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The motivational paradise: How extreme contextual differences fail to emerge in extreme motivational differences

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Abstract

This master thesis investigates the accuracy and precision of survey-based instruments. We will present previous research by highlighting the limitations of survey-based research with a five-point Likert scale and the problems with interpreting such results. To investigate these relations, we have chosen to use motivational theory and the Job Characteristics Model as a case.

Our study has a cross-sectional research design and we have chosen an explorative approach in light of measurement theory. Our sample is divided in three; the first sample was a self-rating sample (N= 399), which consists of participants within 18 different occupations or work contexts. These participants were recruited to conduct a motivational survey. The second sample was an external evaluation panel (N= 30), which conducted a survey rating of the work contexts on several job characteristics. Our third sample (N=27) participated in in-depth interviews to complement the quantitative information. The majority of these participants were also a part of the self-rating sample.

The 18 occupations were selected to reflect an undisputably broad range of situations that should elicit different types of motivation such as intrinsic and extrinsic motivation. Since the different work contexts presumptively seem to be extremely different, one would assume that the motivational configuration should be quite different. However, according to our findings, the differences between the motivational configurations for the occupations were small. Our results indicate that the differences in measurements of motivation are minimal between the 18 occupations. From the results it is therefore difficult to distinguish between the motivational state for a priest or a sex seller. Because of this, one might argue that what is measured is not necessarily what we believe is measured. Consequently, one may argue that there is a need to consider qualitative data in order to understand and interpret quantitative data.

1. Introduction

Measurement is a well-known and complex concept, which is associated with high standards regarding reliability and accuracy (Mari, Maul, Irribarra & Wilson, 2017). When measuring constructs in quantitative studies, a questionnaire with a five-point Likert scale is often applied (Maul, 2017; Jin & Wang, 2014). We therefore want to investigate whether the Likert scale instrument is able to measure motivation. This because, we question the sensitivity of the Likert scale instrument, and have therefore chosen the Job Characteristics Model (JCM) as it proposes that changes in job characteristics should lead to changes in motivation.

We want to test measurement of motivational theory due to the prevalent use of job-satisfaction surveys (Spector, 1997) and the intended practical implications for HR-practices (Kanfer, Frese & Johnson, 2017). Hackman and Oldham (1975) has developed the JCM theory and it proposes that intrinsic motivation is supposed to occur as a result of job characteristics. According to Hackman and Oldham, the most effective way to motivate individuals is by having an optimal design of jobs. Further, the authors propose that three psychological states need to be present when designing jobs in order to increase intrinsic motivation (Hackman & Oldham, 1975). Because JCM propose that different job characteristics impact intrinsic motivation differently, we have chosen to use JCM as a case to problematize self-report surveys as a measurement tool.

We believe that investigating statistical problems with survey-based instruments when measuring motivation is of practical relevance for practitioners in order for them to impact motivation. Several theories on motivation have been developed over the last decades (Kanfer, 1992) and it seems to be that intrinsic and extrinsic motivation impact employee's motivation differently (Kuvaas et al., 2017; Deci, Olafsen & Ryan, 2017). Most employers therefore aim to increase employees´ intrinsic and extrinsic motivation in order to affect work performance positively (Kuvaas, Buch, Weibel, Dysvik, & Nerstad, 2017).

Consequently, we have chosen 18 different occupations, as they reflect a broad range of situations that should elicit different types of motivation. These work contexts have been thoroughly chosen based on being as extreme as possible to see the measurement instruments ability to capture the different contexts. One should believe that professional soldiers due to job characteristics such as high risk and high pay, would have low intrinsic motivation. Whereas priests presumably are very intrinsically motivated due to high relatedness to others and the ideological values inherent in the occupation. Accordingly, based on contextual differences, one would assume that e.g. priests would score quite differently from professional soldiers on a motivational survey.

Even though the work contexts should elicit different types of motivation, we doubt that a Likert scale detects these changes. This because, motivation can be argued to be a latent construct and is not observable (Kanfer, 1990). Since motivation is observed indirectly through individual's behaviour (Heckhausen, 1991), we are sceptical of the general inherent complexity of the construct. Moreover, we are doubtful to what extent individuals are able to report what they experience and if they are not: what does the questionnaire actually measure? Accordingly, we question the possibility to detect differences in individual's motivation through a self-report survey.

Our suspicion has been raised due to that the Likert scale has been argued to have shortcomings in situations that consist of underlying processes (Drasgow, Chernyshenko & Stark 2010). Researchers has also highlighted that psychological science have had difficulties from the beginning with "attempting to measure phenomena not easily amenable to quantitative representation" (Slaney et al., 2010, p.247). Therefore some of the limitations in regards to the use of questionnaires mentioned in the literature are the questionnaires´ validity and accuracy (Maul, 2017), semantic algorithms (Arnulf, Larsen, Martinsen, & Bong, 2014), the impact of earlier responses (Feldman & Lynch, 1988), and the impact of different response styles (Jin & Wang, 2014).

To enlighten the potential problems with measurement of motivation, we believe that there is a need for an explorative approach. To our knowledge there has not previously been conducted a comparison of differing motivation across work contexts to investigate statistical problems with measurement. Our research question is the following;

To which extent will prevalent measures of motivation reflect contextual conditions as predicted by the Job Characteristic Model (JCM)?

2. Theory

Based on the research question presented above, the following chapter entails what measurement of motivation is, and how the JCM argues that job characteristics impact motivation. Further, we will present theory regarding individual' s ability to report their situational context.

2.1 Measurement theory

Measurement is a complex and challenging concept and has been defined in numerous ways. Mari et al. argues that some conventionality in the definition of measurement is unavoidable (Mari et al., 2017). This because, the measurement-definition should have the same meaning across contexts, in order to be a measurement. If one measures a wall in a building, a meter should be a meter despite if you are measuring the wall in a castle or in an apartment.

Since a definition of measurement should be conventional and narrow, it still remains difficult to find a definition that is perceived to be acceptable of the concept. Despite this, a common denominator between the definitions is that the output of a measurement procedure needs to be numerical. However, it is important to emphasize that not just any numerical assignment can count as a measurement. The concept is associated with several high standards when it comes to dependability, accuracy, and trustworthiness in both scientific and lay contexts (Mari et al., 2017). Of all the varying definitions of measurement, measurement can be defined as the “process of assigning numbers to represent qualities” (Campbell, 1920, p.267).

The definition above is one example of a broad definition of the concept, which might lead to the problem of being too permissive. Thus including all activities that produce numerical results might reduce the number of virtues associated with the measurement process (Mari et al., 2017). In regards to measurement in general, there has been many debates as to what should be valid objects of measurement (Jensen, 2000). In the following paragraphs, measurement theory and possible problems with measurement will be presented.

Measurement through questionnaires is argued to be an easy method to both understand and use. This type of instrument has been utilized in nearly every area of psychological science and in other applied research fields. Despite the questionnaires popularity, newer research questions the traditional methods of validation of these instruments. The measurement instruments most frequently used, is through e.g. reliability coefficients, factor analyses and correlations between scores on the instrument and other variables (Maul, 2017). The critique targets the lack of “potentially falsifying tests of relevant hypotheses commonly expected in scientific research” (Maul, 2017, p. 1).

Maul illustrates this problem with survey validation based on three studies designed to test the limits of the validation strategies (Maul, 2017). More specifically, three different surveys included items deliberately constructed to be difficult or impossible for respondents to interpret (Maul, 2017). In the first study, the items resembled items from a previously developed study assessing growth mind-sets. In statements such as “you have a certain amount of intelligence, and you can't really do much to change it”, the word “intelligence” was replaced with a nonsense word: “Gavagai” (Maul, 2017, p. 3). The participants were asked to record their response on a 6-option Likert-type scale. In the second study, constructed to totally lack semantics, consisted of items of stock lorem ipsum text (only gibberish). In this study one also wanted to explore the impact of increasing the number of response options. The third study, presented the participants with items with no item stems at all (only consisting of item numbers) (Maul, 2017).

In regards to the results of these three studies, one would assume that the poorly constructed items measured and how they operated should result in low reliability estimates. This because, the validation methods applied should reflect the highest standards of academic rigor. The validation methods should be expected to provide a clear falsification of the hypothesis that these items create a valid measure of anything at all. This because, if the validation procedures fail to falsify this hypothesis, it is difficult to argue that these procedures can be relied upon as potentially falsifying tests of validity in other situations (Maul, 2017). However, the results showed that the reliability estimates where quite high, meaning that the validation procedures applied gave favourable-appearing results. Consequently, leading to positive evidence of validity, one might therefore question under what conditions these procedures would not return encouraging results (Maul, 2017). Some scholars might argue that the positive-seeming outcomes can in part be explained by outcomes of covariance-based statistical procedures can be impacted by any causal factor that gets individuals to respond to items in the same manner. Such effects may be generated in three ways; by psychological processes related to the content of the items, how individuals respond to the items, and to the particular item format (Maul, 2017). Further, Arnulf et al. (2014) have argued that minor rephrasing's of a single question can generate similar responses and that semantic algorithms can explain 60-86% of the variance in the response patterns (Arnulf et al., 2014).

Based on these findings, one may argue that the favourable-looking results of covariance-based statistical procedures are due to respondents answering consistently unless there is a clear reason not to do so. Since individuals make fairly consistent choices, whereas different respondents consistently make different choices, this will impact the data patterns. The inter-individual variation and intra-individual consistency will produce data patterns that include high estimates of internal consistency and fit to a latent variable. Hence, such effects may be argued to not be positive evidence for the validity of an instrument as a measure of a psychological attribute (Maul, 2017).

Additionally, increasing the number of response options from two to six, yielding in inflated reliability estimates, may also impact the more-favourable looking results of covariance-based statistical procedures. This means, that using a larger number of response categories is not indicative of higher levels of measurement precision, but is rather due to the inflation of variance (Maul, 2017). Maul argues that the above-mentioned concerns may be related to deeper confusion regarding the relationship between psychological theory, modes of assessment, and strategies for data analysis. Such effects might be wiped out by giving greater attention to definitional clarity and the a priori articulation of testable theories (Maul, 2017).

Consequently, it seems to be reasonable to be suspicious of the accuracy, precision and coherence of survey-based instruments when research is entailing unclear or poorly formulated definitions and theories regarding the relationship to the results of the proposed measurement procedures (Maul, 2017). The arguments represented above seems to be of relevance to be explored further, because the self-report surveys are well-represented in many areas despite the fact that they have little modification despite continued advances in psychometrics, validation theory, and, field-specific psychological theories (Maul, 2017).

2.1.1 The possibility of predicting survey responses

Research has investigated the possibility that survey response patterns can be predicted by using information that is available before a survey is conducted. Through the semantic theory of survey response (STSR) it is shown that the quantitative variation in surveys is not caused by social variables on the respondents but is instead due to a semantic overlap among the items. More specifically, when a respondent has chosen a value on a survey question, the value for the next items are to some degree given. The semantic linkage between items therefore allows for predictions of survey responses. These predictions are explained by the use of language processing algorithms that calculate the semantic similarity among items in surveys. These algorithms were shown to explain 60-86% of the variance in the response patterns. Since semantic algorithms are able to calculate these relationships before the respondents are asked, one may therefore argue that it raises concern about the data collection for some surveys (Arnulf et al., 2014).

However, the psychometric theory, claim that some semantic overlap is necessary in survey-based research, but the semantic overlap should not be across scales. This is due to what happens when semantic overlap continues across scales, because automatic correlation with other scales appears to lead to contamination. Although researchers argue that exploratory and confirmatory factor analysis prevents contamination, Arnulf et al. (2014) argue that the semantic relationship still holds. One can therefore argue that this raises suspicion to the empirical objectivity of such techniques (Arnulf et al., 2014).

2.1.2 Measurement problems with Likert scales

In relation to measurement problematics in self-report surveys, it is natural to assess the way surveys record responses. The responses are frequently recorded on a five-point Likert scale ranging from “strongly disagree” to “strongly agree”

(Jin & Wang, 2014), developed by Rensis Likert (1932). Despite its frequency, the Likert scale is critiqued for having shortcomings in situations where individuals are asked to make introspective judgements (Drasgow et al., 2010).

Another problem with Likert scales is how respondents choose values on the scale. Research shows that individuals tend to have consistent response styles, where one of the seven response styles detected is midpoint responding. Midpoint responding is when individuals only choose the middle values (Jin & Wang, 2014). Cooper (2010) argues that it is important to be aware of different response style due to the inference it has on the correlations between the test scores. Further, in regards to mid-point responding, some researchers question whether the middle values actually measure a reasonable measurement (Drasgow et al., 2010).

Moreover, Feldman and Lynch, also acknowledge another problem with the Likert scale. They suggest that earlier responses might impact how individuals respond to surveys, because former responses are used as a basis for the next responses. This is prevalent where the former responses are available and in cases that are perceived to be more diagnostic than other accessible inputs (Feldman & Lynch, 1988). In regards to making decisions, it is argued that individuals are prone to using the cognitive bias anchoring (Tversky & Kahneman, 1974). One may therefore argue that the Likert scale may work as a starting point for the estimations individuals do when answering a survey and therefore may result in systematic errors.

2.2 Theory on motivation

In order to measure motivation with a Likert scale we have chosen JCM as an example of a theory that argues that motivation should transform according to the context.

2.2.1 Job Characteristic Model

The JCM model has been developed by Hackman and Oldham (1975) and has been a dominant model for work design over two decades (Kanfer et al., 2017). Generally, work design models have been criticized for not including social context and interpersonal relationships (Grant & Parker, 2009). Further, JCM specifically, has been criticized for its narrowness and neglect of social characteristics and context of work that derive from interdependent work roles (Gagné & Deci, 2005). Besides the critics, research has emphasized the practical implications of JCM and acknowledges that organizations tailor their HR policies according to the theory (Kuvaas & Dysvik, 2009a). Because of the relevance for practitioners and researchers, we want to use this theory as a case in our thesis.

JCM primarily focus on various sources in which the job can be designed to make the work itself enriching and challenging. From this assumption, a model was developed containing specific work characteristics and psychological processes needed to increase motivation and employee satisfaction (Locke & Latham, 2004). According to Self-Determination Theory, intrinsic motivation is one type of motivation that transforms according to context (Deci & Ryan, 1985). The type of motivation is based on different underlying regulatory processes and experiences and proposes that job characteristics will promote autonomous motivation. Therefore, SDT differs between jobs that are viewed as interesting and challenging versus monotone jobs (Gagné & Deci, 2005).

Similarly to the SDT, the underlying philosophy for JCM is that the change of job design gives the ability to transform intrinsic motivation according to context and will result in several positive outcomes. Subsequently, when three psychological states are present, individuals will achieve high internal motivation, high work satisfaction, high quality performance in addition to low absenteeism and turnover. The three psychological states are that 1) individuals experience meaningfulness of the work, 2) experience responsibility for the outcomes of the work, and 3) knowledge of the results of the work activities. According to the theory it is emphasized that in order to accomplish positive outcomes, all the three psychological states must be present (Hackman & Oldham, 1975).

In order to accomplish these three psychological states, five “core” job dimensions need to be present; 1) skill variety, 2) task identity, 3) task significance, 4) autonomy and 5) feedback. However, it is not the case that all individuals will be affected by a job with high motivating potential in the same way. The JCM model suggests that individuals have different experiences to jobs that are high in motivating potential, because of different need for “growth need strength" (Hackman & Oldham, 1976). Individuals, which are high on "growth need strength", will react more positively to a job that has high MPS. However, individuals that score low on "growth need strength" will need more time to be ready to respond enthusiastically to a job that is more complex and challenging (Hackman & Oldham, 1976).

Psychological States

In the JCM, the three psychological states are the causal core of the model. According to Hackman and Oldham, employees experience positive affect to the amount that one learns (knowledge of results) that one has personally (experienced responsibility) performed well on a task that he or she cares about (experienced meaningfulness) (Hackman & Oldham, 1976). When an individual experience positive affect in this way, the experience will be reinforcing and hence become an incentive for trying to perform well in the future. When an individual does not perform well, the individual will not experience the reinforcing state of affairs. Rather one will try harder in the future to regain the rewards that good performance produces. The self-perpetuating cycle of positive work motivation will continue until the individual no longer values the internal rewards that derive from high performance (Hackman & Oldham, 1976). Further, Hackman and Oldham argue that when all the psychological states are present, the self-generated motivation should be at the highest.

Job Dimensions

As mentioned previously there are five core job dimensions; skill variety, task identity, task significance, autonomy and feedback. According to Hackman and Oldham, skill variety is the degree of variety in activities that a job requires to carry out the work. This therefore involves different skills and talents of the individual performing the job (Hackman & Oldham, 1976). The second job dimension, task identity, explains the degree a job requires an individual to complete a "whole" piece of work. Further, when a job has valuable impact on others, the job has high task significance. These three core dimensions, skill variety, task identity and task significance, will help enhance that individuals experience meaningfulness of the work. Further, when it comes to task identity, individuals will find work more meaningful when one is responsible for a complete product rather than a small part of it. In accordance with task significance, individual's meaningfulness will be enhanced if one´s understands that the results of one´s work may have a significant effect on the well-being of other people (Hackman & Oldham, 1976).

The fourth job dimension Hackman and Oldham emphasize is autonomy. When an individual experience high levels of autonomy; the individual has significant amount of freedom, independence and the job allows one to determine its own work schedule and work procedures. According to them, autonomy is important for individuals in order to experience increased responsibility for work outcomes (Hackman & Oldham, 1975). Additionally, the JCM theory emphasize that autonomy is related to the individual's own efforts, initiatives, and decisions rather than using a manual of job procedures or getting instructions from the manager (Hackman & Oldham, 1976).

According to Hackman and Oldham, it is important for individuals to receive feedback on their effectiveness of their performance. Feedback is the last job dimension, which result in an increase in experienced knowledge on performance and results (Hackman & Oldham, 1976; 1975).

Based on the job dimensions and the job characteristics, Hackman and Oldham compute an overall “motivating potential” of a job. The Motivating Potential Score (MPS) is the highest when the job is high on autonomy, feedback and when at least one of the three job dimensions that lead to experienced meaningfulness is present. It is also expected that jobs with high motivating potential will have more positive outcomes than jobs with low scores on MPS. A job with high MPS, will have outcomes such as high internal work motivation, high quality work performance, job satisfaction and low absenteeism and turnover (Hackman & Oldham, 1976).

2.2.2 Self-attribution theory

As explained above, motivation can change according to what job characteristics a context entail. However, individuals may have difficulties with reporting their motivation through measurement, due to self-attribution theory and false consciousness. While JCM focus on job design (Hackman & Oldham, 1976), attribution theory focus on how humans spontaneously places causes for outcomes of different events that happens around them (Kelley, 1973). It is assumed that all individuals are rational and try to interpret events due to a preference for determining why individuals behave as they do. Therefore, individual's attributions are considered to be caused by a wish to master the environment and the desire to have control over one's own actions (Weiner, 1985).

In an attempt to have control over one´s actions, it is suggested that individuals assign causes to their behaviours and use internal and external cues to explain the environment around them (Weiner, 1985). In the covariance model by Kelley, it is proposed that individuals look for similarities (covariations) across various situations for events occurring. The model therefore categorizes actions to have either internal or external causes (Kelley, 1973). Other researchers have discovered that a lack of control often leads to individuals becoming passive. These precursors lead to Bem´s launch of self-attribution theory, or self-perception theory (Maier & Seligman, 1976).

While the attribution theory suggests how individuals assign causes to their behaviours, self-attribution theory suggests that people understand their attitudes based on their interpretations of their behaviour. One would mainly assume that an individual's personality and attitude is what drives their behaviour or actions. However, the self-attribution theory states otherwise. The underlying idea behind the self-attribution theory is that individuals attitude in some situations are developed based on observing their own behaviour and concluding what attitudes must have caused it. Hence, in situations where the emotional response is ambiguous (we do not know how we feel) or in situations where individuals do not have any previous attitude because one has not encountered that experience previously, individuals use external cues (observations of their own environment) in order to explain their own inner state (Bem, 1972). In this manner, individuals are functioning as external observers, who rely on external signs to understand one's own personal states (Bem, 1972).

The theory therefore proposes a counter-intuitive explanation to what causes action or behaviour. The traditional view on attitude is that an individual's attitude and personality are drivers for action and not the other way around. Bem therefore proposes that individual’s actions are mainly socially influenced and not produced by an individual's free will, as one would expect (Bem, 1972). We believe that the self-attribution theory might be of relevance for our research question, because of the way individuals perceive their own behaviour and attitude is thought to have an impact on their motivation and how they would conduct a motivational survey.

False consciousness

In relations to self-attribution theory, it is imperative to mention the term false consciousness, because it deals with how people identify the causes of events. Originally the term was used to describe effects of ideological domination (Jost, 2006), explaining that some individuals hold conceptions that are not in their favour and therefore are victims of conservative thinking or false consciousness (Augoustinos, 1999). Later the term has been used about groups of people that do not understand their own best (Jost, 1995).

Based on this concept, we believe it might be plausible that psychological processes impact people answering a questionnaire. Individuals may rationalize and engage in justifications of the status quo resulting in falsifying reports of their own motivation. We therefore wonder whether it is possible that we enjoy what we like because we try to justify why we are doing or why w enjoy something? (e.g. If I am doing this, it must be because I like doing it). This argument might be related to what the self-perception theory suggests happens when a person´s internal awareness of their attitude or emotions are weak (Bem, 1972). In such situations individuals understand their awareness through their overt behaviour, e.g. since I ate the whole pizza, “I guess I'm hungrier than I first thought” (Bem, 1972, p. 5).

2.3 Situational strength may impact response answers

Further, it is also possible that the survey itself may condition people to certain responses. From a personality psychology perspective, individual variables such as traits and motives have an impact on behaviour. While from a social psychology perspective, situational variables such as environmental cues, social norms or other individuals have an impact on an individual's behaviour (Mischel & Shoda, 1998).

In order to better understand person-situation interactions, researchers argue that situations have different strengths, meaning that situations can moderate the relationship between personality and behaviour (Snyder & Ickes, 1985). It can therefore provide an explanation to when person and situation variables are more probable to influence behaviour (Mischel, 1973). A strong situation might obtain an agreement among individuals in how the situation can be interpreted, and therefore the situation elicits reduced behavioural variance (Meyer, Dalal, & Hermida, 2010). This means that individuals will behave more in the same manner. A strong situation is structured in a way that provides individuals with salient cues on how to behave appropriately in that situation. On the other hand, in a weak situation, individuals tend to behave less homogenous (Snyder & Ickes, 1985).

Additionally, other I-O literature have found that different occupations have different situational strength, which work as a moderator on the relationship between conscientiousness and job performance. A meta-analysis investigating this relationship found that strong situations were characterized by high constraints (e.g. surgeons), whereas weak situations were characterized by low constraints (e.g. writers). Furthermore, the results indicated that strong situations are those that by definition result in negative consequences and therefore restrict behaviour to avoid failure (Meyer, Dalal, & Bonaccio, 2009). One might therefore question whether some of the occupations in our sample have strong situations that entail so strong situational cues so that individuals are not able to avoid acting on them. Hence, we wonder whether what we measure is due to the situation or due to the person itself?

Previous research has shown that methodological design elicits different situational strength, e.g. lab experiments are found to create strong situations (Meyer et al., 2010). Moreover, literature state that researchers aim to create strong situations, which presents the subjects with cues indicating the most socially desirable way to respond (Snyder & Ickes, 1985). We therefore believe this is of relevance because of the potential impact situational strength may have on the respondents when conducting a survey, as well as the various situational strengths the occupations may have in our sample.

3. Methodology

We have chosen to use a mixed methods research with a cross-sectional research design (Bryman & Bell, 2015). Our study contains three parts; the first part entails a self-report questionnaire which was distributed to 18 work contexts, the second part entails a external evaluation panel rating the 18 work contexts and lastly we conducted in-depth interviews with at least one individual from each of the work contexts. This chapter covers information regarding the questionnaire and measures, information about the samples, in-depth qualitative interviews, and description of procedures and data collection.

3.1 Questionnaire[1] and measures

According to Bryman & Bell, surveys are regarded as one of the most acknowledged methods of collecting data (Bryman & Bell, 2015). Since we want to investigate the value of motivational measurement, we have chosen to focus on the motivational measures that are most commonly used in motivational research. The questionnaire consists of 50 items divided on eight different measures, which all are derived from previous studies with high reliability and validity. All items were measured using a five-point Likert response scale ranging from 1 (strongly disagree) to 5 (strongly agree). The survey was made in a web-based survey tool called Qualtrics where we developed two versions of the survey; one in Norwegian and one in English with the same items. The items were for both versions retrieved from previous research. The measures in the questionnaire are the following;

Intrinsic motivation (IM)

Intrinsic motivation is defined as to "perform an activity for itself, in order to experience the pleasure and satisfaction inherent in the activity" (Kuvaas, 2006b, p. 369). IM was assessed with a six-item scale that was developed by Cameron and Pierce (1994) which Kuvaas (2006b) and later Kuvaas and Dysvik (2009a) used further. One example item is 'My job is so interesting that it is a motivation in itself'.

[1] A list of all items can be found in appendix 1.

Social- and economic exchange (SE, EE)

"Social exchanges entail unspecified obligations such that when an individual does another party a favour, there is an expectation of some future return. When the favour will be returned, and in what form, is often unclear" (Shore, Tetrick, Lynch, & Barksdale, 2006, p. 839). In contrast economic exchange is transactions between parties that are not long term or on-going but encompass the financial oriented interactions in a relationship (Shore et al., 2006). SE and EE were measured by a 17-item scale developed and validated by Shore et al. (2006). We used the 16-items that Kuvaas and Dysvik had previously used in a Norwegian context (Kuvaas & Dysvik, 2009b). SE is measured with seven items and EE is measured by eight items such as "The tasks that I do at work are enjoyable". One example of EE is "I do not care what my organisation does for me in the long run, only what it does right now".

Organisational citizenship behaviour (OCB)

OCB is defined as the "individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system, and that in aggregate promotes the effective functioning of the organisation" (Organ, 1988, p.4). The construct is assessed with a seven-item measure validated by Van Dyne and LePine (1998), and used in a Norwegian context by Kuvaas and Dysvik (2009a). An example is "I volunteer to do things for my work group".

Affective organisational commitment (AOC)

AOC can be defined as "an affective or emotional attachment to the organisation such that the strongly committed individuals identifies with, is involved in, and enjoys membership in, the organisation" (Meyer & Allen, 1997, p. 2). AOC is measured with six out of eight items developed by Allen and Meyer (1990). We used the same six items as Kuvaas (2006b) with one minor change. The commitment focus was on the organisation rather than the unit as the original items from Allen and Meyer (1990). Sample items include "I really feel as if this organisation´s problems are my own". In the Norwegian survey the items for AOC were translated by ourselves. The items were first translated to Norwegian and then back to English.

Turnover intention (TI)

TI may be defined as "behavioural intent to leave an organisation" (Kuvaas, 2006a, p. 509). The five items was retrieved from Kuvaas (2006a). One example is "I will probably look for a new job in the next year".

Self-rated work quality and work effort (SWQ, SWE)

Work performance is assessed by self-rating work quality and work effort. SWQ is defined as "quality of the output" (Dysvik & Kuvaas, 2011, p. 371), while SWE is defined as "the amount of energy an individual put into his/her job" (Buch, Kuvaas & Dysvik, 2012, p. 726). Kuvaas and Dysvik (2009a) developed the ten-item scale based on a six-item self-report scale developed by Kuvaas (2006b). The self-report items by Kuvaas (2006b) are based on prior measures (Brockner, Tyler, & Cooper-Schneider, 1992; May, Korczynski & Frenkel, 2002). An example is 'I intentionally expend a great deal of effort in carrying out my job''.

3.2 In-depth qualitative interviews (N= 27)

To gain more knowledge about the different occupations, we conducted in-depth interviews with at least one individual from each work-context. These interviews were "conversation based", and we only used the interview guide as guidance. The conversations were conducted face-to-face, through phone calls and over email. The interviews[2] focused on the respondent's perception of their occupation in regards to motivational measures and salary. The interviews were performed in Norwegian and the majority of the participants were a part of the self-rating sample.

3.3 Participants

The sample of this thesis is divided in three parts; self-rating sample (N =399), external evaluation panel (N= 30) and thirdly a qualitative interview sample (N= 27).

3.3.1 Self-rating sample[3]

The first sample is the self-rating sample, which consists of 18 occupations. Some occupations were excluded because of lack of enough respondents (e.g. organized

[2] The interview guide is presented in appendix 2.
[3] A descprition of each work context and the average monthly salary is presented in appendix 3.

criminals, bloggers, celebrities and nurse assistants). Because we wanted to include participants from context diverging occupations we had to approach different milieus. Some environments were more secluded than others e.g. sex sellers, street magazine sellers and profession soldiers. In our attempt to achieve the suitable participants, we were in contact with 1051 individuals within these work contexts. Out of these, we distributed the survey to 504 potential respondents. The response rate was calculated based on the 504 respondents, and were 79,1 % (399 responses), which gives a very good level (Bryman & Bell, 2015).

Table 1, presented in the appendices, describe the occupations in the self-rating sample and we have included the average monthly salary. Since our sample contains of some sensitive and secluded occupations, we have chosen to not collect personal data from the respondents. Table 2, presented below, shows the 18 work contexts and the distribution of number of participants in each work context and the gender distribution.

Work contexts	Number of participants	Male	Female	Unknown
Lawyers	20	13	7	0
Farmers	39	8	4	27
Dancers	20	2	10	8
Photographers	21	10	11	0
Volunteers	20	3	3	14
Professional Athletes	20	6	8	6
Artists	22	10	12	0
Priests	38	23	11	4
Sex-sellers	22	1	12	9
Bouncers	17	3	0	14
Doctors	22	7	6	9
Stockbrokers	20	16	2	2
CEO´s	24	17	7	0
Car salesmen	23	22	1	0
Morticians	21	13	8	0
Street magazine sellers	18	13	5	0
Professional soldiers	19	10	6	3
Cleaning staff	13	4	8	1
Total	**399**	**181**	**121**	**97**

Table 2 – Number of participants and distribution of gender for each work context.

3.3.2 External evaluation panel

Table 3 shows the distribution of the participants (N=30) in the external evaluation panel. The panel was collected through convenience sample, trying to include individuals from different age groups, gender and backgrounds. This panel conducted a survey, rating the occupations on different dimensions in order to assess the compliance of the panel.

External evaluation panel		
Male	Female	Age
14	16	17-62

Table 3 - Distribution of age and gender in the external evaluation panel.

3.3.3 Qualitative interview sample

The qualitative interview sample (N=27) consisted of at least one participant from each of the 18 occupations. All of these participants were a part of the self-rating panel (N=399).

Qualitative interview sample		
Male	Female	Age
11	7	20-60

Table 4 - Distribution of age and gender in the qualitative interview sample.

3.4 Procedure and data collection[4]

Before distributing the survey, we made sure that the survey worked as expected by asking 11 participants (with different backgrounds, age and gender) to conduct a pilot study. Afterwards, we distributed a web-based survey to 466 participants and a hard-copy to 38 participants. All respondents were provided with a cover letter[5] explaining that participation in the study was voluntary, anonymous, and that they had the opportunity to withdraw at any given time. They were also told that their data only got connected to their own occupation. In order to increase the response rate, we sent out a reminder to those who had not responded after one week.

To recruit participants to the self-rating sample (N=399) non-probability sampling techniques was used. It was 50 participants that were recruited through convenience sampling and 39 respondents were recruited through snowball sampling (Bryman & Bell, 2015). We contacted potential participants through

[4] Before starting to collect data, our thesis proposal was approved by Norwegian Centre for Research Data (NSD), see appendix 4.
[5] Cover letter is presented in appendix 5.

email, SMS, Twitter, Facebook, LinkedIn, homepages, "interest groups" on Facebook, and phone calls.

For some of the occupations it was not possible to get in touch with enough respondents through previously mentioned means. This was; sex sellers, street-magazine sellers, cleaning-staff and bouncers. Some of the cleaning-staff (N=8) and bouncers (N=2) were approached face-to-face at different locations such as hotels, Universities as well as bars. In regards to the street magazine sellers, we approached them on the streets and at the =OSLO office. In order to get them to participate in the study, we bought one magazine (100 NOK per magazine) from 17 out of 18 of the participants. The sex sellers were contacted through help centres, personal homepages, SMS and "interest groups" on Facebook (e.g. "No to criminalization of prostitution"). Six of these participants was contacted through one help centre were the employees assisted in the session of conducting the survey. The employees received an information letter with instructions on how to conduct the session. These participants received a "goodie bag" for conducting the survey and were a part of a lottery with a price of 500 NOK.

3.5 Independent rating of the external evaluation panel (N=30)

The occupations can be categorised into different parts of a social scale according to the characteristics associated with a job. Some of the contexts might be associated with high social status and prestige, while some can be considered as taboo and low status. An external evaluation panel conducted a survey where they ranked all the occupations on eight different characteristics (See table 5). The questionnaire was made in Qualtrics and provided in Norwegian[6].

[6] Items for external evaluation panel in Norwegian, see appendix 6.

Work characteristics	Descriptions	Items[7]
Work-life balance	Work-life balance is defined as "an individual´s ability to meet their work and family commitments" (Delecta, 2011, p.187).	Do you think this profession enables a person to balance work and leisure?
Pay	We define pay as the fixed regular payment an employee receives as a compensation for the employment. According to Statistics Norway the average monthly salary in Norway is 43,300 NOK. A low salary is defined below this level and a high salary is above 74 500 NOK (Statistics Norway, 2018).	Do you think this profession would be a nice profession if money had not been a problem?
Power	Power is defined as "the absolute capacity of an individual agent to influence the behaviour or attitudes of one or more designated target persons at a given point in time"(Yukl, 2013, p.189).	Do you think this profession contains the ability to execute power?
Safety/danger	We define safety/danger as the level of safety at work based on the risks of being injured at work.	Do you think this profession contains any risk / danger?
Prestige	Prestige or socioeconomic status is defined as "…the educational attainment, by occupational standing, by social class, by income (or poverty), by wealth, by tangible possession…" (Hauser & Warren, 2012, p.1).	I would have bragged about this profession to others.
Task significance	Is defined as "the degree to which the job has a substantial impact on the lives or work of other people, whether in the immediate organisation or in the external environment" (Hackman & Oldham, 1975, p. 161).	In general, how significant or important is the job? That is, are the results of the person's work likely to significantly affect the lives or well-being of other people?
Skill Variety	The degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talent of the employee (Hackman & Oldham, 1975, p.161).	How much *variety* is there in the job? That is, to what extent does the job require a person to do many different things at work, using a variety of his or her skills and talents?

[7] The items for task significance, skill variety, autonomy, task identity, and feedback is developed by Hackman & Oldham (1975, p. 161-162). The items for work-life balance, pay, power, safety/danger, prestige and relatedness is developed by ourselves.

Relatedness	Relatedness is defined as “both experiencing others as responsive and sensitive and being able to be responsive and sensitive to them – that is, feeling connected and involved with others and having a sense of belonging” (Ryan & Deci, 2017, p.86).	Do you think this profession contains meaningful relationships with other people?
Autonomy	Autonomy is defined as "the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out" (Hackman & Oldham, 1975, p. 162).	The job gives a person considerable opportunity for independence and freedom in how he or she does the work.
Task identity	Task identity is defined as "the degree to which the job requires completion of a "whole" and identifiable piece of work; that is, doing a job from beginning to end with a visible outcome" (Hackman & Oldham, 1975, p. 162).	The job provides a person with the chance to finish completely any work he or she starts.
Feedback	Feedback is defined as "the degree to which carrying out the work activities required by the job results in the individual obtaining direct and clear information about the effectiveness of his or her performance" (Hackman & Oldham, 1976, p. 258).	To what extent does doing the *job itself, managers or co-workers or cooperation with others* provide the person with information about his or her work performance?

Table 5 - Descriptions of job characteristics and items for the external evaluation panel.

3.6 Data analysis

In this thesis we wanted to see whether motivational measures vary consistently in different contexts as the JCM theory predicts. Additionally, we wanted to investigate if the external evaluation panel are compliant with the JCM theory. The data analysis was conducted in several steps in SPSS. Firstly we performed a descriptive analysis and afterwards a one-way analysis of variance with post-hoc. The Pearson correlation analysis and the intraclass correlation (ICC) were performed to look at the compliance between the ratings of the self-report sample and the external evaluation panel. Lastly, qualitative data was conducted to give additional information and interpretation of the other analysis conducted. The following results are presented to some degree in an unconventional manner due to our explorative approach.

4. Results

4.1 Descriptive statistics - Small variation in self-rating responses[8]

The first boxplot (figure 1) shows the relations between contexts and measurement. Figure 1 presents the distribution of scores on the eight motivational measures for the self-rating sample (N=399). The results indicate that there are variations between the work contexts, however there is a strong tendency for measures of the motivational constructs to cluster around the average. The respondents do not seem to use the whole scale for reporting levels of motivation, except for a few individuals. Hence, it seems as if the motivational states tend to take on similar levels for all respondents. Consequently, the differences in work contexts do not appear in a striking way as differences in motivational levels, as one might assume from JCM.

In regards to intrinsic motivation and work effort, the figure shows that these two motivational variables will be skewed to the right. In addition, there are 48 outliers in total, however none of these outliers are extreme points (Pallant, 2010). Furthermore, two of the outliers (235 and 228) are repeated on four or five of the motivational measures, indicating that they are not measurement errors, whilst the other outliers can be seen as measurement errors.

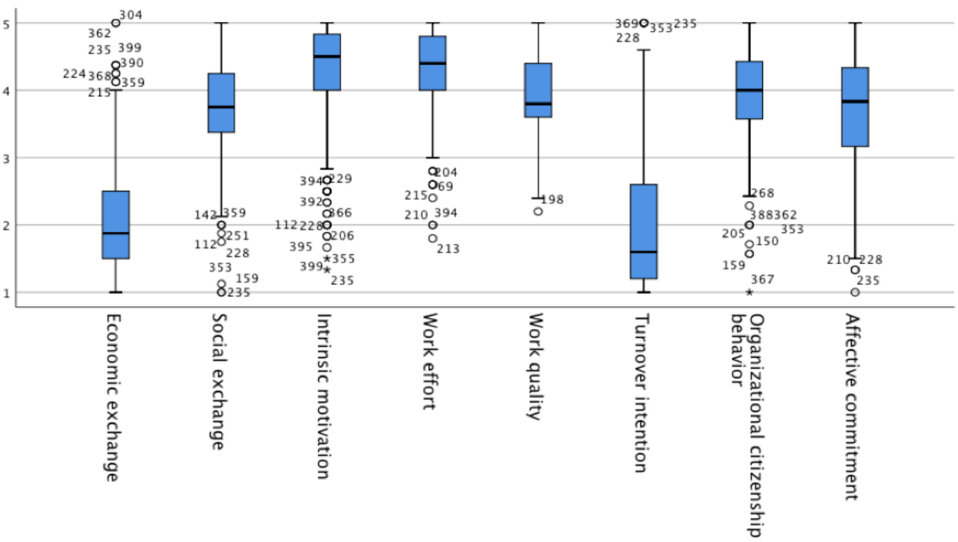

Figure 1 - Boxplot illustrating the distribution of the self-rating sample (N=399) on the motivational measures.

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[8] Appendix 7 presents one box plot for each work context, illustrating how each context score on the eight motivational measures. Further, the last box plot illustrate how all the contexts have scored together.

In the eight following graphs presented below, we are going to investigate if the work contexts are reflected in the eight motivational measures. Accordingly, we are going to see if the contexts matter on the motivational measures. In accordance to the SDT it is expected that in relations to intrinsic and extrinsic motivation one would expect that there are some jobs that entail tasks that are so uninteresting that the employees are dependent on salary. Whereas, there are some jobs where the tasks in themselves are interesting that one would perform them no matter what salary is given.

4.1.1 Economic exchange motivation

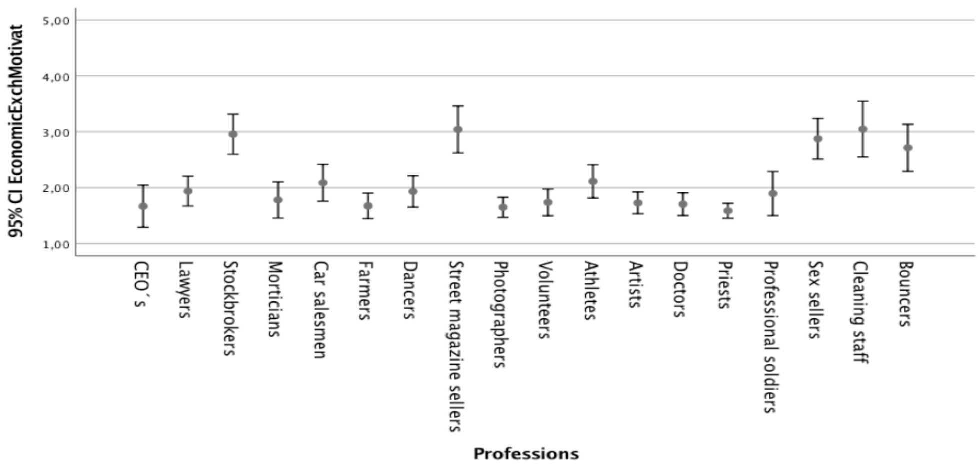

Figure 2 - Distribution of the work contexts scores on economic exchange motivation.

Figure 2 indicates that none of the work contexts perceives salary as totally unimportant, moreover, it also indicates that none of the work contexts perceive salary as the most important motivational factor.

4.1.2 Social exchange motivation

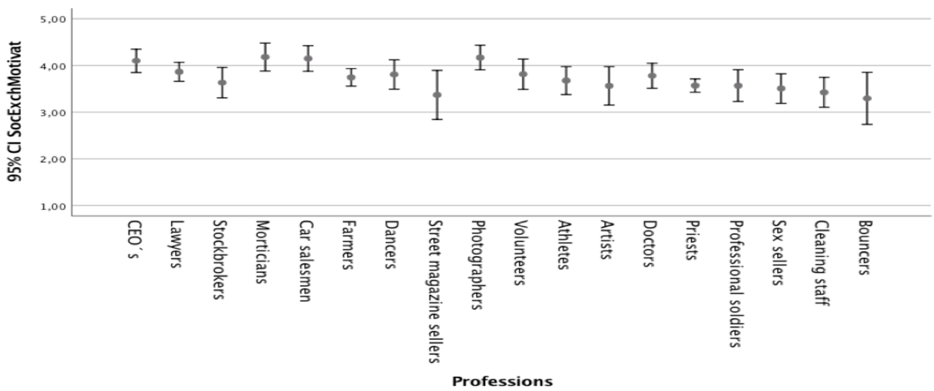

Figure 3 - Distribution of the work contexts scores on social exchange motivation.

Figure 3 indicates that all the work contexts perform their work due to social exchange reasons. However, there is none of the work contexts that perform the work *only* for the sake of friendships, and none that does not care at all about the social relations at work.

4.1.3 Intrinsic motivation

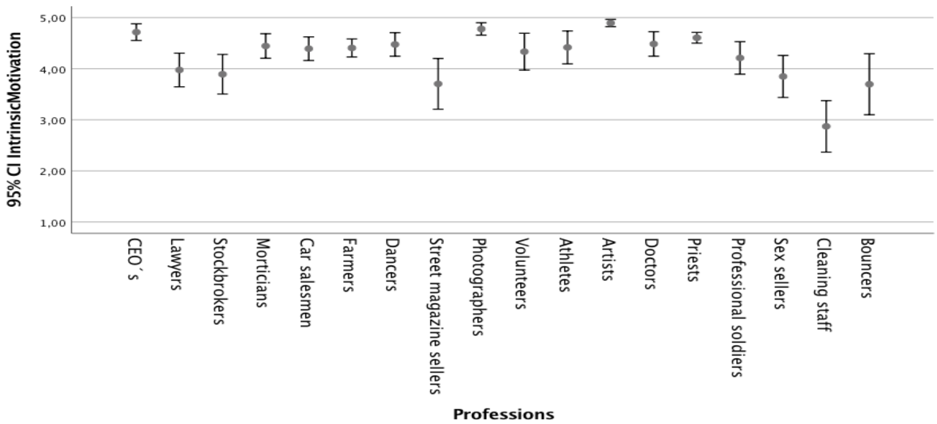

Figure 4 - Distribution of the work contexts scores on intrinsic motivation.

Figure 4 indicates that all the work contexts perceive their work tasks as inherently interesting, and none of the work contexts perceives their work as uninteresting. The cleaning staff is the only work context that seems to experience less pleasure and satisfaction in the activities they perform. However, the variance may be caused by fewer participants (N=13).

4.1.4 Self-rated work effort

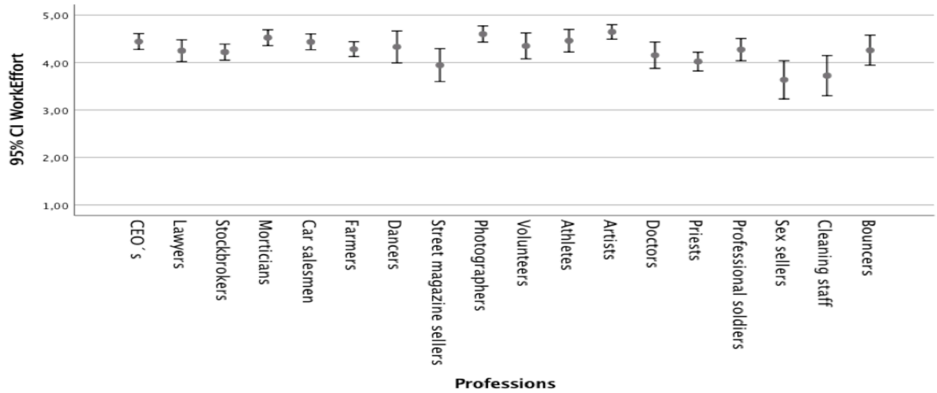

Figure 5 - Distribution of the work contexts scores on self-rated work effort.

Figure 5 indicates that none of the contexts believe that their work effort is of “top notch” and none that believes they do not contribute at all.

4.1.5 Self-rated work quality

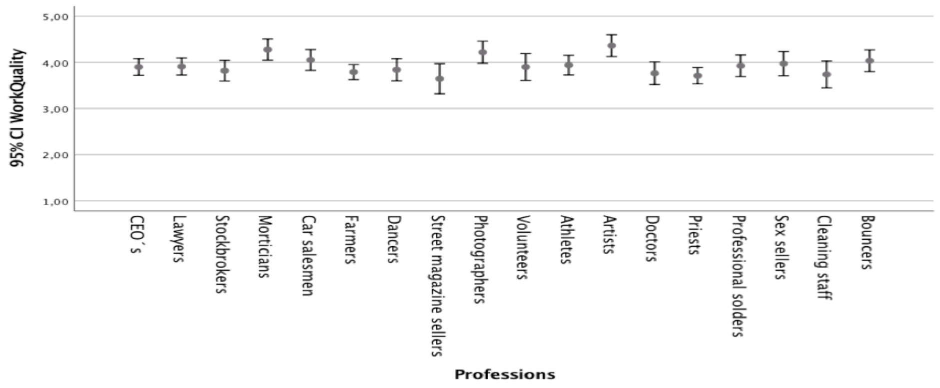

Figure 6 - Distribution of the work contexts scores on self-rated work quality.

Figure 6 indicates that all the work contexts perceive that the quality of their performance is high. However, it seems as if some contexts are self critical (e.g. priests), whereas no one believes that they perform poorly.

4.1.6 Turnover intention

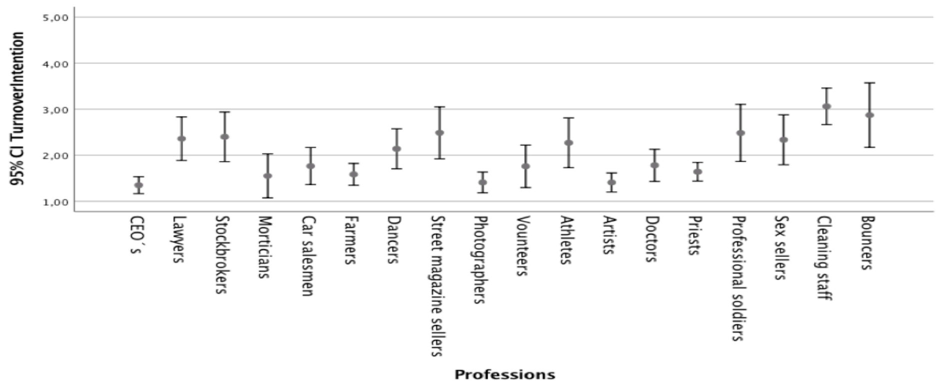

Figure 7 - Distribution of the work contexts scores on turnover intention.

Figure 7 indicate that none of the participants wants to quit their job, however some work contexts seems to have thought about changing their workplace.

4.1.7 Organisational citizenship behaviour

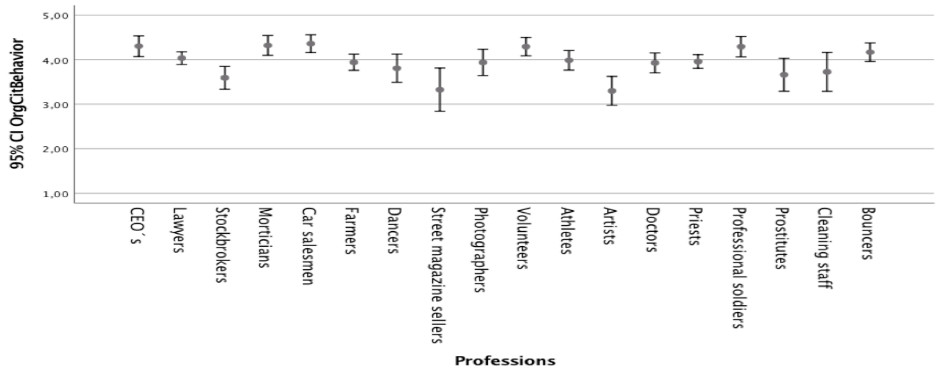

Figure 8 - Distribution of the work contexts scores on organisational citizenship behaviour.

Figure 8 indicate that all the work contexts believes that they most of the time are going beyond their formal work requirements.

4.1.8 Affective commitment

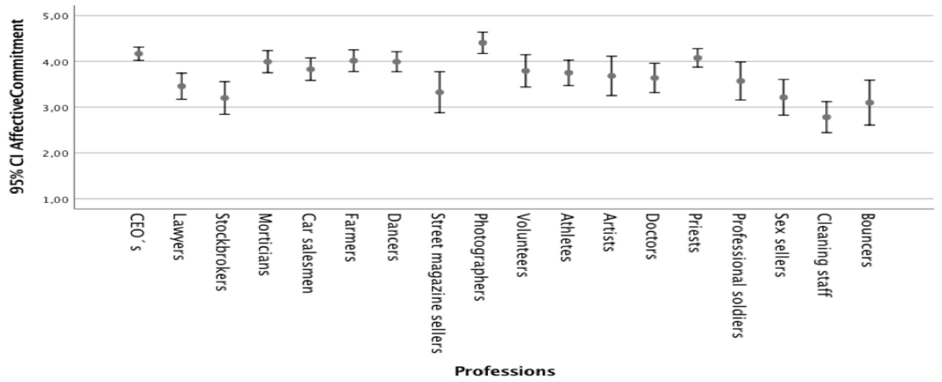

Figure 9 - Distribution of the work contexts scores on affective commitment.

Figure 9 indicates that all the work contexts are emotionally committed to their work and none of the work contexts do not feel any attachment to their work.

In sum, the motivational variables are different among the occupations, however the inequalities are small as shown above. According to all the nine figures, the participants do not use the whole response scale when answering the questionnaire. This might be problematic because of the meaning behind the numerical value. If four different individuals have chosen the value 4,0, they have all answered e.g. “I am strongly intrinsically motivated”, because they have chosen the same category. However, this option may have contrasting meanings for different respondents, making it hard to transfer the numerical value to a transferable interpretation of the question. Accordingly, it is not a numerical value from 1-5, but answer categories. Because of this, as the table 6 implies, the respondents despite context are placed in the same answer category, making it difficult to capture the variation in the answers and the meaning of the answers.

Work contexts	Motivational measures							
	Economic Exchange Motivation	Social Exchange Motivation	Intrinsic Motivation	Work Effort	Work Quality	Turnover Intention	Organizational citizenship Behavior	Affective Commitment
CEO´s	*Not much focused on salary*	*Fairly socially motivated*	*Strong intrinsic motivation*	*Strong effort*	*Good quality*	*Never want to quit*	*Making extra efforts*	*Care a lot*
Lawyers	*Not much focused on salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Uncertain whether I care*
Stockbrokers	*Doubtful about salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Uncertain whether I care*
Morticians	*Not much focused on salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Very strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Care a lot*
Car salesmen	*Not much focused on salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Care a lot*
Farmers	*Not much focused on salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Care a lot*
Dancers	*Not much focused on salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Care a lot*
Street magazine sellers	*Doubtful about salary*	*Uncertain socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts now and then*	*Uncertain whether I care*
Photographers	*Not much focused on salary*	*Fairly socially motivated*	*Strong intrinsic motivation*	*Very strong effort*	*Good quality*	*Never want to quit*	*Making extra efforts*	*Care a lot*
Volunteers	*Not much focused on salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Care a lot*
Professional Athletes	*Not much focused on salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Care a lot*
Artists	*Not much focused on salary*	*Fairly socially motivated*	*Strong intrinsic motivation*	*Very strong effort*	*Good quality*	*Never want to quit*	*Making extra efforts now and*	*Care a lot*
Doctors	*Not much focused on salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Care a lot*
Priests	*Not much focused on salary*	*Fairly socially motivated*	*Strong intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Care a lot*
Professional soldiers	*Not much focused on salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Care a lot*
Sex-sellers	*Doubtful about salary*	*Fairly socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Not much focused on quitting*	*Making extra efforts*	*Uncertain whether I care*
Cleaning staff	*Doubtful about salary*	*Uncertain socially motivated*	*Uncertain intrinsic motivation*	*Strong effort*	*Good quality*	*Unertain about staying*	*Making extra efforts*	*Uncertain whether I care*
Bouncers	*Doubtful about salary*	*Uncertain socially motivated*	*Mostly intrinsic motivation*	*Strong effort*	*Good quality*	*Unertain about staying*	*Making extra efforts*	*Uncertain whether I care*
All	***Not much focused on salary***	***Fairly socially motivated***	***Mostly intrinsic motivation***	***Strong effort***	***Good quality***	***Not much focused on quitting***	***Making extra efforts***	***Care a lot***

Table 6 - Distribution of categorical answers for all work contexts

4.2 Small differences in rating of the motivational measures

A one-way between-groups analysis of variance was conducted to explore the impact of the motivational measures between the groups.

ANOVA	Sig.
Economic exchange	0
Social exchange	0
Intrinsic motivation	0
Self-rated work effort	0
Self-rated work quality	0
Turover intention	0
Organizational citizenship behavior	0
Affective commitment	0

Table 7 - One-way variance analysis (ANOVA).

The one-way ANOVA table is presented in Table 7, shows that all the motivational measures are significantly different from each other at the $p < 0.0$ across all the 18 occupations. Despite reaching statistical significance, the actual difference in mean scores between the groups, where quite small. Further, we conducted an ANOVA post-hoc test, to assess the relationship between the groups. Table 8 presented below, shows each profession compared to all the other occupations by how many percent of the comparisons that are significant. The results shows that economic exchange is the measure that distinguish the occupations the most, and is related to the other motivational variables with 40%. The other motivational variables have a percent comparison varying from 5% - 29%. The second finding is that there are differences in rating of the motivational variables, however these differences are small.

Work contexts	Motivational measures															
	Economic Exchange Motivation		Social Exchange Motivation		Intrinsic Motivation		Work Effort		Work Quality		Turnover Intention		Organizational Citizenship Behavior		Affective Commitment	
	Significant	Not significant	Significant	Not significant	Significant	Not significant	Significant	Not significant	Significant	Not significant	Significant	Not significant	Significant	Not significant	Significant	Not significant
Laywer	4	13	0	17	5	12	1	16	0	17	1	16	2	15	1	16
Farmers	5	12	0	17	3	14	1	16	1	16	2	15	2	15	4	13
Dancers	5	12	0	17	3	14	1	16	0	17	0	17	0	17	4	13
Photograpers	5	12	2	15	6	11	4	13	1	16	4	13	1	16	8	9
Volenteers	5	12	0	17	1	16	1	16	0	17	2	15	3	14	1	16
Professional Athletes	4	13	0	17	1	16	2	15	0	17	0	17	1	16	1	16
Artists	5	12	0	17	6	11	4	13	4	13	4	13	12	5	1	16
Priests	5	12	0	17	6	11	2	15	3	14	2	15	2	15	5	12
Sex-sellers	13	4	0	17	5	12	11	6	0	17	1	16	3	14	6	11
Bouncers	10	7	4	13	8	9	0	17	0	17	9	8	2	15	6	11
Doctors	5	12	0	17	3	14	0	17	1	16	2	15	1	16	1	16
Stockbrokers	12	5	0	17	5	12	0	17	0	17	1	16	5	12	6	11
Ceo´s	5	12	1	16	6	11	2	15	0	17	7	10	4	13	5	12
Car salesmen	4	13	2	15	1	16	2	15	0	17	2	15	4	13	1	16
Morticias	5	12	2	15	3	14	2	15	2	15	2	15	4	13	4	13
Street magazine sellers	13	4	3	14	9	8	2	15	2	15	2	15	9	8	3	14
Professional soldiers	5	12	0	17	1	16	1	16	0	17	3	14	3	14	1	16
Cleaning staff	12	5	0	17	16	1	6	11	0	17	9	8	0	17	10	7
Sum of correlation	**122**	**184**	**14**	**292**	**88**	**218**	**42**	**264**	**14**	**292**	**53**	**253**	**58**	**248**	**68**	**238**
Correlations percentage	**40 %**		**5 %**		**29 %**		**14 %**		**5 %**		**17 %**		**19 %**		**22 %**	

Each profession is compared to all the other occupations, and the percentage shows how many percent of the comparisons that are significant.

Table 8 - Overview of the significant and non-significant comparison relationships.

4.3 Correlations between job ratings and self-ratings of the jobs (Pearson)

The relationship between the job characteristics and the motivational measures was investigated using Pearson product-moment correlation coefficient. Table 9 shows the correlations between the ratings of the external evaluation panel (N=30) on the job characteristics and the self-rating panels (N=399) evaluation of the motivational variables. Table 9 shows several significant correlations, despite that the correlation values are low. This indicate that there are to some degree correlations between how the external panel rate the jobs and the how the self-rating panel have rated their own work.

Job Characteristics	Motivational measures							
	EE	SE	IM	SWE	SWQ	TI	OCB	AOC
Mean autonomy	-,29**	,15**	,34**	,27**	,05	-,24**	,05	,25**
Mean task identity	-,25**	,07	,18**	,11*	-,02	-,09	,15**	,08
Mean power	-,31**	,09	,34**	,18**	,05	-,32**	-,12*	,29**
Mean work-life balance	-,19**	,12*	,20**	,22**	,09	-,02	,21**	,09
Mean of no relevance of money	-,15**	,17**	,17**	,06	,04	-,21**	-,10*	,18**
Mean meaningfullness	-,37**	,05	,18**	,03	-,07	-,16**	,16**	,14**
Mean work prestige	-,36**	,09	,28**	,10	-,02	-,21**	,08	,20**
Mean relatedness	,18**	-,15**	-,14**	-,17**	-,07	,20**	-,01	-,16**
Mean safety/danger	-,36**	,09	,25**	,02	-,05	-,20**	,14**	,22**
Mean feedback	-,06	0	,04	,06	,12*	-,07	,02	,04
Mean skill variety	-,29**	,13*	,25**	,22**	-,02	-,14**	,08	,17**
Mean salary	-,12*	,13*	,13*	,05	-,03	-,13**	,18**	,13**

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 9 – Correlation analysis between self-rating sample (N=399) and external evaluation panel (N=30).

Table 10 shows the correlations when the self-rating sample is divided per occupation (N=18), hence on a group level (collapsed). Accordingly, the correlations are stronger in the collapsed table 10 compared to table 9. In table 10 there are less significant correlations, however there are the same tendencies as in table 9.

Job Characteristics	Motivational measures							
	EE	SE	IM	SWE	SWQ	TI	OCB	AOC
Mean autonomy	-,70**	,46	,65**	,63**	,16	-,58*	,13	,59*
Mean task identity	-,45	,22	,36	,32	-,01	-,23	,34	0,21
Mean power	-,52*	,30	,65**	,45	,20	-,70**	-,24	,61**
Mean work-life balance	-,43	,35	,43	,60**	,27	-,15	,50*	,30
Mean of no relevance of money	-,24	,48*	,26	,09	,08	-,44	-,24	,35
Mean meaningfullness	-,61**	,23	,32	,16	-,12	-,35	,38	,28
Mean work prestige	-,64**	,32	,57*	,29	,00	-,50*	,20	,47
Mean relatedness	,22	-,41	-,15	-,35	-,21	,36	,01	-,25
Mean safety/danger	-,65**	,36	,48*	,18	-,08	-,49*	,31	,51*
Mean feedback	-,04	-,03	-,03	,12	,31	-,11	,04	,01
Mean skill variety	-,56*	,38	,51*	,53*	-,06	-,37	,19	,43
Mean salary	-,24	,35	,24	,11	-,08	-,30	,37	,28

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 10 - Collapsed correlation analysis between self-rating sample (N=18) and external evaluation panel (N=30).

We have chosen to present both tables, because both of the tables show that there are correlations between the raters perception of the occupations and how the participants within each occupation rate their own jobs. We acknowledge that table 9 use a mean score for the ratings of the job characteristics, might be seen as misleading. This because, since we have the means of the ratings for the job characteristics we should have had the means of the different motivational variables for the self-ratings of the occupations as well. Accordingly, in table 9 all participants within one occupation is considered to have the same job characteristics, even though we know that e.g. all lawyers do not have the same salary. However, table 10, does not take into consideration the variation within each group and one might therefore argue that table 9 shows the variations within the self-rating of each occupation even though it does not present the variation within the ratings of the job characteristics. We argue that the variation in rating of the job characteristics is not necessary because the perception of one occupation in terms of the job characteristics (e.g. perception of lawyers autonomy) will be the overall perception of that occupation and not vary within the occupation. One may therefore argue that table 9 is eligible, because the ratings of job characteristics to the different occupations are independent from the self-ratings of the jobs. The self-rating of the characteristics can be expected to vary, while the perception of the job characteristics within the occupations can be expected to be constant.

4.4 High correlations between job characteristics

Table 11 shows the correlations between the job characteristics. The table presents that there are 57 out of 66 correlations that are significant. The table shows that there are small differences between the correlations, meaning that there is a relationship among the majority of the job characteristics. E.g. the correlation between safety/danger and meaningfulness is high (0,840), indicating that these variables might measure the same construct.

Job Characteristics	Mean feedback	Mean autonomy	Mean task identity	Mean relatedness	Mean skill variety	Mean meaningfullness	Mean work prestige	Mean safety/danger	Mean power	Mean no relevance of money	Mean work-life balance
Mean feedback											
Mean autonomy	-,05										
Mean task identity	-,41**	,41**									
Mean relatedness	-,50**	-,25**	,03								
Mean skill variety	-,41**	,87**	,63**	-,06							
Mean meaningfullness	-,08	,46**	,65**	-,15**	,50**						
Mean work prestige	-,45**	,66**	,68**	,20**	,69**	,60**					
Mean safety/danger	,11*	,39**	,44**	-,22**	,34**	,84**	,44**				
Mean power	-,04	,67**	,09	-,21**	,43**	,09	,57**	,10*			
Mean no relevance of money	-,24**	,25**	-,14**	-,36**	,21**	,06	,14**	,13*	,35**		
Mean work-life balance	-,14**	,38**	,70**	-,11*	,55**	,33**	,25**	,31**	-,18**	-,22**	
Salary	-,44**	,19**	,58**	,13**	,39**	,20**	,52**	,19**	,25**	,01	,30**

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 11 - Correlations between job characteristics.

4.5 Intraclass correlation coefficients (ICC)

Table 12 shows the results of both the external evaluation panel (N=30) and the self-rating sample (N=399). The single measures show the difference in rating between two randomly assigned participants, whilst the average ratings for the self-rating panel is shown in the average measures column. The significance level was p > 0,001 for all the ICC rater values. The ICC average measure for the external panel is 96%, indicating that they agree with 96% on their perception of how the different jobs are. The results in the first column (N = 30), are somewhat reduced, however the results indicate that there is an agreement among the external raters and especially for the secluded occupations. The second column (N=399), the values are acceptable and indicates that there is a difference in the ratings internally for the different occupations. In the rightmost column, the average measures for the self-rating sample (N=399), shows that the majority of the values are 0,90 and above. A low ICC indicates that the respondents have a different perception of the same situation.

Work contexts	Single measures	Single measures	Average measures
All	0,43		
CEO´s	0,42	0,70	0,98
Lawyers	0,39	0,52	0,96
Stockbrokers	0,33	0,26	0,87
Morticians	0,54	0,65	0,98
Car salesmen	0,50	0,59	0,97
Farmers	0,20	0,62	0,99
Dancers	0,28	0,53	0,96
Photographers	0,31	0,10	0,65
Volunteers	0,46	0,73	0,98
Street magazine sellers	0,30	0,59	0,97
Athletes	0,30	0,48	0,95
Artists	0,33	0,64	0,98
Doctors	0,34	0,64	0,98
Priests	0,42	0,68	0,99
Sex sellers	0,50	0,45	0,94
Professional soldiers	0,31	0,15	0,79
Cleaning staff	0,52	0,16	0,72
Bouncers	0,40	0,24	0,84

Table 12 – Intraclass correlation coefficients for self-rating sample (N= 399) and external evaluation panel (N= 30).

4.6 Qualitative data - Reflections over feedback

In our thesis we wanted to combine the quantitative data with qualitative data because of our concern regarding the sensitivity of the Likert scale. In order to assess whether the JCM theory holds under all conditions, we needed participants from extreme contexts. Accordingly, to collect the quantitative data, it required us to reach possible participants in unconventional manners. We therefore gained qualitative data (both over the phone and out in the field) simultaneously giving us a deeper understanding of the participant’s motivation across the contexts.

In the following, our experience with reaching potential participants and our impression of their motivation will be presented. Before beginning the data collection, we believed that some work contexts would be easier to receive participants from than others. We thought that secluded work contexts such as sex sellers, professional soldiers and street magazine sellers would be difficult to come in contact with and if we were lucky to reach them that they would be reluctant to participate. Further, we believed that other work contexts, such as doctors, stockbrokers and lawyers would be easier to get in contact with.

During the data collection, we experienced that some of the work contexts was unreachable (e.g. organized criminals) and subsequently we excluded these occupations. To contact some of the secluded work contexts, other means than email or phone call needed to be used. We therefore approached many participants on the streets or other public places. Our experience in meetings with them, was that they openly talked to us about their everyday life and their motivation. Several of the street magazine sellers seemed to be intrinsically motivated and enjoyed their work. One of the participants expressed passion and gratitude for his work and said "=Oslo is in my heart". Another participant expressed that =OSLO was the reason she stayed sober and why she wanted to wake up in the morning. A common denominator among the street magazine sellers was an enormous gratitude towards their employer, which was special for this work context compared to the others.

As expected, other work contexts were easier to get in touch with because of easy access as email, phone-number etc. Our experience was that they also enjoyed telling us about their work situation and motivation. Moreover, some of the work contexts (e.g. artists, dancers, farmers and photographers) expressed that they were very flattered by being asked to participate.

In regards to the motivational configuration for each job, we expected large differences between the 18 contexts. We thought that ideological contexts, such as priests would be the most intrinsically motivated of all the contexts followed by farmers, artists, dancers and photographers. We also expected that the secluded work contexts, stockbrokers, bouncers, car salesmen and cleaning staff would be highly extrinsically motivated. Our experience throughout the data collection became counter-intuitive, hence despite work contexts the participants perception of their own motivation was very similar. Regardless of work context all participants expressed high intrinsic motivation, was satisfied with their workplace and were committed.

However, we experienced differences between the contexts with regards to their perception of their occupation. Even though the street magazine sellers were grateful for their work, we also experienced that they expressed shame with regards to the work they performed. Many of them also wanted to explain why and how they had "ended up" as magazine sellers, justifying their situation. The ambivalence between their gratitude towards their employer and their "need" to explain themselves was prevalent. We therefore got the impression that they have false consciousness. Moreover, contexts such as the CEO´s, stockbrokers, and car salesmen expressed feelings of pride and accomplishment for themselves, their occupation and organization. They also stood out compared to the other work contexts in regards to seeming not to have inhibitions with regards to freely talking about their earnings.

When it came to talking about earnings, we experienced different feedback across the work contexts. We believe that varying attitudes towards their own occupation may cause the different reactions. Some of the contexts (e.g. sex sellers) were offended by some of the questions, expressing "Oh my god! What the hell are these questions". We believe that their reactions may be due to stigma concerning their occupation. Furthermore, in meetings with the stockbrokers, we experienced that they gladly talked about their earnings and bonuses. This makes us question if the different reactions is due whether the occupations are perceived as taboo or prestige by the society.

Moreover, we experienced different feedback on their attitude towards participating in the survey. Some expressed gratitude (e.g. dancers and farmers) toward being included because they had never been asked to participate previously. In addition, some felt that a few of the questions (OCB) were irrelevant since they were self-employed (e.g. photographers, artists, dancers). These impressions therefore make us believe that individuals are not able to evaluate their own motivational state without considering their identity and their present context when conducting the survey.

4.7 Overall results

Overall, our results show that there are small differences in the self-ratings of the work contexts, all the jobs entail characteristics that are motivating. Furthermore, there are correlations between the self-ratings and the ratings of the external panel, and we also found high correlations between the job characteristics. With regards to the ICC the results indicates that the external panel agrees on their perceptions of the different jobs, whereas the self-rating sample are differing more in their ratings internally.

Based on these experiences we believe that our qualitative data can indicate that a job and an outcome, is something that depends on more than just a motivational state. One may believe that a job is an identity that one describe oneself with and therefore perceives the organisation with a kind of dignity and engagement that results in a feeling of meaningfulness. One may therefore question that the individuals identity may be apart of their perception of their work motivation.

5. Discussion

The aim of this study was to explore the statistical problems with the accuracy and precision of survey-based instruments. We used the Job Characteristics Model as a case on a context that impact motivation and therefore explored how prevalent measures of motivation reflect contextual conditions predicted by JCM.

5.1 Why small differences?

The JCM theory suggests that jobs have different job characteristics and therefore will have different motivating potential (Hackman & Oldham, 1975). The tables nine and ten, seem to imply that the external panel agrees with what the JCM theory predicts. This because, the results indicate that different work contexts are viewed to entail different work characteristics, where some are motivating and some have anti-motivating effect. Among the external panel it seems to be intuitively understandable that if a job is monotonous, the employees are dependent on pay to become motivated, whereas if the job entails high autonomy the individuals will experience meaningfulness that leads to intrinsic motivation.

Furthermore, our results presented in table 7 (ANOVA) shows that the self-rating sample score significantly different from each other on the motivational measures. However the post-hoc test seems to imply that the differences between the contexts are small. One may therefore assume, that the contexts do not seem to have different motivating potential. Further, the boxplots (figure 1-8) illustrates the same. The overall indication regardless of context is therefore that all the employees are satisfied with their work. Moreover, all the participants agree that they work hard, are dedicated, intrinsically motivated, the quality of their work is high (although some are self-critical), they do not want to quit their job, and that they would perform the same work despite the pay. From a practical viewpoint, if an HR-Manager receives such job satisfaction results from a department, one may assume that the manager would be satisfied with these results. Our results imply that all the employees, especially the CEO´s are highly intrinsically motivated and therefore would perform the same work without receiving a performance based pay. This makes us question the necessity of executive pay and how performance based pay impact motivation (Kuvaas, Buch, Gagne, Dysvik, & Forest, 2016).

The results above seems to partly support the JCM, although one would assume to see larger differences in motivational configurations between the occupations. Based on the JCM theory and SDT, one would expect that jobs with tasks that are inherently motivational would be ideological occupations such as priests. However, our results seem to imply differently. Table 8 shows that the priests intrinsic motivation are only significantly different than six occupation. We believe that it is strange that priests are not standing out more when it comes to intrinsic motivation. Additionally, priests would be assumed to score lower than the majority with regards to economic exchange, however this is not the case.

Moreover, one should according to the JCM theory assume that certain occupations would totally lack one of several job characteristics. E.g. lack of performance-related pay when working as a volunteer, or social exchange motivation for morticians. We believe that morticians would lack social exchange motivation, due to that they do not experience customer loyalty, because the customer has passed away. However, it might be probable that when asked about social exchange motivation the morticians think about the relatives instead. Still it is questionable that the morticians score the highest on social exchange motivation, because one would assume that the frequency on the return is higher going to the doctor compared going to the mortician. Another example is considering the professional soldiers organisational citizenship behaviour. Presumably, professional soldiers would not accept every mission they are offered, they would evaluate their "customers". Our results indicate that the professional soldiers do not evaluate their customers. Because of these small variances in responses, we ask ourselves what is the reason behind these small variances? Further, the results show that the participants do not use the whole scale when responding to the questionnaire, what is the reason behind?

From a situational-strength perspective, it is argued that all researchers aim to create strong situations when conducting lab-experiments (Meyer et al., 2010). We question if the small variances and the reason why the respondents are not using the whole scale, may be because the questionnaire setting is perceived as a strong situation. Participants might answer more socially desirable in questionnaires (Dodou & de Winter, 2014), and we therefore question if the situation might be perceived as more restricting than one previously have thought. Moreover, research shows that respondents tend to answer that they agree to statements more often than they do not (Messick, 1987). We question whether this might be an indication of how a statement is phrased gives respondents cues on how to answer, accordingly making the respondents answer in a certain way.

Moreover, from the self-attribution theory, when individuals encounter situations they have never been in before they are more uncertain (Bem, 1972). One may therefore assume that it is easier to choose the less extreme options on the response scale, because these answers are not excluding the other options in the same way as the extreme options are. Another possible explanation is, when individuals have not encountered a situation before, they tend to explain their behaviour based on external cues (Bem, 1972). We therefore question if the participants answer the questionnaire based on the assumption that "since I work as a lawyer, this must mean that I enjoy the tasks, I therefore must be emotional committed, hence does not want to quit my job". However, even though this might be a logical reasoning for some of the occupations, we have experienced that people find it difficult to believe that the sex sellers or the street magazine sellers enjoy their work whereas they believed the results indicating that CEO´s, lawyers, and doctors enjoy their work. We therefore question, if one believes some of the occupations why should one not believe the sex sellers or the street magazine sellers?

The theory of false consciousness is implying that some individuals do not know their own best and therefore has a false consciousness (Augoustinos, 1999; Jost, 1995). A probable explanation for the small differences between the occupations might therefore be argued to be because some of the occupations are perceived to have a false consciousness e.g. the sex sellers and street magazine sellers. It is easier to believe that sex-sellers and street magazine sellers obtain a false consciousness, because their jobs are less respected in the society and are taboo compared to e.g. photographers and artists. However, might it be possible that people are generally impacted by false consciousness? Moreover is it probable that those employees having a prestigious job may also be affected by false consciousness? This because, a job perceived as prestigious does not necessarily mean that is meaningful nor that these employees are enjoying the work they perform. One may argue that e.g. CEO´s are affected by false consciousness because the quantitative results imply that the CEO´s would do their job despite the pay. However when having conversations with them, our perception was that even though they have no inhibitions of talking about salary, it is seemed to be taboo to acknowledge the importance of pay for their motivation. If people are impacted by false consciousness, how are people then able to report their motivational state in a survey?

5.2 The measuring instrument´s appropriateness

Some researchers argue that motivation is a latent construct (Kanfer, 1990), and therefore is more difficult to report in a questionnaire. We therefore argue that because motivation might be an underlying process and a latent construct, individuals might not be able to report their actual motivational state when they answer a survey. According to Drasgow et al. (2010), one of the restrictions with survey research is that the Likert scale is not able to capture the underlying processes of a construct. Because motivation may be difficult to differentiate and detect, this might be an explanation of the small variations reported in our results.

In regards to figure 2, which show the differences between the occupations within economic exchange, the responses are ranging from approximately 2,5 to 3,0. The stockbrokers, from our quantitative data, are not standing out from the other occupations, whereas our qualitative data gives us another perspective. When talking to the stockbrokers they informed us that they receive between 100 000 NOK - 1 000 000 NOK in performance pay and when observing them we got an impression of a culture with a high focus on pay. The discrepancy between these two forms of data makes us question the measurement instruments appropriateness. The Likert scale does not seem to be able to obtain the whole picture, so by combining the qualitative data and quantitative findings one may capture a more realistic picture. This statement is supported by Sirota, who argues that the quantitative information and analysis provides scientific rigor, whereas the qualitative information gives meaning to the numbers (Sirota & Klein, 2013). However, our results indicate that one may have all reason to doubt the scientific rigor of the quantitative data. We therefore believe our results are a strong argument for the use of both quantitative and qualitative data together to give a holistic understanding of constructs that are complex.

Another possible reason to question the appropriateness of questionnaires is because of the variation in response styles. Research shows that individuals tend to have different response styles (Jin & Wang, 2014) and we therefore question that the meaning behind an answer on a Likert scale might be different for different individuals. Hence, underlying processes might be difficult to transfer to a five-Likert scale.

5.3 Correlations raise questions about "what are we actually measuring?"

According to measurement theory, Maul argues that in order to regard a measurement as a measurement, it needs to indicate high robustness and reliability (Maul, 2017). Besides questioning the appropriateness of the measurement instrument and raising possible explanations for the small differences between the occupations ratings, we also want to question what are we measuring with this instrument. It seems that our results indicate, what Maul (2017) have argued in his research, that techniques may fall short of providing the potentially falsifying tests of relevant hypotheses one would expect in scientific research.

We underpin this by our forth finding presented in table 11 shows that there are high correlations between the constructs, which implies a relationship among the majority of the job characteristics. As an example (table 11) shows that the job characteristic "risk" is highly correlated with all the other job characteristics. It can be understandable that "risk" is correlated with e.g. salary, because if a job is perceived as dangerous one might want a larger payment for performing a dangerous job compared to a less dangerous job. However, it is less logical that perceived risk is highly correlated with perceived meaningfulness. This because, it implies that a meaningful job entails high risk.

Moreover, this will not apply for all occupations, for example working in an NGO is perceived as a meaningful job, but we do not perceive this job as entailing high risk. Likewise, occupations perceived to entail high risk such as professional soldiers is because of the high correlations supposed to be meaningful. However we question how meaningful it is to be part of missions using lethal weapons. Because these correlations seem to go against logical reasoning, we cast doubt on what the measurement actually is measuring. Moreover, these concerns are amplified, when the professional soldier we talked to expressed that the reason for becoming a professional soldier was because of excitement and adrenaline rush, whereas after working for some years the economic perspective becomes the most important. Therefore, the impression we got was that the job itself was not meaningful. Because of the correlations between the job characteristics we therefore question if the questions are measuring the same, hence multicollinearity. If multicollinearity is present, one might argue that to measure this construct one only needs a few items (Pallant, 2010).

5.4 Does the questionnaire measure work motivation or the work situation?

The fifth finding presented in table 12 shows the intraclass correlation coefficients (ICC) for the self-rating sample and the external panel. The external panel have rated the occupations with 96% agreement, which implies that there is no need to ask more than the 30 people we have asked. Our findings indicate that there is a greater difference in the ratings internally in the self-rating sample (N=399) than in the external sample (N=30). The differences are largest when the participants in the secluded occupations rate themselves. Based on these results, we question whether the small differences in the self-rating sample is due to whether their work situations are experienced differently or whether the raters are able to evaluate their work situation according to job characteristics. Furthermore, there is a high compliance between the raters in the self-rating sample, but our qualitative data indicates that the participants within the same occupation have different experiences of the same work situation. It might therefore be difficult to evaluate the work motivation without taking into consideration the work situation one is apart of, because of the underlying factors impacting the evaluation. One may therefore question what the questionnaire is measuring, is it the work motivation or is it the work situation?

5.5 The motivational paradise leads to a practical problem

Motivational theory is often considered in relations to practical implications in organisations. Our results give an impression that the variations between the occupations are small. This implies that the variations within an occupation is small and therefore makes it difficult to just look at the motivational configuration and know which occupation this motivational configuration belongs to.

Because one would assume that the motivational configuration would differ between the occupations based on the JCM and the boundary conditions of the theory, it should be possible to see large differences in motivational configurations for each occupation. However, when the differences are small, it is not possible to see the differences between the motivational configuration of a professional soldier or a priest, which we believe is questionable. If the JCM theory should have practical implications, individual's motivation should indicate differences in job situation. It would therefore be difficult to suggest changes or customize the job differently based on what someone has answered on a questionnaire.

6. Limitations

Our study has several limitations, which needs to be taken into account in regards to the findings. Firstly, our sample size for the self-rating sample (N = 399) obtained, might be a weakness of the study. On the one hand, due to that the aim of the study was to obtain participants from extreme work contexts, it was difficult to obtain an equal number of participants for each context. Because of the unequal group sizes, one-way analysis of variance was most suitable (Pallant, 2010). On the other hand, the sample size in comparison to other master thesis is relatively high, especially taken into account that every participant was contacted directly.

Furthermore, as the current study holds a cross-sectional study design, there could not be drawn any causal relationships derived from the obtained results (Bryman & Bell, 2015). However, the questionnaire was anonymous and the information letter explained that there were no right or wrong answers. This was done to reduce evaluation apprehension, in order to avoid common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Accordingly these procedures reduce method biases, however one cannot assume that all of the potential sources of common method biases were reduced. Even though the questionnaire was anonymous, some respondents might have answered socially desirable either way (Podsakoff et al., 2003) Moreover, besides from social desirability bias, questionnaires entail other disadvantages, e.g. that one cannot prompt, probe or ask too many questions (Bryman & Bell, 2015).

Another limitation is that our item-scale for social and economic exchange included 16 items retrieved from Kuvaas and Dysvik (2009b). This might be a limitation since one item measuring economic exchange were excluded from the total test-battery developed by Shore et al. (2006). Our reliability might therefore be lower, however we chose to use the 16 items since Kuvaas and Dysvik (2009b) had used this previously in a Norwegian context.

Fourthly, the terms for participating in the study were different for some of the participants and might therefore be a limitation. Some of the participants were given gift bags or participated in a lottery, which might have impacted their answers due to less motivation to participate.

In regards to the data collection another possible limitation, is that the participants also conducted the questionnaire under different conditions. Some of the sex sellers conducted the survey with help from employees at a help-centre. To minimize the possible limitation of inaccurate translation, presence and attitudinal impact from the employees, we gave the employees an information letter explaining the importance of minimal influence and attitudinal impact on the participants. Furthermore, the questionnaire included both Norwegian and English translation to reduce interpretation or misunderstandings of the questions.

The participants might however have been of other nationalities, and therefore the literacy might be limited (Bryman & Bell, 2015). Further, the language barriers were also present in the cleaning-staff context. Moreover, a possible limitation in another work context was the data collection with the street-magazine sellers.

Some of the sellers might have been under influence of alcohol or drugs, consequently impacting their answers.

Another possible limitation is human error in recording of the data. This because 38 of the participants answered (professional soldiers, sex sellers, volunteers, cleaning staff, street magazine sellers and bouncers) the questionnaire in hard-copy and subsequently we manually filled out the questionnaire in Qualtrics for them. To minimize such errors we recorded all the questions in one questionnaire, and then checked when working our way through the answers.

Moreover, with regards to data recordings, two of the participants (professional soldier, street magazine seller) had missed out on two questions each conducting their questionnaire. We wanted to include their results and therefore recorded "Neither agree nor disagree" for those two questions. This is a limitation, however all other respondents that did not complete their questionnaire was excluded from the study.

7. Future research

The present study has provided valuable insights about measurement considerations and interpretation of questionnaire findings. Still, with regards to the fact that there has not been conducted a study with the same study design previously, we suggest that it could be interesting to replicate the study with a more comprehensive sample size of the secluded occupations. This would allow one to explore the generalizability of the obtained findings and the results from this study.

However, we also assume that one could consider performing a longitudinal or experimental research design in order to obtain causality among proposed relationships. With regards to experimental research it would be possible to ask participants from extreme contexts to try out another occupation and afterwards answer the questionnaire.

Another direction for future research is to investigate the existence of multicollinearity across the questions. A suggestion is to perform a factor analysis to detect which questions that correlate, and then perform a regression analysis. If there are some underlying factors, one may only ask a few questions to employees to gain the same results. Finally, the sequence of the questions could also be examined further. In fact, we got feedback from several respondents regarding the importance of the sequence.

8. Theoretical and practical implications

This study adds to the literature field of both motivation and measurement literature. Although our data has provided insights of the shortcomings of the usage of the Likert scale and questionnaire when looking at constructs consisting of underlying processes, we want to highlight the importance of continuing the theoretical research of this topic. We would like to highlight the necessity to theoretically investigate the weaknesses of questionnaires further, so that they are not coloured by the effortless and simple usage. Since there has been little modification of the self-report surveys despite that there has been continued advances in related fields (Maul, 2017), we see the importance to theoretically highlight the problems and drawbacks with self-report surveys.

As the results showed, we were not able to see a great difference between the motivational states of the occupations, despite the very different job characteristics. The results of this study may therefore contribute as an extension of the knowledge regarding motivational theory as well as the validity and reliability of a five Likert scale.

Secondly, our findings contribute to the field of motivational theory with regards to supporting previous research that other factors impact motivation besides from job design. Previous literature has shown that it is also necessary to consider other factors such as the individual's experiences related to work (Kanfer & Chen, 2016).

Our findings have also some practical implications to consider. As the present study cast doubt over the usage of a Likert scale and questionnaires, a practical implication for organisations is that when investigating employee's motivation, organisations should be aware that the interpretation of quantitative data and qualitative data gives a more holistic picture. The qualitative data provided us with more rich and deep insights of the participant's motivational state, than the quantitative data alone.

For HR-practitioners, our findings underpin the importance of being critical to literature and previous practical implications given, because these results might not show a holistic picture of the situation. As previous research by Arnulf (2005) showed, was that measurement draws attention to measured practices, however this may lead to wrongful decisions because, what's measured is not necessarily managed.

9. Conclusion

This master thesis contributes to new and useful insights of measurement theory, because this type of study has not previously been performed. Our aim was to investigate problems with measurement and we used motivational theory as a context. We therefore assessed to what extent prevalent measures of motivation reflected contextual conditions as predicted by the Job Characteristics Model (JCM).

To evaluate to what extent the measures of motivation reflected contextual conditions, we included 18 different work contexts to conduct a motivational survey. According to the JCM theory one would assume that the different work contexts would score quite differently on the eight measures. Counter-intuitively, all the contexts (N = 399) scored similarly, indicating small differences between the motivational configurations for the various work contexts. The prevalent measures of motivation seem therefore not to be able to detect the contextual conditions that JCM theory predicts, which indicate that quantitative evaluation might not be sufficient for measurement.

The second part of the study consisted of an external evaluation panel ranging the work contexts on different job characteristics. The results indicated high correlations between the job characteristics, which might imply multicollinearity. One may therefore question the questionnaire and Likert scales ability to capture the variations in latent constructs such as motivation. Furthermore, the results from our qualitative interviews with representatives from all the work contexts, implies that one may have all reason to doubt the sensitivity of a questionnaire as a measurement instrument. This because, our experiences was that a job and an outcome seems to be something more than just a motivational state. In sum, the results of the thesis imply problems with measurement and the lack to capture a holistic picture of motivation and what the instrument is able to measure.

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11. Appendices

Appendix 1. Overview of questionnaire items

Social- and economic exchange (SE, EE) (Shore et al., 2006)

1. Den beste beskrivelsen av min arbeidssituasjon er at jeg gjør det jeg får betalt for. // I do what my organization requires, simply because they pay me.
2. Mitt forhold med organisasjonen er upersonlig - jeg er lite følelsesmessig involvert i jobben min. // My relationship with my organization is impersonal - I have little emotional involvement at work.
3. Jeg gjør kun en ekstrainnsats for organisasjonen dersom jeg vet den vil gjøre noe ekstra for meg. // I only want to do more for my organization when I see that they will do more for me.
4. Jeg gjør det som kreves av meg, hovedsakelig fordi jeg får betalt for det.// My efforts are equal to the amount of pay and benefits I receive.
5. Jeg bryr meg lite om hva organisasjon kan gjøre for meg på lengre sikt og er mest opptatt av hvordan den stiller opp akkurat nå// I do not care what my organization does for me in the long run, only what it does right now.
6. Jeg er veldig nøye med at det er et samsvar mellom hva jeg gir og hva jeg får tilbake i mitt arbeidsforhold. //I watch very carefully what I get from my organization, relative to what I contribute.
7. Mitt forhold til organisasjonen er hovedsakelig økonomisk basert, jeg jobber og de betaler. //My relationship (with my organization) is strictly an economic one - I work and they pay me.
8. Det eneste jeg egentlig forventer av organisasjonen er at jeg blir betalt for den innsatsen jeg legger ned i jobben. // All I really expect from my organization is that I be paid for my work effort.
9. Jeg jobber gjerne ekstra hardt i dag, for jeg er temmelig sikker på at organisasjonen kommer til å gjengjelde denne innsatsen etter hvert// I don’t mind working hard today know I will eventually be rewarded by my organization.
10. Jeg er bekymret for at alt det jeg har gjort for denne organisasjon aldri vil bli gjengjeldt (rev). // I worry that all my efforts on behalf of my organization will never be rewarded.
11. Min relasjon til organisasjonen handler mye om gjensidig imøtekommenhet, noen ganger gir jeg mer enn jeg får og andre ganger får jeg mer enn jeg gir.//There is a lot of give and take in my relationship with my organization.
12. Selv om organisasjonen kanskje ikke alltid gir meg den anerkjennelsen jeg mener jeg fortjener, velger jeg allikevel å se stort på det fordi jeg på sikt nok får noe tilbake// Even though I may not always receive the recognition from my organization I deserve, I know my efforts will be rewarded in the future.
13. Mitt forhold til organisasjonen er basert på gjensidig tillit. //My relationship with my organization is based on mutual trust.

14. Organisasjonen min har investert mye i meg. //My organization has made a significant investment in me.
15. Jeg forsøker å bidra til å ivareta organisasjonens interesser fordi jeg stoler på at den vil ta godt vare på meg. //I try to look out for the best interest of the organization because I can rely on my organization to take care of me.
16. Jeg tror at den innsatsen jeg legger ned i jobben i dag vil være fordelaktig for min posisjon i organisasjonen på noe lengre sikt. // The things I do on the job today will benefit my standing in this organization in the long run.

Intrinsic motivation (IM) (Kuvaas & Dysvik, 2009a)
1.Mine arbeidsoppgaver er i seg selv en viktig drivkraft i jobben min // The task that I do at work are themselves an important driving force to me.
2. Det er gøy å jobbe med de arbeidsoppgavene jeg har. // The tasks that I do at work are enjoyable.
3. Jeg føler at den jobben jeg gjør er meningsfull. // I really think that my job is meaningful.
4. Jobben min er veldig spennende. // My job is very exciting.
5. Jobben min er så interessant at den i seg selv er sterkt motiverende. // My job is so interesting that it is a motivation in itself.
6. Av og til blir jeg så inspirert av jobben min at jeg nesten glemmer ting rundt meg. // Sometimes I become so inspired by my job that I almost forget everything else around me.

Self-rated work quality and work effort (SWQ, SWE) (Kuvaas & Dysvik, 2009a)

1. Jeg forsøker å jobbe så hardt som overhodet mulig. //I try to work as hard as possible.
2. Jeg er svært opptatt av å gjøre en god innsats i jobben min. //I intentionally expend a great deal of effort in carrying out my job.
3. Jeg legger ofte inn ekstra innsats i jobben min. //I often expend extra effort in carrying out my job.
4. Jeg yter nesten bestandig mer enn hva som kan betegnes som et akseptabelt innsatsnivå. // I almost always expend more than an acceptable level of effort.
5. Jeg nøler sjeldent med å ta i et ekstra tak når det er behov for det. // I usually don't hesitate to put in extra effort when it is needed.
6. Kvaliteten på arbeidet mitt er jevnt over på et høyt nivå. // The quality of my work is usually high.
7. Arbeidet mitt er av ypperste kvalitet. /// The quality of my work is top-notch.
8. Jeg presterer bedre enn det som kan forventes av en person i min type jobb. // I deliver higher quality than what can be expected from someone with they type of job I have.
9. Jeg leverer sjeldent fra meg en jobb før jeg er sikker på at kvaliteten på den holder et høyt nivå. // I rarely complete a task before I know that the quality meets high standards.

10. Andre i organisasjonen ser på det jeg leverer som typisk kvalitetsarbeid. // Others in my organization look at my work as typical high quality work.

Turnover intention (TI) (Kuvaas 2006a)
1. Jeg tenker ofte på å slutte i min nåværende jobb. // I often think about quitting my present job.
2. Jeg kan komme til å slutte i min nåværende jobb i løpet av året. // I may quit my present job next year.
3. Jeg vil sannsynligvis lete aktivt etter en ny jobb det neste året. // I will probably look for a new job in the next year.
4. Jeg oppfatter mine framtidsutsikter i denne organisasjonen som dårlige. // I do not see much prospects for the future in this organization.
5. Jeg vil trolig lete aktivt etter en ny jobb i løpet av de nærmeste 3 årene. // I will likely actively look for a new job within the next three years.

Organisational citizenship behaviour (OCB) (Van Dyne & LePine,1998, Kuvaas & Dysvik, 2009a)
1. Jeg påtar meg ofte oppgaver uoppfordret. // I volunteer to do things for my work group.
2. Jeg hjelper nyansatte til å tilpasse seg. // I help orient new employees in my work group.
3. Jeg bistår ofte gruppen/enheten min selv om det strengt tatt ikke er en del av jobben min. // I attend functions that help my work group, even though they are beyond the formal requirements of my job.
4. Jeg støtter og hjelper andre til beste for gruppen/enheten. // I assist others in my work group with their work for the benefit of the group.
5. Jeg involverer meg for at gruppen skal ha det best mulig. // I get involved in order to benefit my work group.
6. Jeg hjelper andre i min gruppe til å lære mer om arbeidsoppgavene. // I help others in my work group learn about the work.
7. Jeg hjelper ofte andre i min gruppe med oppgaver som egentlig er deres eget ansvar. // I help others in my work group with their work responsibilities.

Affective organizational commitment (Kuvaas 2006b (unit) // Allen & Meyer, 1990 (organisation), (Norwegian translation is ours)
1. Jeg føler ikke en sterk tilhørighet til organisasjonen min (R) // I do not feel a strong sense of belonging to my organization.
2. Jeg føler meg ikke “emosjonelt knyttet” til organisasjonen min (R) // I do not feel “emotionally attached” to this organization.
3. Jeg føler meg ikke som en “del av familien” i min organisasjon. (R) // I do not feel like “part of the family” at my organization.
4. Jeg liker å snakke om organisasjonen min med personer utenfor organisasjon. // I enjoy discussing my organization with people outside it.
5. Jeg føler virkelig at organisasjonens problemer er mine egne. // I really feel as if this organization´s problems are my own.

6. Jeg tror jeg lett kunne blitt knyttet til en annen organisasjon slik som jeg er tilknyttet denne organisasjonen (R) // I think I could easily become as attached to another organization as I am to this one.

Appendix 2. Interview guide (qualitative data)

Norwegian items	English items
Kan du beskrive en typisk arbeidshverdag for deg?	Can you describe a typical work day?
Hva tror du er grunnen til at du går på jobb hver dag?	What is the reason you chose to og to work every day?
Hvordan vil du beskrive arbeidsmiljøet på jobben din?	How would you describe the work environment at work?
Synes du arbeidsoppgavene dine i seg selv er en viktig drivkraft for jobben din?	Do you think that the tasks that you perform at work are themselves an important driving force to me.
Hvilket type forhold har du til jobben din?	What type of relationship do you have with your job?
Hvor mye spiller økonomi inn i din trivsel på jobb?	How much does the salary play in your well-being at work?
Er det mange som slutter i jobben sin? Har du tanker om å slutte i jobben din?	Generally, how is the turnover in your organisation? Are you thinking about changing job?
Er du opptatt av innsatsen din på jobb?	Are you concerned with your efforts at work?
Hvordan reagerer folk når du forteller hva du jobber med?	How does people react when you talk about your work?
Hva er deres lønn? Hva tror du at gjennomsnittslønnen for ditt yrke er?	What is you salary? What do you think is the mean salary for your occupation?

Appendix 3. Descriptions of the work contexts and their average monthly salary

Work contexts	**Descriptions of work contexts**[9]	**Salary**[10] **(NOK)**
Chief executive officers (CEO´s)	Chief executive officers are defined as the leader of an organisation. In our sample the CEO´s are leaders of either a organisation in private- or public sector. Search results on Google for each CEO and the company gives a hit-range from 66 200 to 0. As a reference level, a search result for Eldar Sætre, CEO of Statoil (now Equinor) gives a result of 33 100.	397 323
Lawyers	Lawyers are defined as individuals who acquires legal assistance and who may act in court on behalf of his/her clients. The lawyers in our sample are employed in 14 different organisations.	61 486
Doctors	Doctors are defined as individuals with licence as a physician in accordance with Health Personnel Law. Our sample consists of six general practitioners, seven specialists within different disciplines, and nine of the doctors are unknown.	74 450
Stockbrokers	Stockbrokers are defined as individuals who are acting as intermediary between buyer and seller of shares. Our sample consists of stockbrokers from 11 different companies.	59 165
Farmers	Farmers are defined as individuals who drives agriculture as a way of life. Our sample consists of farmers from nine out of 18 counties in Norway within different ways of agriculture.	46 173

[9] Descriptions are retrieved from Store Norske Leksikon (SNL) webpage or utdanning.no if not other is stated.

[10] The salary for each occupation is retrieved from Statistics Norway (SSB) if not other is stated. The monthly salary for each occupation is an average of private sector, local- and central government. Salary for CEO´s, sex sellers, and artists are retrived from media articles. Salary from professional soldiers and street magazine sellers are retrieved from qualitative data.

Artists	Artists are defined as individuals who perform art of aesthetic value. There are different forms and in our sample we have included painters, graphic artists, and sculptors.	7416
Photographers	Photographers are defined as individuals who are professional practicing photographers. In our sample the photographers either are self-employed or employees in a studio. The sample consists of 21 different organisations.	41 340
Volunteers[11]	Volunteers are defined as individuals who work in non profit or humanitarian organisations. In our sample we have both employees who does not achieve salary and some that does achieve salary. Further, in our sample at least three of the participants have this job as a part-time work.	44 310
Car dealers	Car dealers are defined as individuals who convey and sells both new cars and used cars. It is common to either work with new cars or used cars, in order to gain expertise in one car brand. In our sample there is 16 different car stores, which are both used and new cars.	36 275
Athletes	Athletes are defined as individuals who are professional athletes practising and participating in competitions. Athletes are employed at a sports club and often in contact with different sponsors or collaborations. Our sample consists of professional athletes within sailing, snowboard, volleyball, handball, rowing, running, cycling, gymnastics, golf, and kickboxing. Our sample only consists of individuals who are professional athletes, however, at least four of the participants have other part-time work besides their professional career.	42 580
Professional soldiers[12]	The professional soldiers are defined as individuals who are, or have been working in a war zone.	83 000
Priests	Priests are defined as individuals who leads the mass, rituals and actions in a church. All the priests in our sample is working in the Den norske kirke within 38	49 800

[11] The definition of volunteers is determined by us.
[12] The definition of professional soldiers is determined by us.

	different churches from eight different counties.	
Bouncers	Bouncers are defined as individuals who produce safety, security and unwarranted incidents. In our sample the bouncers work mainly night shifts at bars or office buildings. Our sample consists of bouncers from four different organisations.	37 170
Street magazine sellers	Street magazine sellers are defined as individuals who sell the magazine = Oslo.	1000
Dancers	Dancers are defined as individuals who express themselves through movement. Our sample consists of professional dancers from the National Theatre, Den Norske Opera og Ballett or are self-employed. Some of the dancers are also dance teachers.	41 500
Sex sellers	Sex sellers are defined as individuals who view exchanging sexcual activities as their livlihood and therefore perceive themselves as "sexworkers". Sex sellers also include individuals that does not perceive this as a livelihood. The respondents are both located in Norway and in other countries.	77 053
Morticians	Morticians are defined as individuals who help relatives with death and funerals. Morticians work mainly in funeral agencies. Our sample consists of morticians from eight different organisations.	40 200
Cleaning staff	Cleaning staff is defined as individuals who performs maintenance and cleaning work for different organisations or private homes. Our sample consists are employed at least in five different cleaning companies.	32 370

Table 1 - Descriptions of the work contexts in the self-rating sample and their average monthly salary.

Appendix 4. Approval from Norwegian Centre for Research Data (NSD)

NSD

Jan Ketil Arnulf
Nydalsveien 42
0442 OSLO

Vår dato: 05.04.2018 Vår ref: 59456 / 3 / HJT Deres dato: Deres ref:

Tilrådning fra NSD Personvernombudet for forskning § 7-27

Personvernombudet for forskning viser til meldeskjema mottatt 26.02.2018 for prosjektet:

59456	*Opplevelse av arbeidssituasjon*
Behandlingsansvarlig	*Handelshøyskolen BI, ved institusjonens øverste leder*
Daglig ansvarlig	*Jan Ketil Arnulf*
Student	*Merethe Arnesen*

Vurdering

Etter gjennomgang av opplysningene i meldeskjemaet og øvrig dokumentasjon finner vi at prosjektet er unntatt konsesjonsplikt og at personopplysningene som blir samlet inn i dette prosjektet er regulert av § 7-27 i personopplysningsforskriften. På den neste siden er vår vurdering av prosjektopplegget slik det er meldt til oss. Du kan nå gå i gang med å behandle personopplysninger.

Vilkår for vår anbefaling

Vår anbefaling forutsetter at du gjennomfører prosjektet i tråd med:

- opplysningene gitt i meldeskjemaet og øvrig dokumentasjon
- vår prosjektvurdering, se side 2
- eventuell korrespondanse med oss

Meld fra hvis du gjør vesentlige endringer i prosjektet

Dersom prosjektet endrer seg, kan det være nødvendig å sende inn endringsmelding. På våre nettsider finner du svar på hvilke endringer du må melde, samt endringsskjema.

Meld fra hvis du gjør vesentlige endringer i prosjektet
Dersom prosjektet endrer seg, kan det være nødvendig å sende inn endringsmelding. På våre nettsider finner du svar på hvilke endringer du må melde, samt endringsskjema.

Opplysninger om prosjektet blir lagt ut på våre nettsider og i Meldingsarkivet
Vi har lagt ut opplysninger om prosjektet på nettsidene våre. Alle våre institusjoner har også tilgang til egne prosjekter i Meldingsarkivet.

Vi tar kontakt om status for behandling av personopplysninger ved prosjektslutt
Ved prosjektslutt 03.09.2018 vil vi ta kontakt for å avklare status for behandlingen av personopplysninger.

Se våre nettsider eller ta kontakt dersom du har spørsmål. Vi ønsker lykke til med prosjektet!

Dokumentet er elektronisk produsert og godkjent ved NSDs rutiner for elektronisk godkjenning.

D – Norsk senter for forskningsdata AS Harald Hårfagres gate 29 Tel: +47-55 58 21 17 nsd@nsd.no Org.nr. 985 321 884
D – Norwegian Centre for Research Data NO-5007 Bergen, NORWAY Faks: +47-55 58 96 50 www.nsd.no

Vennlig hilsen

Marianne Høgetveit Myhren

Håkon Jørgen Tranvåg

Kontaktperson: Håkon Jørgen Tranvåg tlf: 55 58 20 43 / Hakon.Tranvag@nsd.no
Vedlegg: Prosjektvurdering
Kopi: Merethe Arnesen, merethe_arnesen@hotmail.com

Appendix 5. Cover letter to participants

Forespørsel om deltakelse i forskningsprosjektet

"Opplevelse av arbeidssituasjon"
Informasjon om studien
Formålet med oppgaven er å undersøke arbeidsmotivasjon på tvers av en rekke kontekster i samfunnet. Utvalget er valgt på bakgrunn av variasjon i arbeidskontekst.

Å gjennomføre spørreundersøkelsen vil ta ca 5 minutter der spørsmålene vil omhandle din arbeidsmotivasjon. Vennligst velg det svaralternativet som passer deg best slik at det er markert.

Anonymitet og frivillig deltakelse
Undersøkelsen er helt anonym. Vi er kun interessert i å samle tallene, og vil ikke registrere hverken navn, IP-adresse eller andre opplysninger som kan spores tilbake til enkeltpersoner. Det er helt frivillig å delta i undersøkelsen, og man kan trekke tilbake samtykke uten å oppgi noen grunn. Vi er kjempeglade for alle som vil hjelpe oss med å svare.

Kontaktinformasjon
Dersom du har spørsmål oms studien, ta kontakt med Merethe Arnesen, 41500265 eller e-mail merethe_arnesen@hotmail.com eller Christiane Vegan Hovland, 47631158 eller e-mail cvhovland@gmail.com.

Studien er meldt til Personvernombudet for forskning, NSD - Norsk senter for forskningsdata AS.

"*Experience of work situation*"
Information about the study
The purpose of this thesis is to investigate work motivation in several different work contexts.
Participants are chosen based on the variations in contexts.

Answering the questionnaire will take 5 minutes, and the questions will be about your work motivation. Please choose the answer that best represents your views.

Anonymity and voluntary participation
Participation will be anonymous. We are only interested in collecting the numbers, and will not register name, age or other information that can be traceable to the participants. You can at any given time withdraw from the study without giving a reason.

We are thankful for everyone that will participate in our study.

Contact information
If you want to participate or have any questions regarding the project, please feel free to contact Merethe Arnesen, 41500265 or e-mail merethe_arnesen@hotmail.com or Christiane Vegan Hovland, 47631158 or e-mail cvhovland@gmail.com

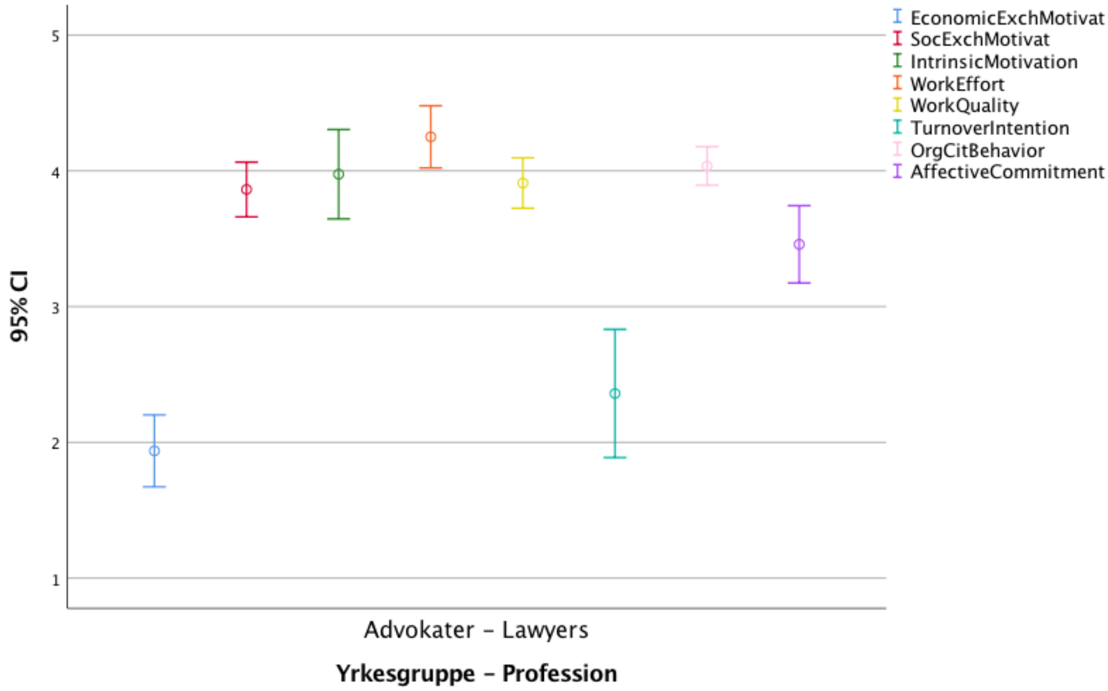
Appendix 6. Items for the external evaluation panel [13]

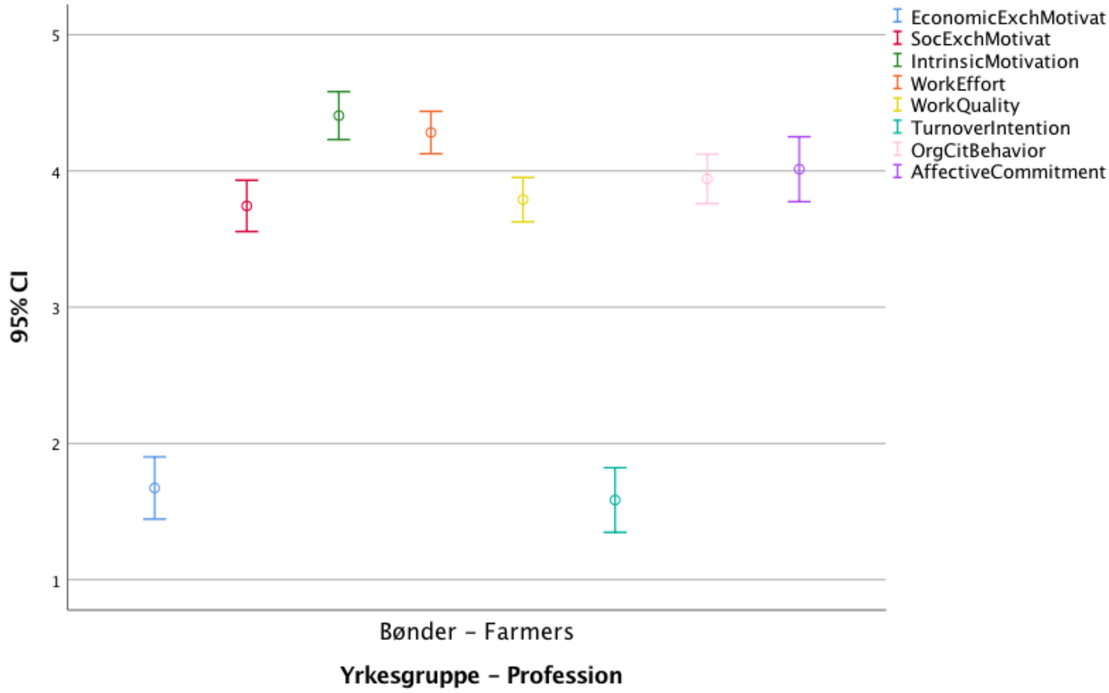
Job Characteristics	Norwegain items	English items
Work-life balance	Synes du dette yrket muliggjør for å balansere mellom jobb og fritid?	Do you think this profession enables a person to balance work and leisure?
Pay	Synes du dette yrket ville vært et fint yrke dersom penger ikke hadde vært noe problem?	Do you think this profession would be a nice profession if money had not been a problem?
Power	Synes du dette yrket inneholder evnen til å utføre makt?	Do you think this profession contains the ability to execute power?
Safety/danger	Synes du dette yrket inneholder risiko/fare?	Do you think this profession contains any risk / danger?
Prestige	Dette yrket ville jeg skrytt av til andre.	I would have bragged about this profession to others.
Task significance	Hvor signifikant eller meningsfull er denne jobben? Det vil si, har resultatene av en persons arbeid stor sannsynlighet til å påvirke livene eller velvære til andre mennesker?	In general, how significant or important is the job? That is, are the results of the person's work likely to significantly affect the lives or well-being of other people?
Skill variety	Hvor mye variasjon er det i jobben? Det betyr, i hvilken grad krever jobben at en person gjør mange ulike oppgaver, ved å bruke varierte ferdigheter og talenter?	How much *variety* is there in the job? That is, to what extent does the job require a person to do many different things at work, using a variety of his or her skills and talents?
Relatedness	Tror du dette yrket inneholder	Do you think this

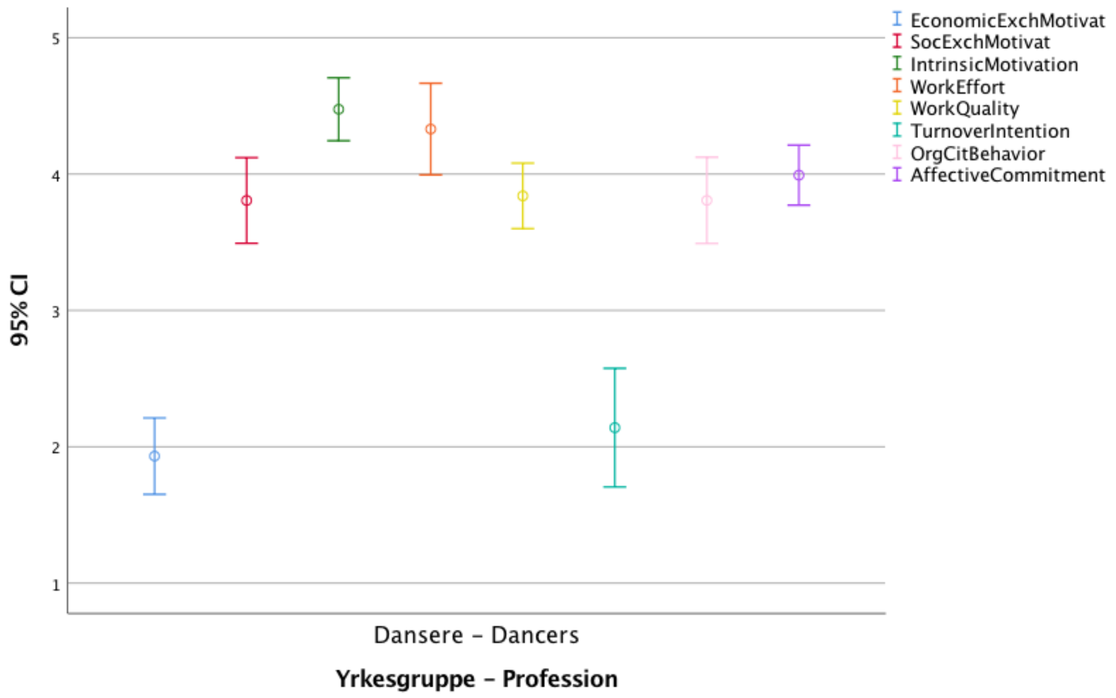
[13] The participants were presented with one question and then asked to rate the 18 different contexts on a five-Likert scale.

	meningsfylte forhold til andre mennesker?	profession contains meaningful relationships with other people?
Autonomy	Denne jobben gir en person mulighet til selvstendighet og frihet i hvordan han eller hun skal utføre jobben.	The job gives a person considerable opportunity for independence and freedom in how he or she does the work.
Task identity	Synes du denne jobben gir en person muligheten til å ferdigstille alt arbeid han eller hun starter på?	The job provides a person with the chance to finish completely any work he or she starts.
Feedback	I hvilken grad får personen tilbakemelding fra jobben i seg selv, fra ledere eller medarbeidere eller der jobben krever at man arbeider sammen med andre?	To what extent does doing the *job itself, managers or co-workers or cooperation with others* provide the person with information about his or her work performance?

Appendix 7. Box plots for each occupation



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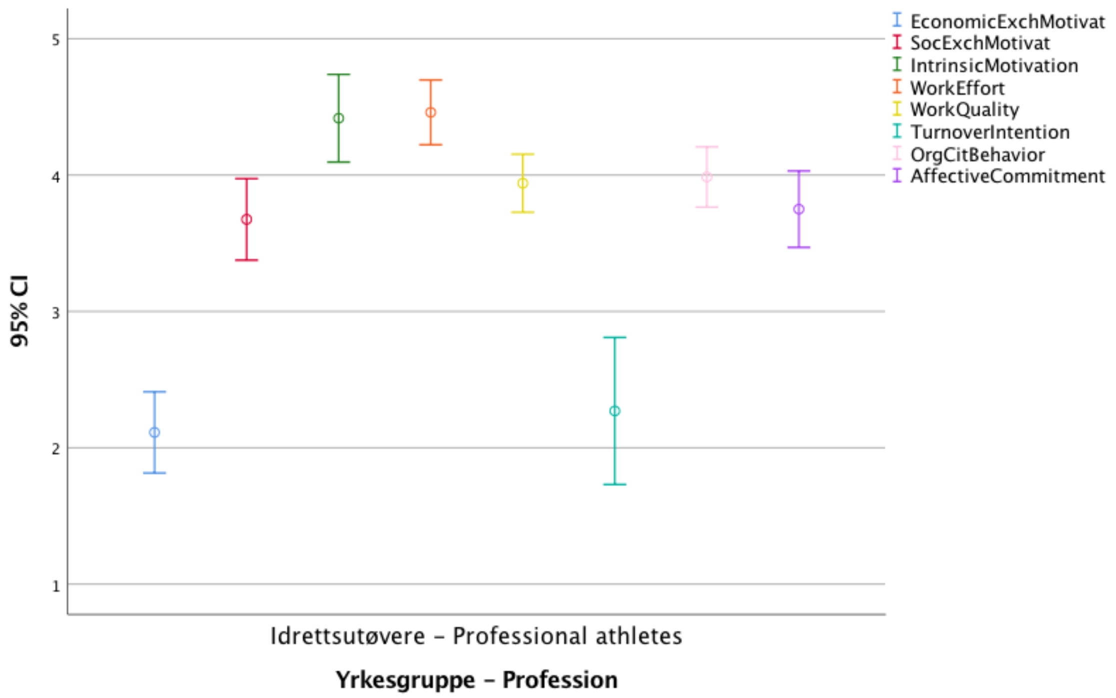
Dansere – Dancers
Yrkesgruppe – Profession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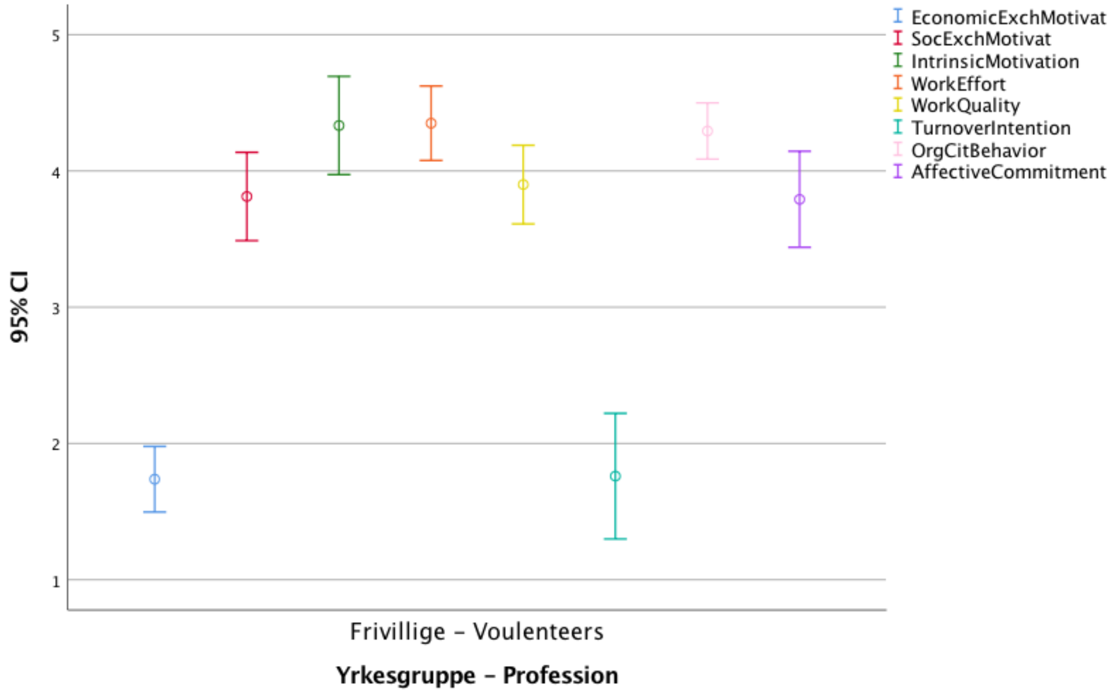
Idrettsutøvere – Professional athletes
Yrkesgruppe – Profession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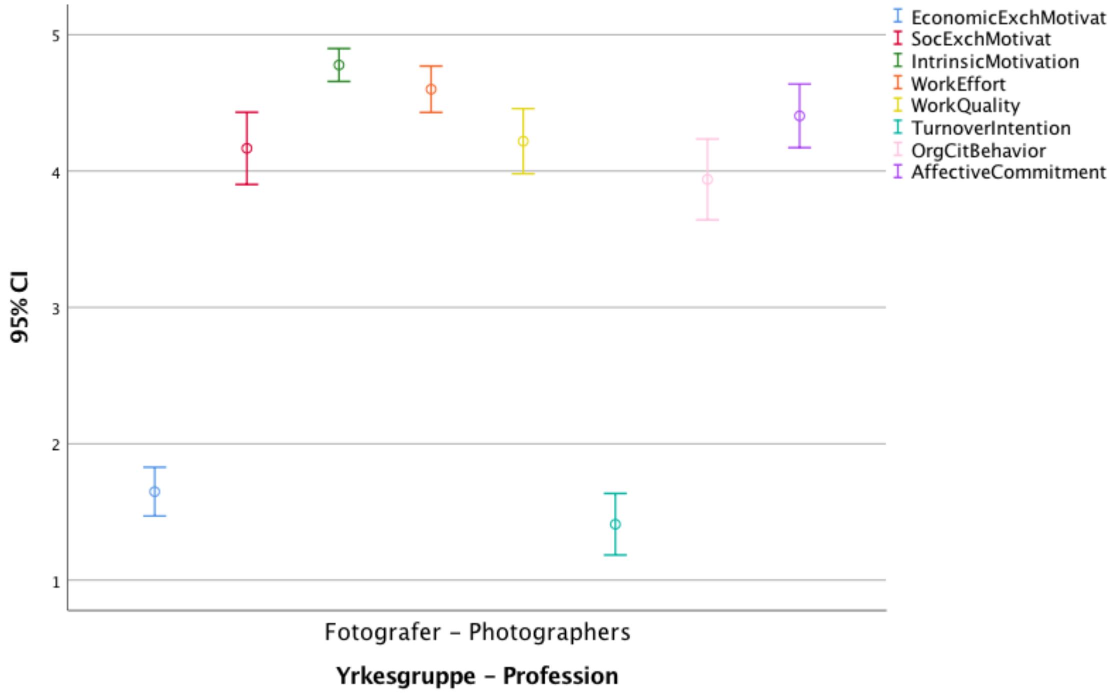
Frivillige – Voulenteers
Yrkesgruppe – Profession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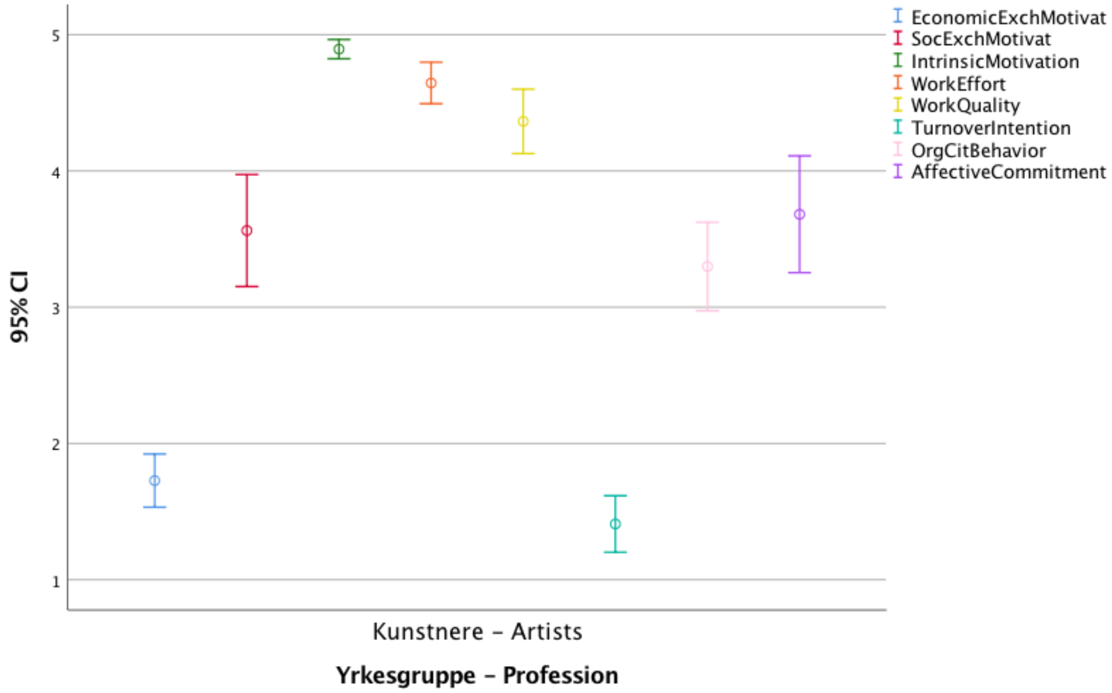
Fotografer – Photographers
Yrkesgruppe – Profession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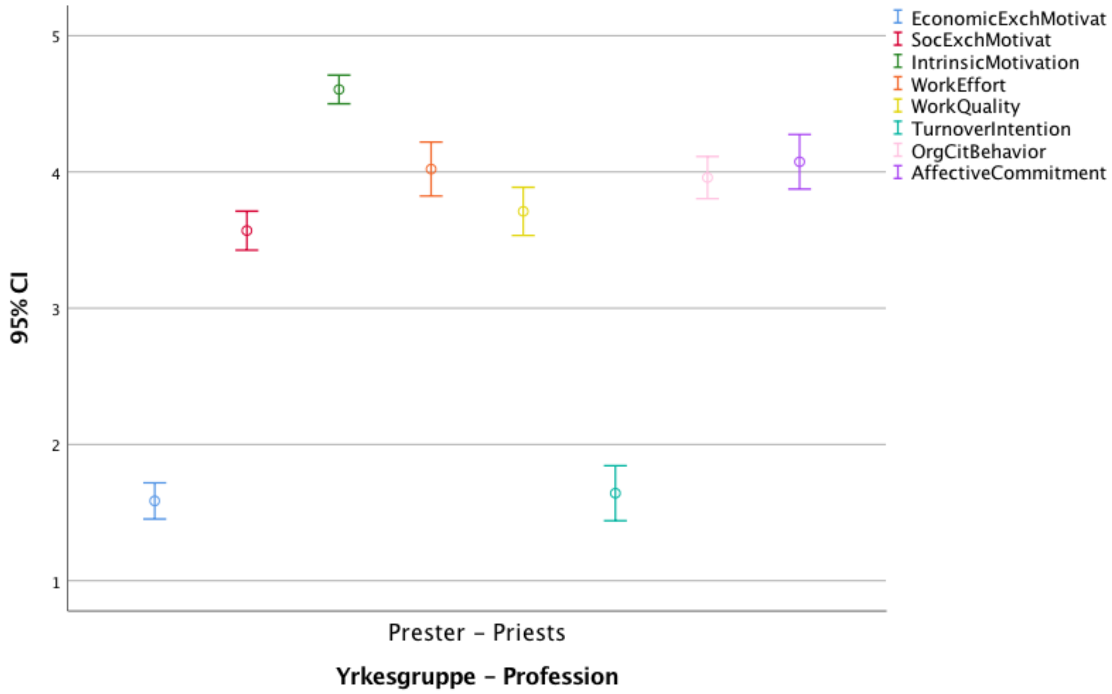
Kunstnere – Artists
Yrkesgruppe – Profession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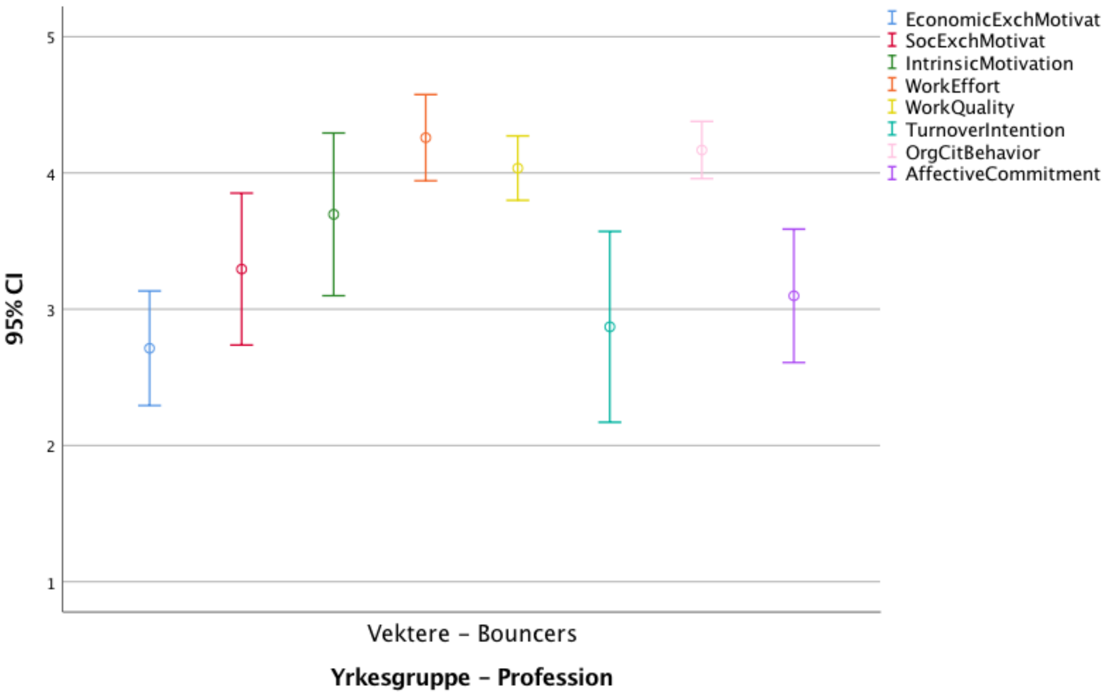
Prester – Priests
Yrkesgruppe – Profession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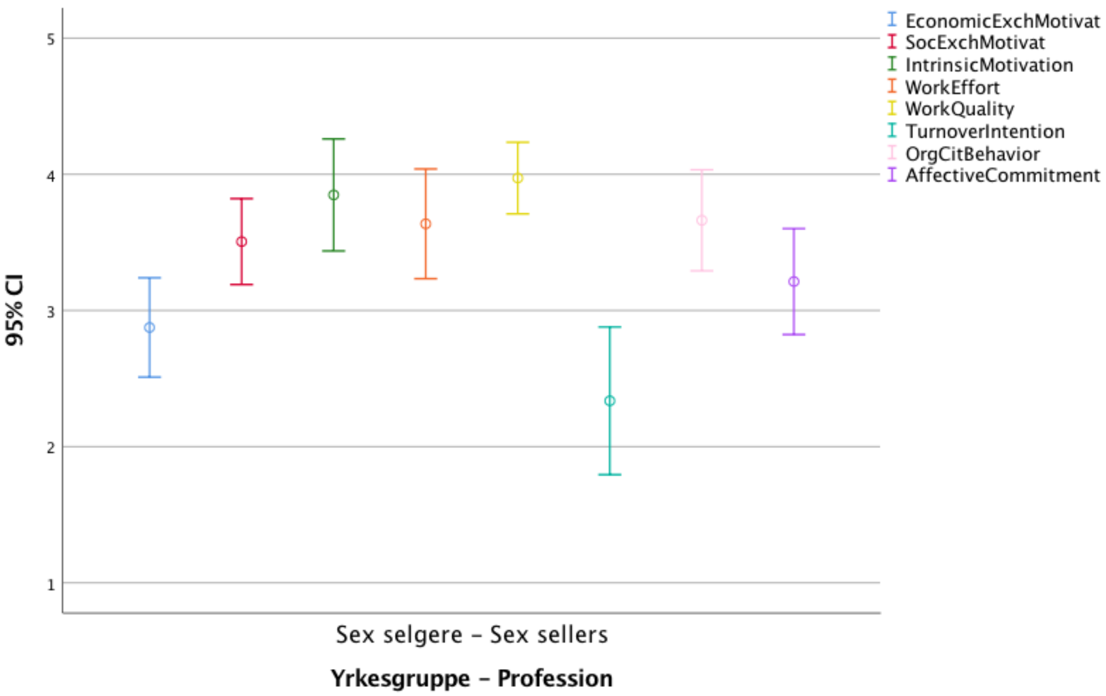
Vektere – Bouncers
Yrkesgruppe – Profession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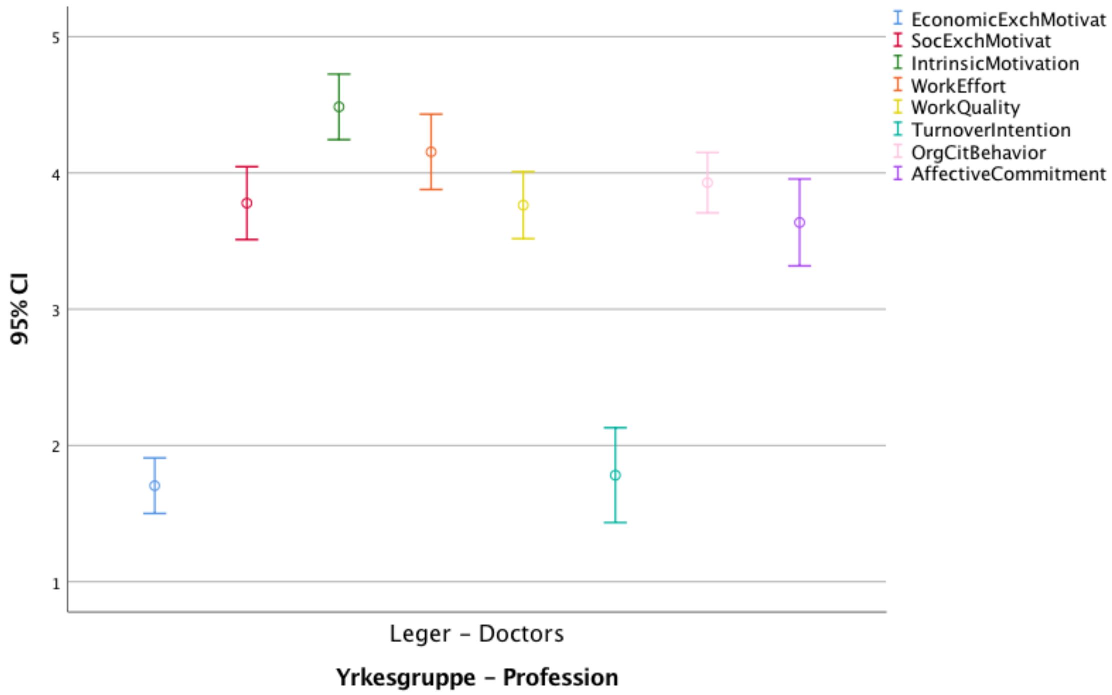
Sex selgere – Sex sellers
Yrkesgruppe – Profession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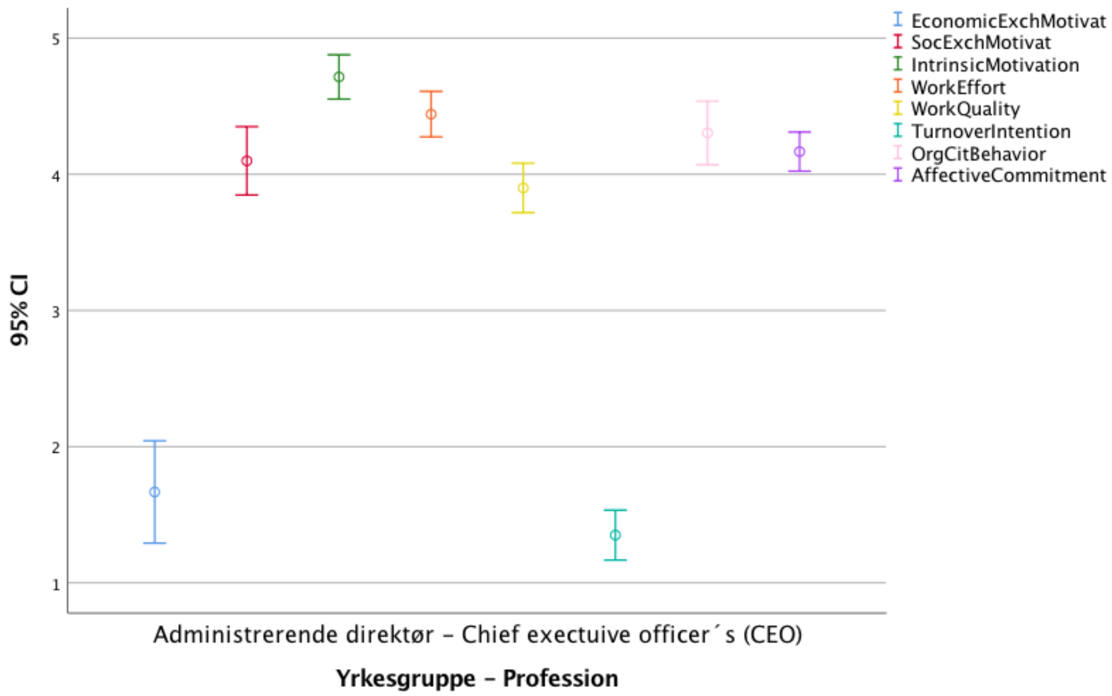
Leger – Doctors
Yrkesgruppe – Profession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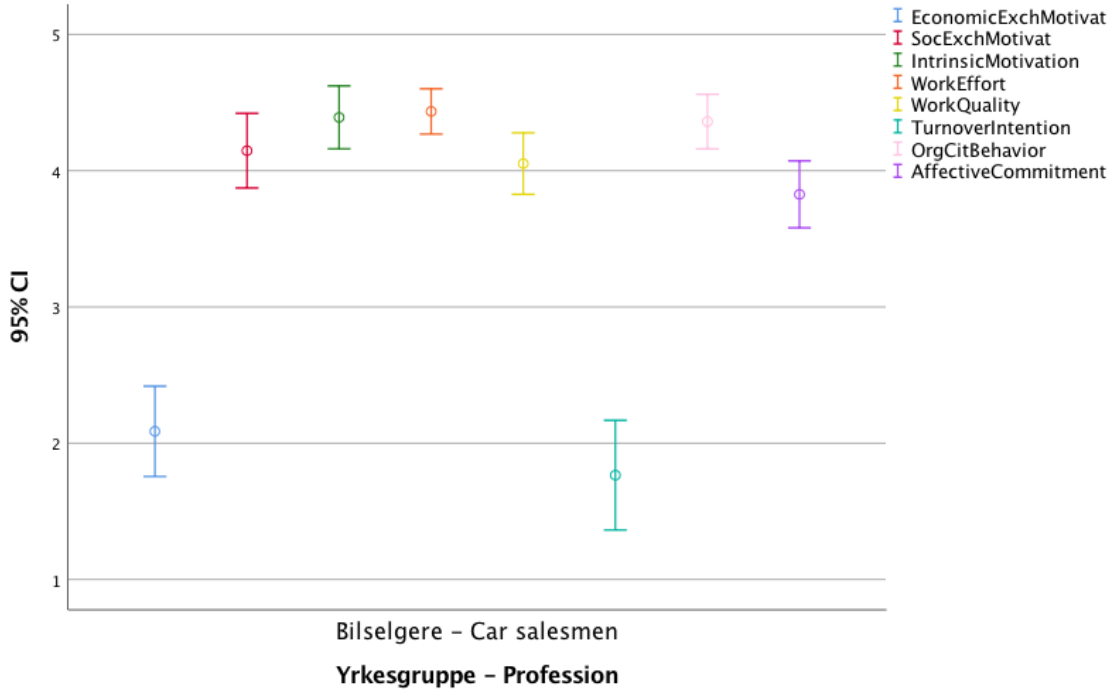
Administrerende direktør – Chief exectuive officer´s (CEO)
Yrkesgruppe – Profession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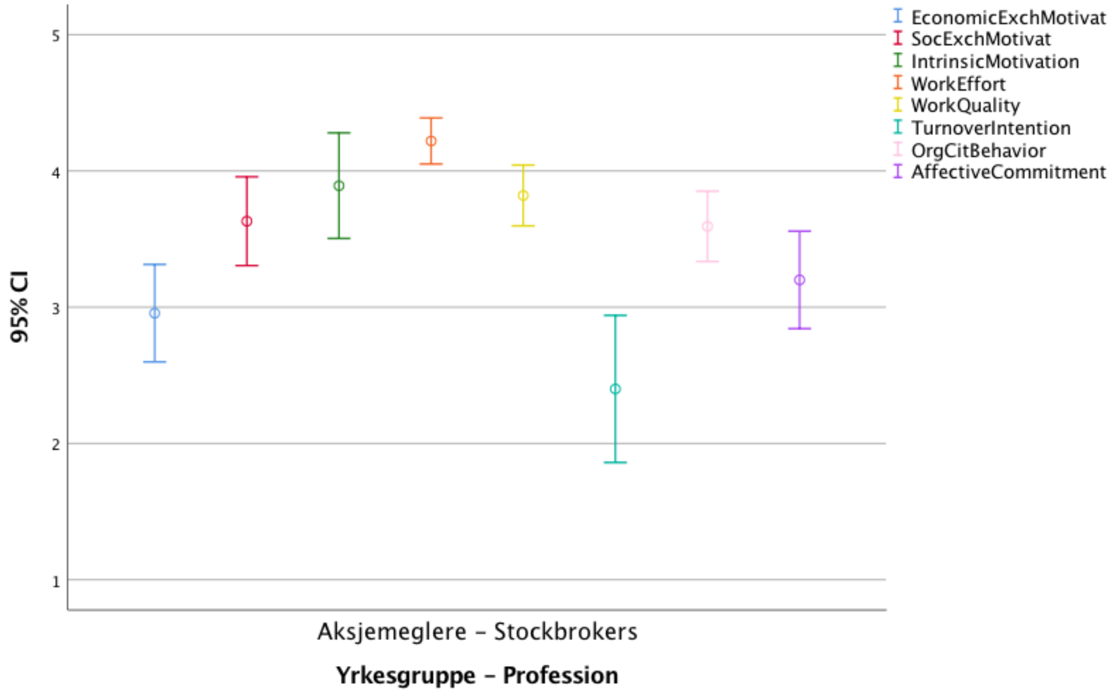
Bilselgere – Car salesmen
Yrkesgruppe – Profession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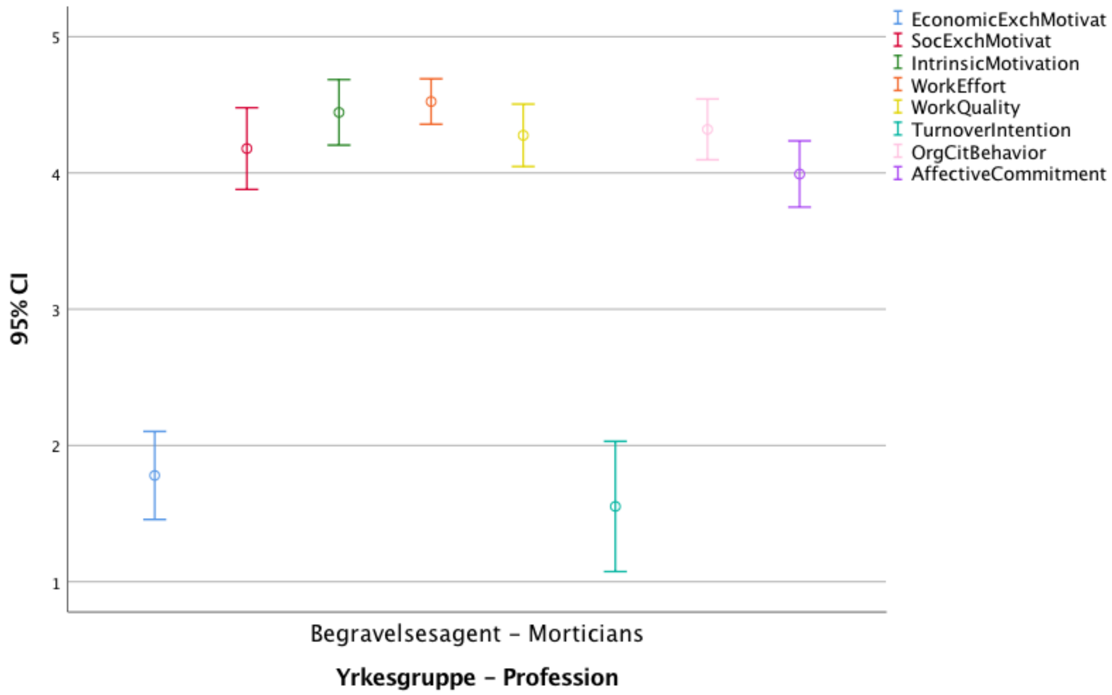
Aksjemeglere – Stockbrokers
Yrkesgruppe – Profession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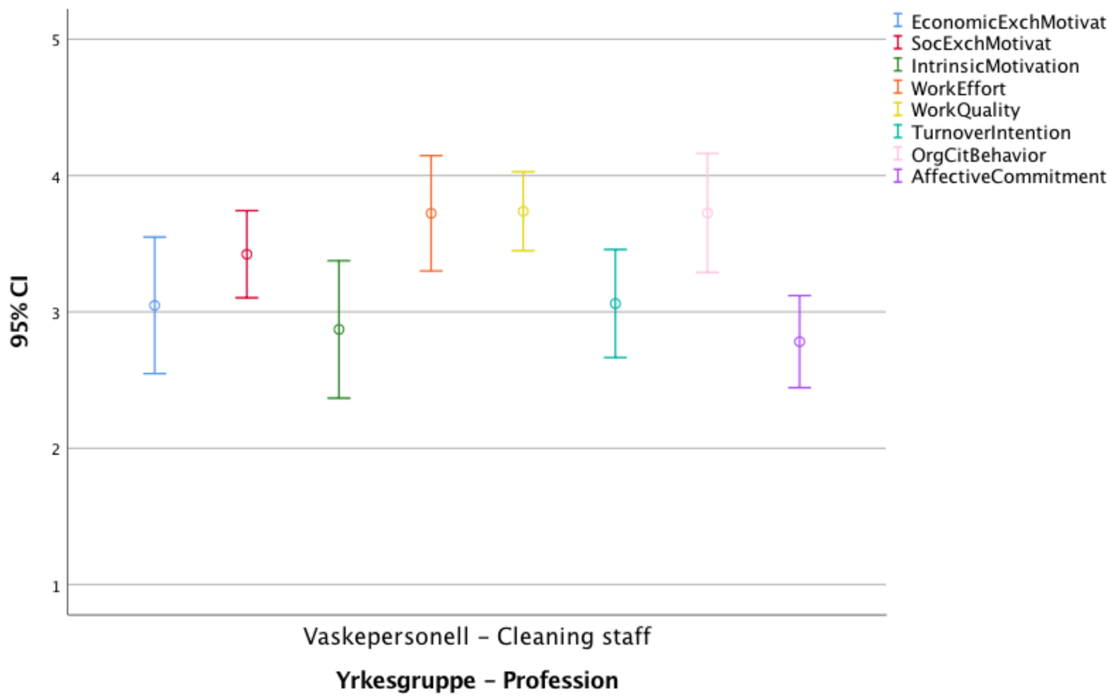
Begravelsesagent – Morticians
Yrkesgruppe – Profession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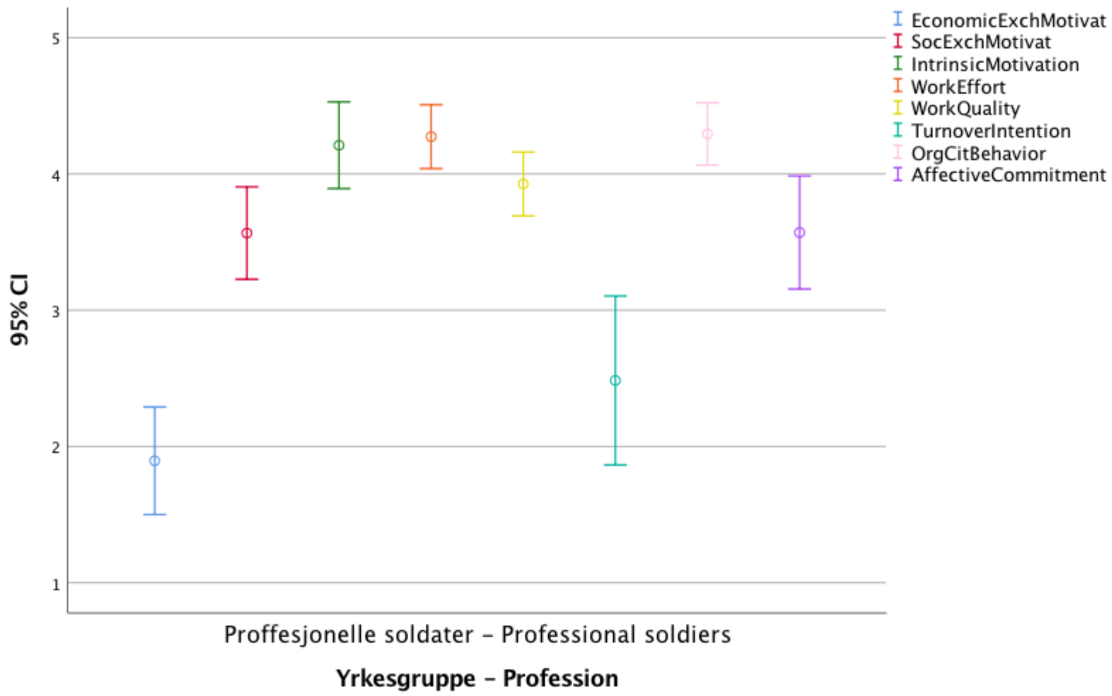
Vaskepersonell – Cleaning staff
Yrkesgruppe – Profession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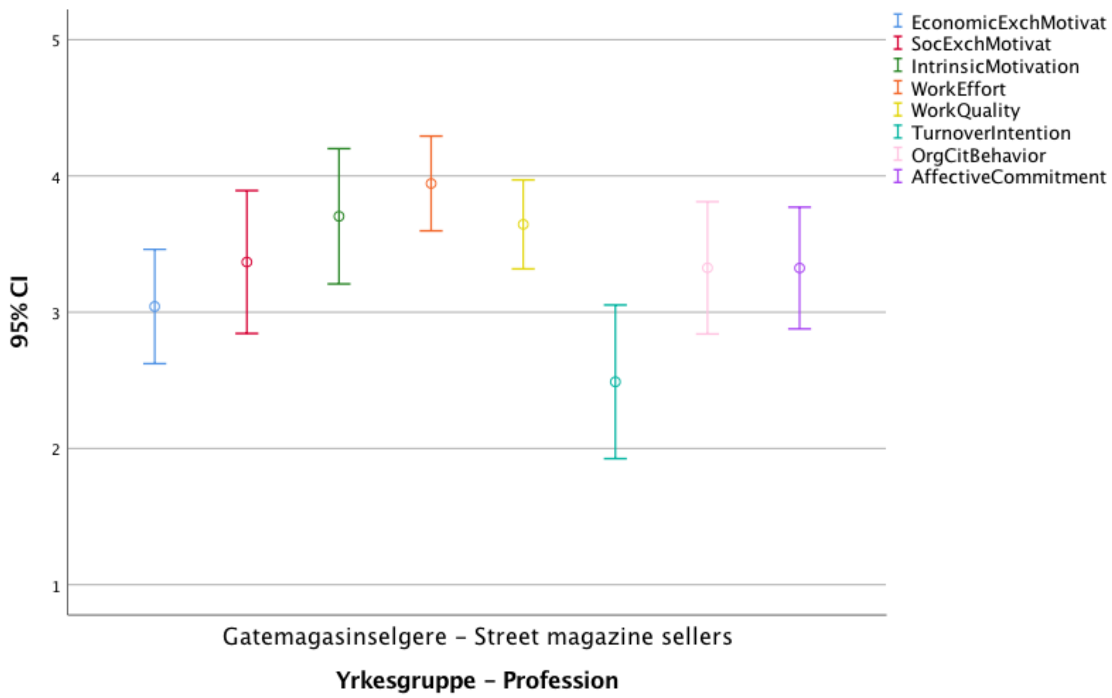
Proffesjonelle soldater – Professional soldiers
Yrkesgruppe – Profession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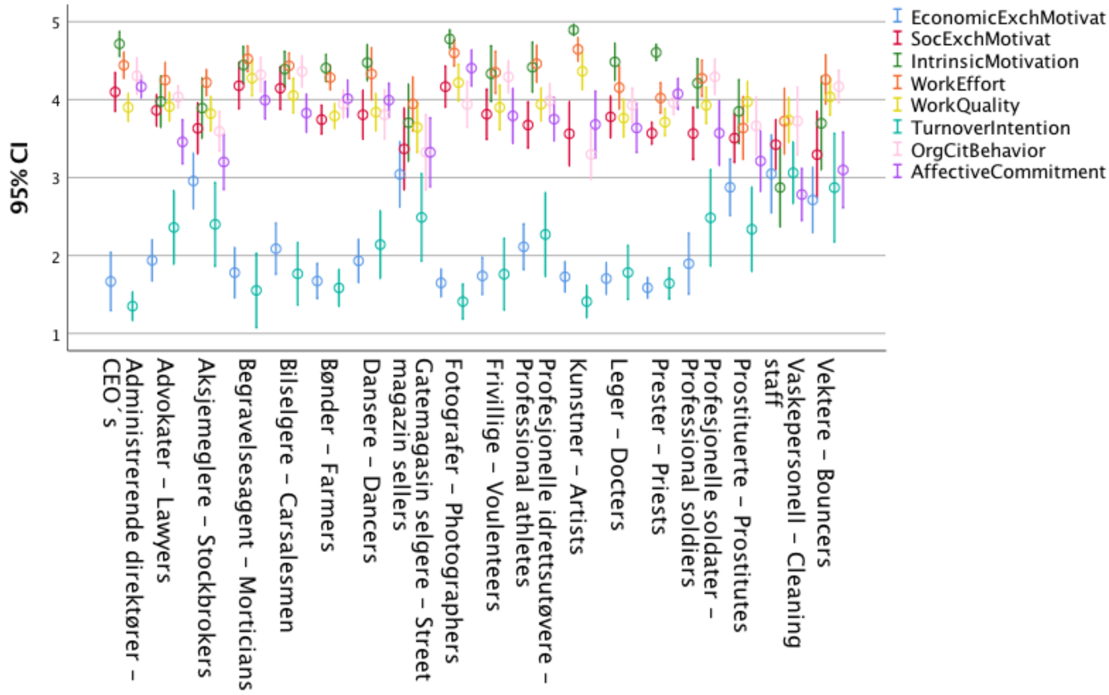
Gatemagasinselgere – Street magazine sellers
Yrkesgruppe – Profession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Administrerende direktører – CEO´s
Advokater – Lawyers
Aksjemeglere – Stockbrokers
Begravelsesagent – Morticians
Bilselgere – Carsalesmen
Bønder – Farmers
Dansere – Dancers
Gatemagasin selgere – Street magazin sellers
Fotografer – Photographers
Frivillige – Voulenteers
Profesjonelle idrettsutøvere – Professional athletes
Kunstner – Artists
Leger – Docters
Prester – Priests
Profesjonelle soldater – Professional soldiers
Prostituerte – Prostitutes
Vaskepersonell – Cleaning staff
Vektere – Bouncers