **200 (N=202)** — Factor coefficient: **>0.40**
Discriminant validity	Examine pattern matrix	Cross loadings should be more than <0.20 difference.
Nomological validity	Examine factor scale items whether it accurately represent prior research.	n.a.
Face validity	Examine factor scale items whether it accurately represents the concept of interest.	n.a.
Reliability	Cronbach's α	>.60 to .70 minimal acceptable. >0.70 is desired.

Table 16. EFA assessment proposed by Fabrigar et al. (1999) and Hair et al. (2010).

Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of Sphericity

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.855
Bartlett's Test of Sphericity	Approx. Chi-Square	2659.640
	df	210
	Sig.	.000

Figure 7. KMO and Bartlett's Test.

Communalities

Communalities[a]

	Initial	Extraction
OveJob_1	.696	.714
OveJob_3	.673	.888
OveJob_4	.441	.411
JobDes_1	.503	.524
JobDes_2	.570	.718
JobDes_3	.496	.548
SupSup_1	.603	.595
SupSup_2	.769	.892
SupSup_3	.559	.547
SupSup_5	.648	.670
Col_6	.707	.717
Col_7	.815	.848
Col_8	.837	.905
Col_9	.749	.754
Pay_4	.317	.311
Pro_1r	.443	.455
Pro_2	.569	.578
Pro_4	.645	.812
OrgCom_2	.689	.720
OrgCom_3r	.461	.415
OrgCom_6	.664	.764

Extraction Method: Maximum Likelihood.
a. One or more communalitiy estimates greater than 1 were encountered during iterations. The resulting solution should be interpreted with caution.
Figure 8. Communalities.

Number of factors

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.404	35.259	35.259	6.896	32.837	32.837	4.458
2	2.824	13.446	48.704	2.594	12.352	45.189	4.972
3	1.786	8.506	57.210	1.364	6.497	51.686	3.888
4	1.596	7.600	64.810	1.390	6.619	58.306	3.460
5	1.217	5.795	70.604	.884	4.209	62.515	4.613
6	1.013	4.826	75.430	.659	3.138	65.652	4.522
7	.687	3.272	78.703				
8	.589	2.807	81.510				
9	.526	2.507	84.016				
10	.472	2.247	86.264				
11	.443	2.107	88.371				
12	.400	1.904	90.275				
13	.369	1.759	92.034				
14	.338	1.609	93.643				
15	.290	1.383	95.027				
16	.254	1.211	96.238				
17	.199	.945	97.184				
18	.188	.897	98.081				
19	.154	.732	98.813				
20	.146	.694	99.507				
21	.104	.493	100.000				

Extraction Method: Maximum Likelihood.

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

Figure 9. The number of factors extracted.

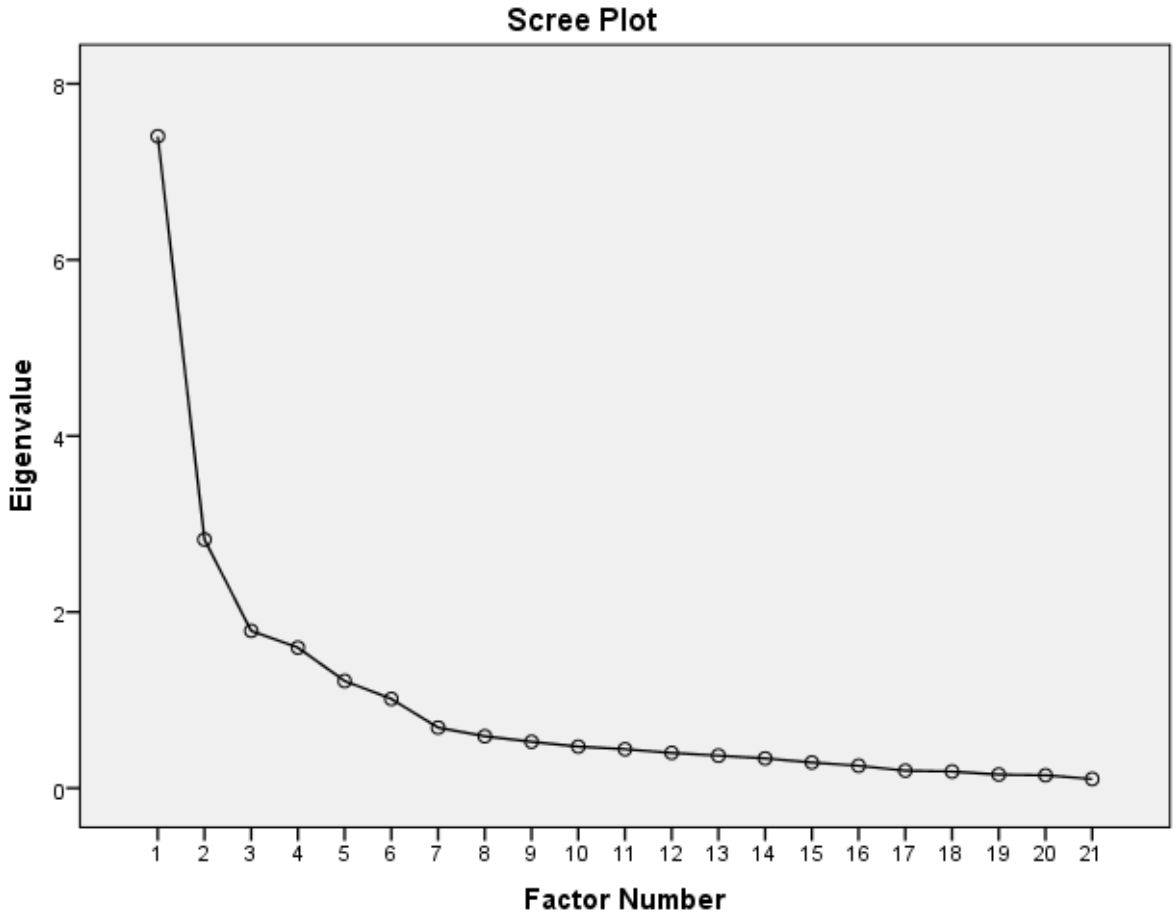


Figure 10. The Scree plot.

Factor correlation matrix

Factor Correlation Matrix

Factor	1	2	3	4	5	6
1	1.000	.402	.158	.372	.347	.308
2	.402	1.000	.466	.348	.529	.461
3	.158	.466	1.000	.177	.406	.594
4	.372	.348	.177	1.000	.468	.364
5	.347	.529	.406	.468	1.000	.552
6	.308	.461	.594	.364	.552	1.000

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.

Figure 11The factor correlation matrix.

Pattern Matrix

Pattern Matrix[a]

	Factor					
	1	2	3	4	5	6
Cronbach's Alpha	**0,936**	**0,883**	**0,795**	**0,779**	**0,81**	**0,81**
Col_8	**.944**	-.005	.096	.069	-.015	-.102
Col_7	**.931**	-.037	.030	.062	-.025	-.057
Col_6	**.861**	.016	-.092	-.061	.027	.006
Col_9	**.816**	.040	-.070	-.003	-.019	.152
SupSup_2	-.034	**.942**	.056	-.011	-.004	-.013
SupSup_5	.111	**.812**	-.095	-.138	.077	-.006
SupSup_3	-.008	**.735**	-.027	.144	-.090	.014
SupSup_1	-.056	**.732**	.073	.079	.016	-.030
Pro_4	.032	-.097	**.923**	.033	-.021	.029
Pro_2	.063	.109	**.640**	-.153	.030	.090
Pay_4	-.071	-.032	**.611**	.136	-.145	-.033
Pro_1r	-.050	.085	**.608**	-.074	.112	-.016
JobDes_2	.002	.010	-.066	**.805**	.001	.121
JobDes_3	.066	.074	.015	**.697**	-.055	.023
JobDes_1	.017	-.044	.091	**.588**	.252	-.069
OveJob_3	-.021	-.058	-.068	.104	**.997**	-.095
OveJob_1	.007	.090	.062	.062	**.707**	.039
OveJob_4	-.014	.031	-.039	-.090	**.534**	.228
OrgCom_6	.017	-.071	.018	-.054	.080	**.863**
OrgCom_2	.060	-.002	.048	.011	.034	**.776**
OrgCom_3r	-.111	.057	.009	.214	-.091	**.589**

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Figure 12. The pattern matrix.

Appendix E Confirmatory Factor Analysis

Type of assessment

Type of assessment	Test	Threshold / Criteria
Common method bias	Harman's single-factor test – Unconstrained and unrotated EFA	Common Methods Bias is present when a single factor is extracted. Common Methods Bias is present when the first factor explains more than 50% of the total variance.
Common method bias	Harman's single-factor test – Constrained to a single factor and unrotated EFA	Common Methods Bias is present when the factor explains more than 50% of the total variance.
Common method bias	CFA with a single factor testing model fit	Common Methods Bias is present when CFA provides similar model fit as measurement model.
Common method bias	Unmeasured latent method factor technique (also known as Common Latent Factor analysis).	Comparing fit indices, standardized item loadings and its significance values with basic CFA. If substantial different than the unmeasured latent method should be retained in the CFA.
Model Fit Indices	Chi-square / degrees of freedom (χ^2/df) χ^2 p-value Root-mean-square error of approximation (RMSEA) RMSEA p-value Standardized RMR (SRMR) Comparative fit index (CFI) Parsimony fit index (PNFI)	≤2, ≤3 (traditional) >.05 <.07 >.05 <.08 >.95 >.50
Convergent validity	Standardized item loadings	>.70 is desired >.50 is acceptable
Convergent validity	Average variance extracted	>.50 is acceptable
Convergent validity	Construct reliability (CR)	>.70 is desired >.60 and <.70 is acceptable
Discriminant validity	Examine construct correlation matrix	The variance-extracted estimates should be greater than the squared correlation estimates.
Discriminant validity	Examine construct correlation matrix	Square root of AVE greater than inter-construct correlations.

Table 17. CFA assessment proposed by Hooper et al. (2008) and Hair et al. (2010).

Common Method Bias

Harman's single-factor test – Unconstrained and unrotated EFA

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.404	35.259	35.259	6.896	32.837	**32.837**
2	2.824	13.446	48.704	2.594	12.352	45.189
3	1.786	8.506	57.210	1.364	6.497	51.686
4	1.596	7.600	64.810	1.390	6.619	58.306
5	1.217	5.795	70.604	.884	4.209	62.515
6	1.013	4.826	75.430	.659	3.138	65.652
7	.687	3.272	78.703			
8	.589	2.807	81.510			
9	.526	2.507	84.016			
10	.472	2.247	86.264			
11	.443	2.107	88.371			
12	.400	1.904	90.275			
13	.369	1.759	92.034			
14	.338	1.609	93.643			
15	.290	1.383	95.027			
16	.254	1.211	96.238			
17	.199	.945	97.184			
18	.188	.897	98.081			
19	.154	.732	98.813			
20	.146	.694	99.507			
21	.104	.493	100.000			

Extraction Method: Maximum Likelihood.

Figure 13. The Harman's single-factor test – unconstrained and unrotated EFA.

The Harman's single-factor test did not result in a single factor. Furthermore, the first factor does not exceed the threshold of .50 (Podsakoff et al., 2003) or the even more strict threshold of .40 (2016).

Harman's single-factor test – Constrained to a single factor and unrotated EFA

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.404	35.259	35.259	6.749	32.139	32.139
2	2.824	13.446	48.704			
3	1.786	8.506	57.210			
4	1.596	7.600	64.810			
5	1.217	5.795	70.604			
6	1.013	4.826	75.430			
7	.687	3.272	78.703			
8	.589	2.807	81.510			
9	.526	2.507	84.016			
10	.472	2.247	86.264			
11	.443	2.107	88.371			
12	.400	1.904	90.275			
13	.369	1.759	92.034			
14	.338	1.609	93.643			
15	.290	1.383	95.027			
16	.254	1.211	96.238			
17	.199	.945	97.184			
18	.188	.897	98.081			
19	.154	.732	98.813			
20	.146	.694	99.507			
21	.104	.493	100.000			

Extraction Method: Maximum Likelihood.

Figure 14. The Harman's single-factor test – constrained and unrotated EFA.

The Harman's single-factor test did not exceed the threshold of .50.

Harman's single-factor CFA with a single factor testing model fit

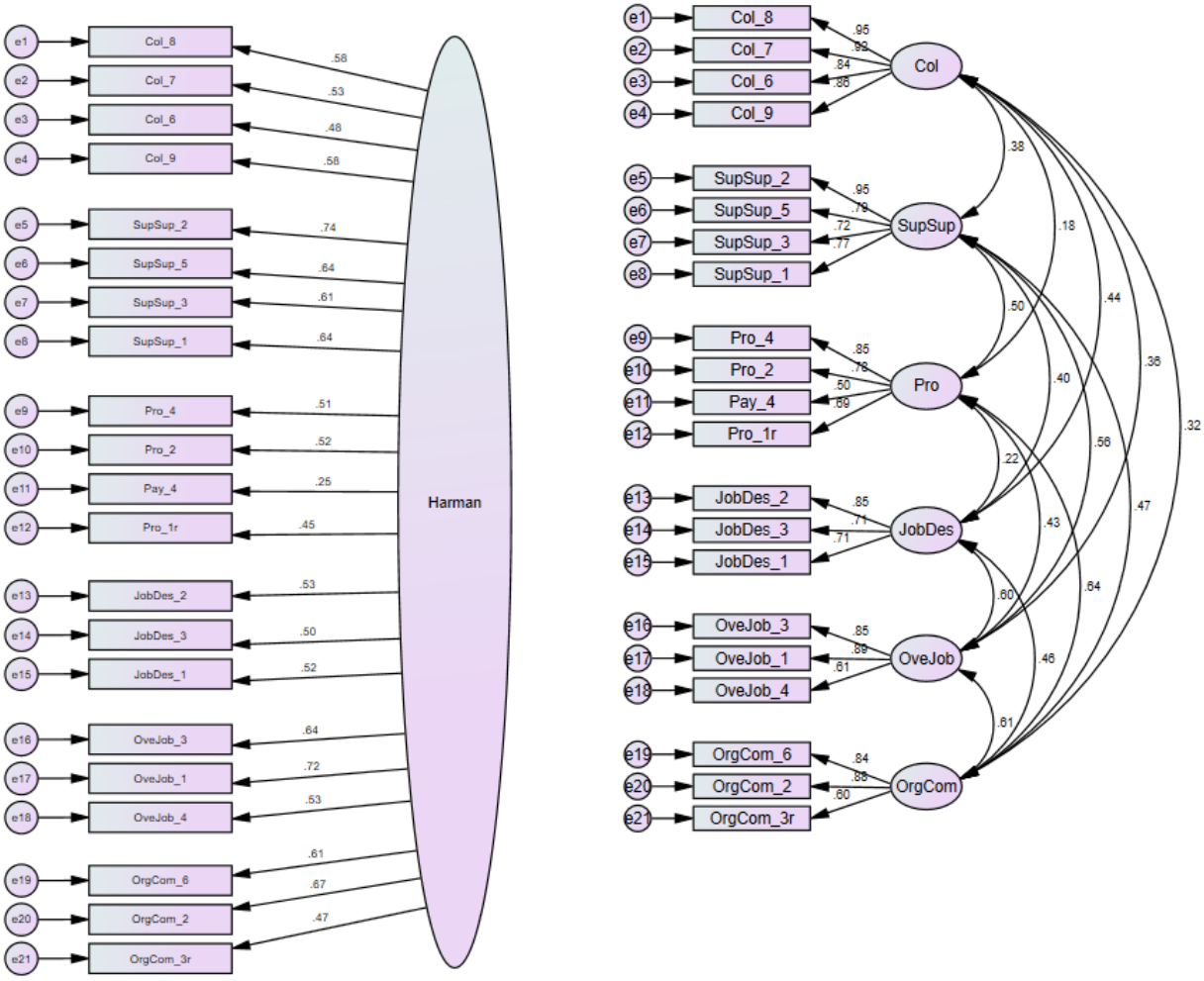


Figure 15. The comparison of the Harman's single-factor CFA with a single factor with the original CFA.

Model fit indices	Criteria	Harman's single factor CFA	Original CFA	DIfference
χ^2/df	≤2	8.306	**1.738**	*6.568*
χ^2 p-value	>.05	0.001	0.001	0,000
RMSEA	<.07	0.191	**0.061**	*0,130*
RMSEA p-value	>.05	0.001	**0.065**	*-0,064*
SRMR	<.08	0.140	**0.051**	*0,089*
CFI	>.95	0.460	**0.950**	*-0,490*
PNFI	>.50	0.389	**0.738**	*-0,349*

Table 18. model fit indices for the unmodified Model A3.
Note. **Bold** values indicate obtained value exceeded the recommend value. *Italic* refers to difference in value.

The Harman's single factor CFA does not produce similar model fit.

Unmeasured latent method factor technique

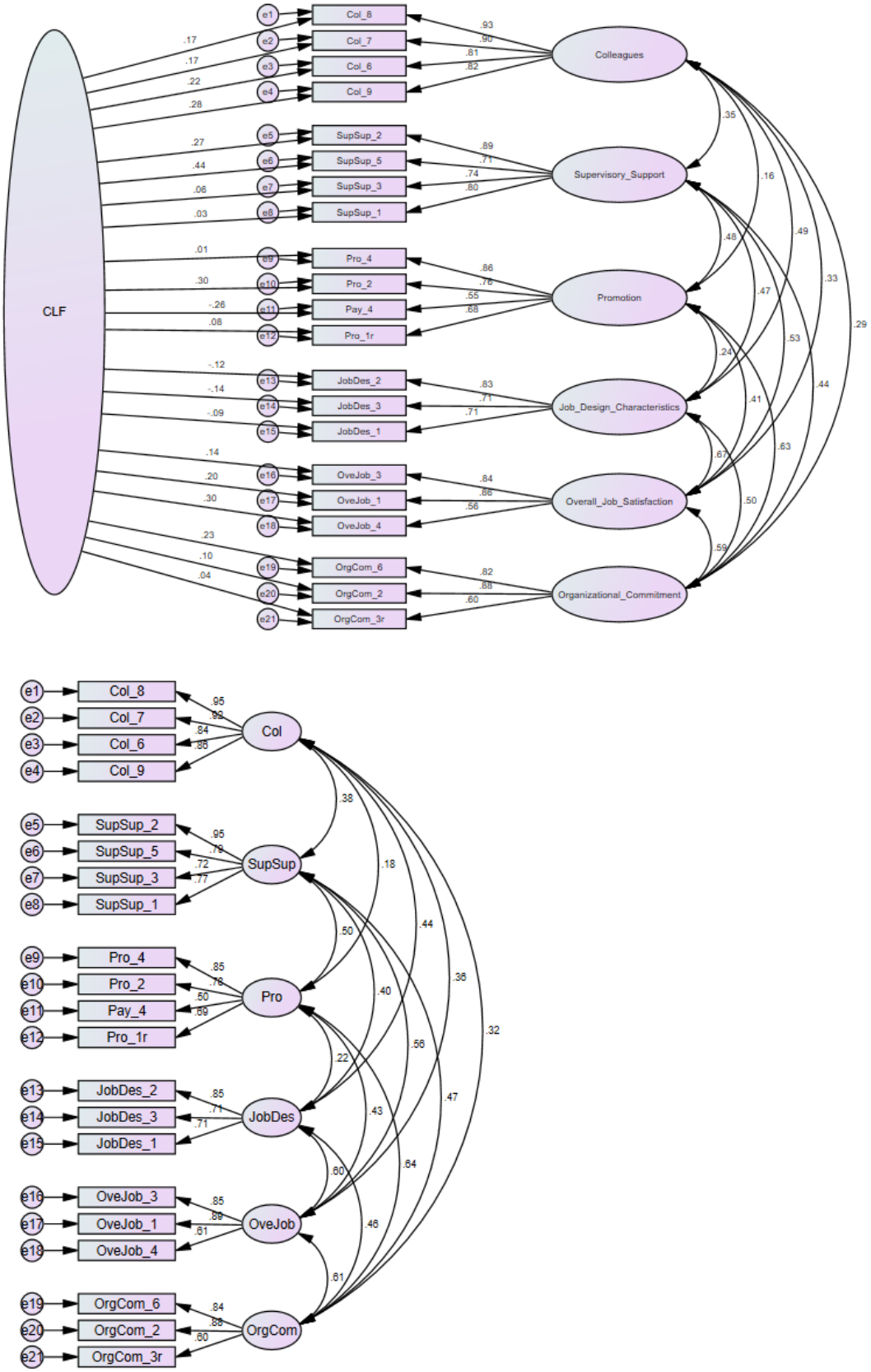


Figure 16. The comparison of the unmeasured latent method factor CFA with the original CFA.

Model fit indices	Criteria	Harman's single factor CFA	Original CFA	Difference
χ^2/df	≤2	8.306	**1.738**	-0.091
χ^2 p-value	>.05	0.001	0.001	0.000
RMSEA	<.07	0.191	**0.061**	-0.004
RMSEA p-value	>.05	0.001	**0.065**	*0.119*
SRMR	<.08	0.140	**0.051**	-0.008
CFI	>.95	0.460	**0.950**	0.011
PNFI	>.50	0.389	**0.738**	-0.076

Table 19. model fit indices for the unmodified Model A3.
Note. Bold values indicate obtained value exceeded the recommend value. *Italic* refers to difference in value.

Except for the RMSEA p-value all values are within reach of the original CFA.

		Standardized estimates (β)		
Observed variable	Latent variable	Harman's single factor CFA	Original CFA	Difference
Col_6	→ Colleagues	.809 ***	.836 ***	-.027
Col_7	→ Colleagues	.903 ***	.919 ***	-.016
Col_8	→ Colleagues	.933 ***	.948 ***	-.015
Col_9	→ Colleagues	.816 n.s.	.855 n.s.	-.039
SupSup_1	→ Supervisory support	.804 ***	.771 ***	.033
SupSup_2	→ Supervisory support	.894 ***	.946 ***	-.052
SupSup_3	→ Supervisory support	.739 n.s.	.721 n.s.	.018
SupSup_5	→ Supervisory support	.708 ***	.790 ***	-.082
Pro_1r	→ Promotion	.676 ***	.687 ***	-.011
Pro_2	→ Promotion	.758 ***	.778 ***	-.02
Pro_4	→ Promotion	.862 ***	.851 ***	.011
Pay_4	→ Promotion	.555 n.s.	.504 n.s.	.051
JobDes_1	→ Job Design Characteristics	.714 ***	.713 ***	.001
JobDes_2	→ Job Design Characteristics	.828 ***	.851 ***	-.023
JobDes_3	→ Job Design Characteristics	.709 n.s.	.714 n.s.	-.005
OveJob_1	→ Overall Job Satisfaction	.863 n.s.	.893 n.s.	-.03
OveJob_3	→ Overall Job Satisfaction	.842 ***	.847 ***	-.005
OveJob_4	→ Overall Job Satisfaction	.560 ***	.606 ***	-.046
OrgCom_2	→ Organizational Commitment	.879 n.s.	.883 n.s.	-.004
OrgCom_3r	→ Organizational Commitment	.601 ***	.600 ***	.001
OrgCom_6	→ Organizational Commitment	.818 ***	.841 ***	-.023

Table 20. Effects and significance of relationships.
Note. * p< 0.05, ** p<0.01, *** p< 0.001. n.s. = non-significant.

There are no substantial differences. The biggest difference can be found for SupSup_5 (-.082).

Appendix F Structural Model

Type of assessment

Type of assessment	Test	Threshold
Estimation	Variance explained *(R^2)*	n.a.
Estimation	Standardized regression weights (β)	>.50 is desired, >.10 and >0.30 is acceptable. <.10 is minimum
Estimation	*P*-Value	*** P < 0.001 ** P < 0.01 * P < 0.05 Non-significant (n.s.) > 0.05
Model Fit Indices	Chi-square / degrees of freedom (χ^2/df) χ^2 p-value Root-mean-square error of approximation (RMSEA) RMSEA p-value Standardized RMR (SRMR) Comparative fit index (CFI) Parsimony fit index (PNFI)	≤2, ≤3 (traditional) >.05 <.07 >.05 <.08 >.95 >.50
Statistical power	Post-Hoc: 1. Daniel Soper (https://www.danielsoper.com/statcalc/) 2. G*Power	>.80 is desired

Table 21. Structural model assessment proposed by Cohen (1992), Hooper et al. (2008) and Hair et al. (2010).

Unmodified Model A3

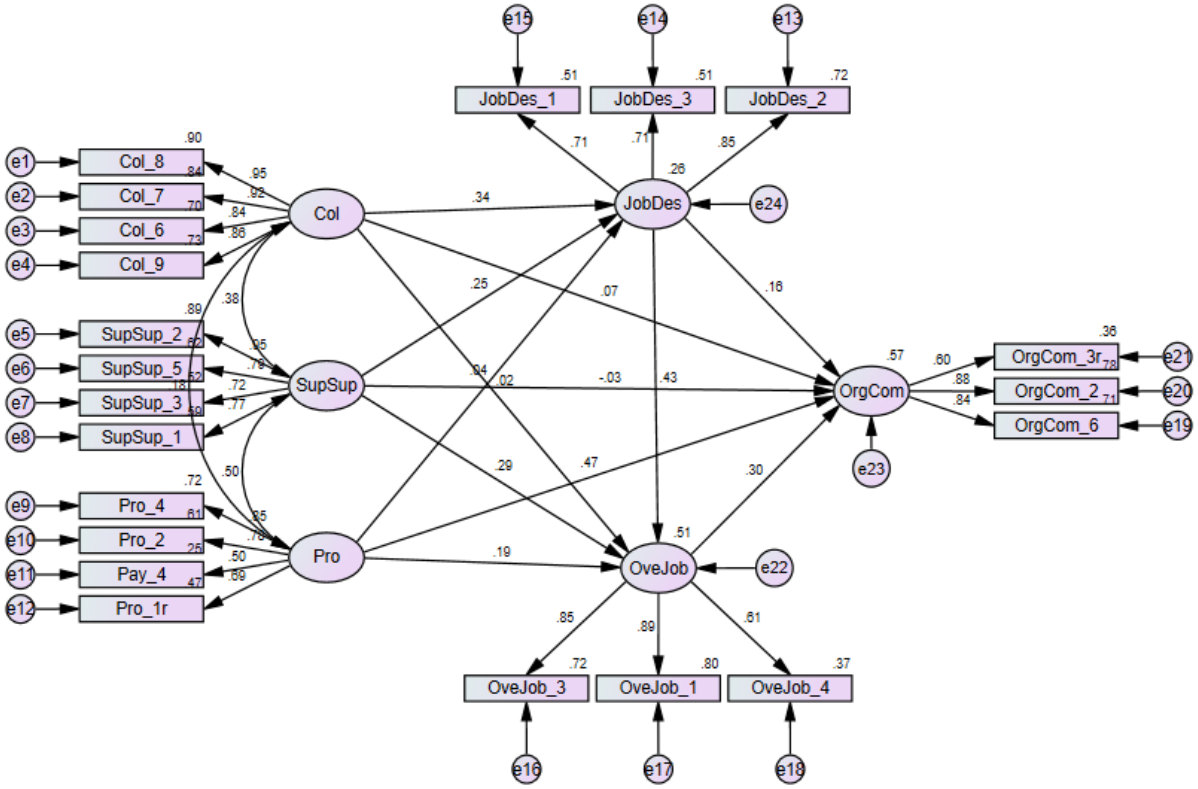


Figure 17. The unmodified model A3.

Model fit indices	Criteria	Model A3
χ^2	-	302.437
df	-	174
χ^2/df	≤2	**1.738**
χ^2 p-value	>.05	0.000
RMSEA	<.07	**0.061**
RMSEA p-value	>.05	**0.065**
SRMR	<.08	**0.051**
CFI	>.95	**0.950**
PNFI	>.50	**0.738**

Table 22. model fit indices for the unmodified Model A3.
Note. Bold values indicate obtained value exceeded the recommend value

Post-hoc statistical power analysis

	R^2				f^2				Power*			
Observed Variables	Model H	Model A1	Model A2	Model A3	Model H	Model A1	Model A2	Model A3	Model H	Model A1	Model A2	Model A3
Job Design Characteristics				0.26				0.35				1.00
Overall Job Satisfaction	0.73	0.56	0.51	0.51	2.70	1.27	1.04	1.04	1.00	1.00	1.00	1.00
Organizational Commitment	0.42	0.43	0.57	0.56	0.72	0.75	1.33	1.27	1.00	1.00	1.00	1.00

Table 23. Post-hoc analysis
* G*Power 3.1.9.2 and https://www.danielsoper.com/statcalc/calculator.aspx?id=9 were used to calculate power.

Appendix G Formative or Reflective measures?

A critical review on scale items.

Observed variable	Question	Formative/Reflective
Col_6	The people in my team are willing to help each other, even if it means doing something outside their usual duties.	Reflective
Col_7	If I got in difficulties at work I know my colleagues would try and help me out.	Reflective
Col_8	I can trust the people I work with to lend me a hand if I needed it.	Reflective
Col_9	Most of my colleagues can be relied upon to do as they say they will do.	Reflective
SupSup_1	Helping you develop your skills.	**Formative**
SupSup_2	Giving you recognition for work well done.	**Formative**
SupSup_3	Keeping you informed of things pertaining to your work.	**Formative**
SupSup_5	Listening to your concerns.	**Formative**
Pro_4	I am satisfied with my chance for promotion.	Reflective
Pro_2	Those who do well on the job stand a fair chance of being promoted.	Reflective
Pay_4	I feel satisfied with my chance for salary increases.	Reflective
Pro_1r	There is really too little chance for promotion on my job (R).	Reflective
JobDes_1	I use many different skills and talents.	**Formative**
JobDes_2	I accomplish things that others consider to be very important.	**Formative**
JobDes_3	I am responsible for several tasks from beginning to end.	**Formative**
OveJob_1	Overall, I am quite satisfied with my job.	Reflective
OveJob_3	I like my job.	Reflective
OveJob_4	There are no fundamental things I dislike about my job.	Reflective
OrgCom_6	I am proud to tell others that I am part of this organization.	Reflective
OrgCom_2	I talk up this organization to my friends as a great organization to work for.	Reflective
OrgCom_3r	I feel very little loyalty to this organization (R).	Reflective
Col_6	The people in my team are willing to help each other, even if it means doing something outside their usual duties.	Reflective
Col_7	If I got in difficulties at work I know my colleagues would try and help me out.	Reflective
Col_8	I can trust the people I work with to lend me a hand if I needed it.	Reflective
Col_9	Most of my colleagues can be relied upon to do as they say they will do.	Reflective

Table 24. A critical review on the scales on formative or reflective measures.