

Preface

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Abstract

Despite increased attention on facets of personality in recent years, few studies have investigated the relationship between the interpersonal traits and job performance among call center employees at that level. The purpose of this study was to examine the effects of extraversion and agreeableness at the domain and facet level in an attempt to elucidate how interpersonal traits might predict job performance among call center employees. The sample consisted of employees ($N = 45$) from a call center department. Employees completed the NEO personality inventory, and objective performance data of sales and customer satisfaction was collected. Regression analyses revealed great variation in the relationships of the facets and the performance measures, as indicated by the different direction of facets within each domain. The results of the current study indicated that the two performance measurements were opposing and had specific facets related to job performance. Organizations should therefore be aware of which performance the organization values most when selecting future employees. In the combined model of sales regressed on facets of extraversion and agreeableness, warmth was significantly positively related to sales. The model explained 28% of the variance of sales. In the combined model of customer satisfaction regressed on facets of extraversion and agreeableness, gregariousness was significantly positively related to customer satisfaction and activity was significantly negatively related to customer satisfaction. The model explained 32% of the variance of customer satisfaction. The results add to knowledge that specificity is necessary in order to understand the relationship between personality and job performance.

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Introduction

For recruiters of service workers, identifying candidates with certain personality traits suitable to serving customers at certain companies can present a major challenge. In particular, call center employees should have a certain set of personality traits, given their direct contact with the customers of companies and thus essential role in making an impression of the company upon customers (Cheong, Kim, & So, 2008). For companies, call centers afford significant advantages for customer service, including greater opportunities to deliver, capture, and recapture customer satisfaction (De Ruyter, Wetzels, & Feinberg, 2001). In that sense, given the difficulties that companies face in creating competitive edge due to the range of services offered, call center employees can represent a source of differentiation toward creating that edge (Pfeffer, 1994).

The relationship between personality and job performance has been a popular topic of research in industrial-organizational psychology during the past 100 years (Barrick, Mount, & Judge, 2001). Among major findings, studies have indicated that personality traits are important antecedents of job performance, especially in service industries (Barrick and Mount, 1991). Researchers have also posited that understanding the role of personality as a predictor of performance in jobs involving interpersonal interaction is crucial for formulating theories of job performance (Judge & Zapata, 2015; Mount, Barrick, & Stewart, 1998). Nevertheless, attention to those relations to performance in the call center environment remains limited (Echchakoui, 2013; Sawyerr, Srinivas, & Wang, 2009).

From 2003 to 2008, more than 200 studies examined the broad personality domains of the five-factor model (FFM). During the same period, however, only 10 studies used narrower personality traits (Christiansen & Robie, 2011). Despite increased attention to facets of personality in recent years (DeYoung, Quilty, & Peterson, 2007), hardly any studies have investigated the relationship between the interpersonal domains and job performance among call center employees in terms of facets of personality. In response to that gap in the literature, this study examines the effects of extraversion and agreeableness in terms of both personality domains and facets in a call center context in order to clarify how interpersonal traits can predict job performance among call center employees.

Theoretical Framework

Call Centers

A *call center* is “a work environment in which the main business is mediated by computer and telephone-based technologies that enable the efficient distribution of incoming calls (or allocation of outgoing calls) to available staff, and permit customer–employee interaction to occur simultaneously with use of display screen equipment and the instant access to, and inputting of, information” (Holman, 2003, p. 116). Although service provision has historically been personal (Sørensen, 2008), upon their emergence in the 1990s, call centers became the single source of customer contact in developed informational economies (De Ruyter et al., 2001). Competing for customers has motivated companies to invent forms of service, and consequently, call centers have collectively served as an effective way for businesses to organize mass services for their customers. Companies’ call centers can be either in-house or outsourced, as well as may manage in- or outbound calls, although most primarily handle inbound ones. The largest proportion of call centers provides customer service only, whereas another fifth of them provide sales only, and the remaining third provide both (Holman, Batt, & Holtgrewe, 2007). Typically, call center employees provide mass services by interacting with customers on the telephone with support from computer systems (Zapf, Isic, Bechtoldt, & Blau, 2003). By extension, the use of such technology allows companies to conduct electronic performance monitoring, which has become a central aspect of everyday life in call centers.

On the whole, call centers have long suffered from a dismal reputation and bad public image, which have prompted some to label themselves not “call centers,” but “customer service centers” (Sørensen, 2008). No matter the name, the industry has demonstrated high rates of employee turnover and absenteeism, which have led professionals to believe that working in a call center is stressful (Taylor, Baldry, Bain, & Ellis, 2003). Indeed, several studies have suggested that working in a call center involves low levels of job control, decision-making latitude, and complexity of work (Metz, Rothe, & Degener, 2001; Taylor et al., 2003). A central aspect of call center employees’ work is hosting social interactions with customers, who are therefore thought to exert strong control over the employees. In those interactions, employees are expected to adhere to clear rules at both the task and interaction levels. Those rules include following certain scripts and expressing appropriate emotions, even in unexpected and unpleasant situations in which customers behave aggressively and even harass employees (Zapf et al., 2003).

Earlier research on call centers focused on micro and macro issues, ranging from employee stress and burnout (Taylor et al., 2003; De Ruyter et al., 2001) to organizational structure and employee training strategies (Callaghan & Thompson, 2001, 2002). Although call centers have been a popular setting for studying organizational structure and health-related issues, less attention has been paid to employee characteristics at the individual level, including in terms of the relationship between employees' personality and job performance (Echchakoui, 2013; Sawyerr et al., 2009). Nevertheless, most adult consumers have had experiences with call center employees and have developed a perception of what sort of personality they should have. Although some personality traits have been positively related to employees' performance at call centers, others have been negatively related. For example, Sawyerr et al. (2009) found that only openness to experience significantly and negatively correlated to performance at call centers. The researchers argued that such restrictive workplace environments do not allow individuals who score high on openness to experience to perform well.

Job Performance

Job performance ranks among the most studied criteria in industrial-organizational psychology (Bommer, Johnson, Rich, Podsakhoff, & MacKenzie, 1995). Although Campbell (1990, p. 704) has defined *job performance* as the “observable things people do that are relevant for the goals of the organization”, controversies about the exact definition of *job performance* exist, and research has attested to the difficulty of operationalizing the construct (Murphy, 2005). Unsurprisingly, managers and researchers alike have thus struggled to identify the best methods of measuring job performance, and researchers have highlighted the need to improve the quality of performance ratings (Murphy, 2005). Meanwhile, several other researchers have stressed the importance of choosing relevant performance criteria when investigating the relationship between personality traits and job performance (Barrick et al., 2001; Echchakoui, 2013; Hogan & Holland, 2003; Vinchur, Schippmann, Switzer, & Roth, 1998).

In literature on the topic, measures of job performance are characterized as either subjective—for example, supervisory ratings and self-ratings—or objective—productivity indexes and sales statistics (Motowidlo, 2003; Murphy, 2005). Although such measures can indicate performance to some degree, they are quite different in nature. Among them, supervisory performance ratings represent the most common measure of job performance, yet is not typically well respected by some researchers (Murphy, 2005). By contrast, objective

measures are often preferable, yet can be difficult to identify and collect, which promotes the use of subjective ones in selection research (Barrick & Mount, 1991). At the same time, since objective measures can also exhibit criterion deficiency, there will always be other aspects of job performance that are not easily quantifiable (Murphy, 2005).

Personality as a Predictor of Job Performance in Call Centers

Research on industrial-organizational psychology has focused extensively on the relationship between personality traits and job performance. Since Barrick and Mount (1991) directed attention to the field with their meta-analysis on FFM and job performance, several other researchers have conducted meta-analyses of their own (e.g., Hurtz & Donovan, 2000; Judge & Zapata, 2015; Salgado, 1997; Tett, Jackson, Rothstein, & Reddon, 1999). Their results have indicated that conscientiousness and neuroticism are generally valid predictors of all types of job performance and occupations, whereas other domains have shown variation across occupations, depending on the performance criteria used (Barrick & Mount, 1991; Barrick et al., 2001; Salgado, 1997).

Among those meta-analyses, Judge and Zapata's (2015) derived from two theoretical concepts—situation strength and trait activation—that govern the degree to which the FFM relates to job performance. They tested an interactionist model derived from both concepts and revealed that all five personality traits were more predictive of performance in jobs involving weak situations – situations that are relatively unstructured and ambiguous. Since some traits were activated to a greater degree in specific contexts, Judge and Zapata (2015) concluded that their findings supported an interactionist model in situations that exert both general and specific effects on the relationship between personality and job performance.

As mentioned, call centers can provide both customer service and sales (Holman et al., 2007). Regarding customer service, researchers have argued that call center employees have direct contact with companies' customers and therefore play an essential role in forming the impression that companies make upon them (Burgers, De Ruyter, Keen, & Streukens, 2000; Cheong et al., 2008). Concerning sales, the potential rewards of selecting successful sellers might be greater than selecting employees for other occupations, if one considers the standard deviation among employees results in sales occupations. Also as mentioned, literature on call centers has paid less attention to individual characteristics such as personality as a potentially important determinant in explaining job performance (Echchakoui, 2013; Sawyerr et al., 2009). However, personality has generated far more promising results in research on other occupations in which interpersonal interaction is central—for example, sales and customer

service at grocery stores and banks (Judge & Zapata, 2015; Mount et al., 1998). Arguably, those occupations share some core aspects of positions at call centers—namely, interaction with customers. At the same time, employees in the former lines of work communicate with customers physically in face-to-face interactions, whereas call center employees are limited to voice-to-voice contact with customers.

Personality Traits

Although several validated personality taxonomies are available, most studies conducted since 1990 have used instruments that measure personality traits that correspond to the five factor model (FFM) (Barrick et al., 2001).

The five-factor model and the NEO Inventories. Researchers in both personality and industrial-organizational psychology agree that the FFM is the most established and validated model of personality (Caspi, Roberts, & Shiner, 2005; John, Naumann, & Soto, 2008). The FFM is a hierarchical taxonomy with five broad domains—neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (McCrae & Costa, 1997)—each of which represents the shared variance of a set of several specific facets (Costa, 1996). The model seems to have universal validity (McCrae & Costa, 1997) and the traits are considered to be relatively stable over time (Caspi et al., 2005). Moreover, it has been evaluated for numerous occupations, including sales and customer service (Barrick & Mount, 1991; Hurtz & Donovan, 2000).

Among the several instruments that measure personality traits, the third NEO Inventory (NEO-PI 3) assesses 30 specific traits, or facets, six for each of the five basic personality dimensions (McCrae & Costa, 2010). A revised version of the NEO PI-R was developed as a means to reduce difficulty in reading comprehension and increase the internal consistency of the facet scales (McCrae, Costa, & Martin, 2005). Although the NEO PIs have received criticism (e.g., Block, 2010; McAdams, 1992), their general framework is considered to represent the most prominent FFM questionnaire (Hofstee, 2003).

The five-factor model and the circumplex model of interpersonal functioning. Research has suggested that interpersonal functioning constitutes a two-dimensional circumplex in which variables are ordered circularly around the orthogonal dimensions of dominance versus submission and hostility versus friendliness (Alden, Wiggins, & Pincus, 1990; Gurtman, 1996). Interpersonal theory and its associated circumplex model for assessment (Leary, 1957; Wiggins, 1979) provide a description of individual differences and together mark an important contribution in understanding basic personality trait dimensions.

Moreover, the model has proven to correspond meaningfully with the dimensions of extraversion and agreeableness in the FFM (McCrae & Costa, 1989; Nysæter, Langvik, Berthelsen, & Nordvik, 2009; Trapnell & Wiggins, 1990). McCrae and Costa (1989) have even posited that the interpersonal circumplex and the FFM can be complementary models of personality. Although the FFM provides a larger framework, the interpersonal circumplex provides a useful elaboration of extraversion and agreeableness and their combinations.

Applying Domain Scales Versus Facet Scales in Assessing Personality

When measuring personality, researchers often have to strike a balance between the careful measurement of a narrowly defined variable and the more cursory exploration of many separate variables (Ones & Viswesvaran, 1996). That problem is known as the *bandwidth–fidelity dilemma*, in which *bandwidth* refers to the breath of information, whereas *fidelity* refers to the reliability of the information (Ones & Viswesvaran, 1996). Put differently, broader coverage sacrifices comprehensiveness for parsimoniousness in explaining observed patterns of behavior. Although some researchers disagree (e.g., Ones & Viswesvaran, 1996), it seems that the broader the construct, the more items that are necessary to reliably measure it compared to narrower constructs (Cortina, 1993). However, that concept does not apply to personality assessment, since the domains, as composites of several highly intercorrelated facets, have greater reliability than the facets themselves (Chapman, 2007).

The dilemma of applying factor scales that include items measuring multiple related traits or using facet scales that include only items assessing a single trait (Vasilopoulos, Cucina, & Hunter, 2007) have prompted disagreements in the literature about what is more important: measuring reliability in personality assessment or predictive power. Researchers who favor broader personality dimensions argue that the dimensions are more reliable than the facets scales and also provide the trait coverage necessary to predict broad criteria such as job performance (Ones & Viswesvaran, 1996). By contrast, other researchers maintain that the FFM is too broad (Tett, Steele, & Beauregard, 2003) and that broader traits are insufficient when measuring organizational outcomes (Ashton, Paunonen, & Lee, 2014; Hough & Oswald, 2005). Specifically, those researchers argue that using broader dimensions can mask the predictive validity of the most relevant facets of personality to job-related outcomes (Hough, 1992) and hindering detection of meaningful curvilinear relationships at the facet level (Paunonen & Nicol, 2001). For a practical example using domain and facet scores in the NEO framework, two individuals can appear similar on a domain score if one

has three high and three low extreme scores while the other has six middling scores. As a result, valuable information can be lost when using broad personality dimensions instead of facets and potentially mask individual differences at the facet level

More recent studies have shown that, compared to dimensions, facets can have similarly good, if not superior, predictive value to predict outcome measures (Ashton et al., 2014; Bergner, Neubauer, & Kreuzthaler, 2010; Markon, Krueger, & Watson, 2005). As such, regarding job performance in call centers, it is necessary to examine whether the facets or the domain can relate to performance. Since interpersonal traits have proven to correlate to occupations involving interpersonal interaction, the current study has chosen to examine the interpersonal dimensions of extraversion and agreeableness.

Relationship Between Interpersonal Traits and Call Center Job Performance

The following paragraphs review literature on extraversion and agreeableness and the relationship between them and job performance among employees in call centers. However, given the lack of literature on that relationship in the call center context (Echchakoui, 2013; Sawyerr et al., 2009), the relationship in related occupations will be explored.

Extraversion at the domain level. Researchers on personality have highlighted extraversion as the single most important trait for sales and occupations involving social interaction (Costa & McCrae, 1992; Tett, Jackson, & Rothstein, 1991). Barrick and Mount's (1991) pioneering meta-analysis found that the estimated true correlation at the construct level for salespeople was .09 for extraversion. However, due to considerable variation in the extraversion–performance relationship, the researchers suggested that moderators might influence that relationship, as indicated by large standard deviations.

In their recent meta-analysis, Judge and Zapata (2015) underscored that extraversion was more positively related to job performance in competitive contexts, in occupations requiring social skills, and in occupations that involved dealing with unpleasant or angry people. Of course, their findings about extraverts' job performance in competitive environments are nothing new, for the desire to excel and obtain rewards has been identified as a basic motivation of extraverts. In support, using the NEO PI-R and objective performance data, Stewart (1996) showed that a sales reward structure moderated the extraversion–performance relationship—in particular, that salespeople's extraversion positively correlated with sales performance only when their performance was explicitly rewarded. In a laboratory study, other researchers demonstrated that extraverts rated a competitive game as more likeable and interesting than a cooperative one (Graziano et al.,

1985), which similarly implies that extraverts perform better when rewards are at stake. Furthermore, measuring cognitive performance in group interactions, Bentea and Anghelache (2012) showed that in a competitive group condition, extraverts demonstrated better performance, whereas introverts performed better in a cooperative condition. From a neurobiological perspective, there is also a consensus that extraversion is the primary indicator of sensitivity to reward and positive affect (DeYoung, 2010).

That extraverts perform better in occupations requiring social skills (Judge & Zapata, 2015) has long been considered as an established fact. Graziano, Feldesman, and Rahe (1985) observed that extraverts tend to perceive interpersonal disagreements as less aversive than do introverts. Interestingly, a meta-analysis showed that extraversion predicted problem solving, support-seeking, and cognitive restructuring coping methods (Connor-Smith & Flachsbarth, 2007). However, studies measuring performance in customer service and sales occupations have shown weak and inconsistent relationships between personality and job performance (e.g., Barrick & Mount, 1991; Stewart, 1996; Warr, Bartram, & Martin, 2005). Using a sample of computer retail sales employees who provided both sales and customer service, researchers found extraversion to be significantly related to supervisory ratings of both customer service and sales performance (Conte & Gintoft, 2005). However, more recent findings have illustrated an inverted U-shaped relationship of extraversion with objective measures of sales performance (Grant, 2013). Using a sample of employees at an outbound call center, that study demonstrated that high levels of extraversion had negative effects on sales revenue. In response, the author proposed that ambiverts—individuals who fall in the middle of the extraversion scale—naturally engaged patterns of personal flexibility. Of course, the lingering question is whether the curvilinear relationship could derive from the inclusion of facets irrelevant to or even negative for the criterion measure used in the sample.

Extraversion at the facet level. The extraversion domain consists of six facets: warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions (Costa & McCrae, 1995). Using a call center sample in a short validity study, Timmerman (2004) detected a significant correlation between extraversion and supervisory performance ratings using the NEO PI-R. Furthermore, examining correlations at the facet level, the author found that one facet of extraversion—excitement-seeking—negatively related to job performance.

Agreeableness at the domain level. Agreeableness describes individuals who tend to be trusting, helpful toward others, forgiving, soft-hearted, and compassionate (Costa &

McCrae, 1992). By contrast, a person at the other end of the dimension is typically insincere, antagonistic, temperamental, and argumentative (Barrick & Mount, 1991). Taking into account that most occupations involve a social component, the average relationship of agreeableness to performance is surprisingly low (Barrick et al., 2001). Skyrme, Wilkinson, Abraham, and Morrison (2005) looked at performance in an outbound call center and found that agreeableness, together with conscientiousness and emotional stability, significantly correlated with objective measures of productivity. Their findings confirmed the results of Mount et al.'s (1998) earlier study, which showed that agreeableness positively related to supervisory ratings of performance for jobs involving interpersonal interaction. However, as Mount et al. (1998) noted, the relationship between agreeableness and job performance was stronger for jobs involving teamwork than for ones involving dyadic service interactions. In another call center study, agreeableness was found to negatively relate to supervisory ratings of job performance (He, Wang, Zhu, & Harris, 2015).

In Judge and Zapata's (2015) meta-analysis agreeableness was more predictive of job performance in occupations requiring strong social skills or that involved dealing with unpleasant or angry people. Further, the agreeableness–performance relationship was weaker in occupations that involved a strong level of competition. Concerning the relationship between agreeableness and jobs involving competition, agreeable people have long been known to strive for cooperation instead of competition (Costa & McCrae, 1992), which could explain the considerable variability in the relationship between sales performance and the domain of agreeableness (e.g., Barrick & Mount, 1991; Tett & Burnett, 2003). Using the NEO-FFI in a sample of commission-earning real estate agents, Crant (1995) reported a negative correlation between agreeableness and objective sales. A decade later, Warr et al. (2005) detected negative correlations between agreeableness and objective sales achievement in three samples of different types of salespeople. As the authors noted, however, positive associations could appear in more socially interdependent contexts, and negative associations could be more likely among people in more individualistic and potentially manipulative roles. That implication is not surprising considering that agreeableness reflects a tendency toward altruism and that the exploitation of others is quite the opposite (DeYoung, 2010).

Looking at agreeableness in cooperating environments might reveal stronger relationships with performance. After all, using a large sample, researchers have measured team outcomes to show that mean level of agreeableness was the best domain for predicting team performance (Barrick, Stewart, Neubert, & Mount, 1998). Moreover, a study addressing

the interactive effects of conscientiousness and agreeableness on job performance showed that among highly conscientious workers, ones who achieved higher scores in agreeableness received higher supervisory ratings of job performance than individuals with lower scores (Witt, Burke, Barrick, & Mount, 2002). In that light, Judge and Zapata's (2015) findings that agreeableness was more predictive of job performance in occupations in which individuals had to deal with unpleasant or angry people might not be surprising considering the characteristics of agreeableness (e.g., trusting, helpful toward others, forgiving). In a laboratory study, highly agreeable individuals related less to perceived interpersonal conflict when completing a task designed to elicit conflict (Graziano, Jensen-Campbell, & Hair, 1996). Agreeable individuals have also exhibited a preference for more socially adaptive models when trying to resolve conflicts (Graziano et al., 2006; Jensen-Campbell & Graziano, 2001), and researchers found that agreeableness associated with the ability to suppress aggressive impulses, likely by recruiting prosocial thoughts in response to aggression-related primes (Meier, Robinson, & Wilkowski, 2006).

As illustrated at length, the relationship between performance and agreeableness is clearly complex. Since agreeableness is arguably the largest of all of the domains (Digman & Takemoto-Chock, 1981), exploring the potential relationships between performance and agreeableness at the facet level could prove worthwhile.

Agreeableness at the facet level. Although the agreeableness domain consists of six facets—trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness—few studies have examined the domain at the facet level. Nevertheless, the studies that have done so have shown interesting relationships. Using a sample of call center employees in a short validity study, Timmerman (2004) detected a significant correlation between agreeableness and supervisory performance ratings using the NEO PI-R. Moreover, when the correlations were examined at the facet level, one facet of agreeableness—trust—was positively related to performance. Other researchers using the NEO PI-R have underscored agreeableness as the strongest, most consistent predictor of transformational leadership (Judge & Bono, 2000). Furthermore, the facets of trust, straightforwardness, altruism, and tender-mindedness showed positive correlations with transformational leadership.

Summary and Hypotheses

Based on the reviewed literature about extraversion and agreeableness as important predictors of job performance in occupations involving social skills, dealing with unpleasant or angry people, and environments of competition and cooperation, several hypotheses are

suggested. Furthermore, since several researchers have highlighted the importance of looking both at the domain and facet levels when measuring personality traits, this study follows that path as well.

- H1. Extraversion positively correlates to sales performance.
- H1b. Extraversion has a different explanatory value at the facet versus the domain level when measuring sales performance.
- H2. Extraversion positively correlates to customer satisfaction performance.
- H2b. Extraversion has a different explanatory value at the facet versus the domain level when measuring customer satisfaction performance.
- H3. Agreeableness negatively correlates to sales performance.
- H3b. Agreeableness has a different explanatory value at the facet versus the domain level when measuring sales performance.
- H4. Agreeableness positively correlates to customer satisfaction performance.
- H4b. Agreeableness has a different explanatory value at the facet versus the domain level when measuring customer satisfaction performance.

Method

Sample and Procedure

Participants were 45 part- or full-time call center employees at a Norwegian cable television operator and Internet service provider in Oslo, Norway. A leader in its field, the company has had a customer service department since the 1960s. Although it used to contract external recruitment companies to recruit call center employees, the company now recruits for itself. In the recruitment process, no formal qualifications other than a high-school diploma are required, although interest in technology and work experience in a call center department are considered to be advantages. The employees complete a 3-week training period that addresses the computer systems, conversational techniques, support, products, and pricing structure. After training, each team leader is responsible for any further training so that the employees can serve customers independently.

Participants were recruited via team leaders at the call center department. A brief meeting with team leaders was held to explain the purpose of the study and provide additional instructions on its implementation. Next, eight team leaders received an email containing an explanation of the purpose of the study, instructions for participation, and a link to the online survey, all of which they forwarded to their subordinates. The email clearly stated that participation was voluntary and that completing the survey indicated participation. In return for participation, employees were offered feedback on their personality profiles, which contained a description of the FFM, presented all *T*-scores on both the domain and facet levels, and diagramed each individual's domain scores. Ultimately, 93.3% of employees accepted the offer of the two feedback profiles. As a final expression of gratitude, they were also offered inclusion in a drawing for five gift cards of 250 NOK, which 93.3% also accepted. The instructions for participation and an example of the two NEO feedback profiles appear in Appendices.

Recruitment lasted from early July to late August 2016. In an online survey, participants were asked to write down their employee number, which they were told was necessary to initiate the survey. Employee numbers were used as key variables to match the survey with data of job performance. After the matching process, data were deidentified by deleting all information, including employee numbers. The survey also gathered background information about participants such as their gender, age, full- or part-time employment status, and tenure in their current call center position, as well as contained six questions addressing job demands and another question about job satisfaction. The remainder of the survey

contained the NEO inventory. The study was approved by the Norwegian Center for Research Data.

The call center department had 120 employees, all of whom were contacted and 58 of whom responded to the survey. However, 13 respondents were disqualified from analysis because they did not complete the survey or information regarding job performance were missing. Ultimately, 45 usable pairs of surveys and performance data remained. Fourteen (31.1%) of the employees in the sample were women, and the mean age was 26.18 years ($SD = 5.82$, $MD = 25$). More respondents were part-time employees (68.9%) than full-time ones (31.1%), and their tenure in their current positions ranged from 0 to 10 years ($M = 2.32$, $SD = 2.22$).

Instruments

The NEO Personality Inventory 3. The NEO PI-3 consists of 240 items in the form of statements to be rated on a 5-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*), with a mean of 50 and standard deviation of 10 (McCrae & Costa, 2010). A Norwegian translation of the inventory was used. *T*-scores for the NEO traits were calculated based on a large-scale validation study on the Norwegian population (Martinsen, Nordvik, & Østbø, 2011). Cronbach's alpha for the scales of the NEO domains and facets of extraversion and agreeableness appear in Table 2. Alpha values were generally acceptable at the domain level; openness had the lowest alpha ($\alpha = .60$), whereas the others had values well above .70. Among facets of extraversion, most had alpha values well above .60, with the exception of excitement-seeking ($\alpha = .42$). Among facets of agreeableness, alpha values were mixed; most were well above .50, with the exception of compliance ($\alpha = .49$).

When performing reliability analyses, the alpha score for excitement-seeking was originally .23. The items were reviewed to ensure that the correct items had been reversed, and no errors were found. Reliability tests were run several times to improve internal consistency with the removal of potentially problematic items until four items remained. Four items from the facet were removed as it was preferred over having a facet containing multiple items with low alpha values (Field, 2013). The excitement-seeking facet used in this study contained four items that together represented an alpha value of .42.

Performance measures. Performance data of employees were collected in August 2016. Established measurement units developed by the company were used because they were already in use to measure the employees' daily performance. Since it was deemed preferable to include measures for which employees received rewards, job performance included two

established measures—the Customer Satisfaction Indicator (CSI) and sales per answered call (sales)—which represented data extracted from nearly 5 months of daily performance reports. The amount of data from the extraction varied among employees due to their full- or part-time status.

Customer Satisfaction Indicator (CSI). The customer service indicator was developed by the company to rate employees with scores of 1–6 (1 = *Very bad*, 6 = *Very good*). Each customer who telephones the call center is asked to rate how the employee handled the conversation via SMS after the call. At the end of the day, all scores for each employee are calculated to a mean score. To have the same basis for comparison across part- and full-time employees, customer satisfaction was operationalized as mean customer satisfaction per day per employee. From the customer satisfaction data, the mean number of days included in the calculation was 43.31 (*MD* = 42). Employees with the least and most data from the extraction ranged from 9–96 days.

Sales per answered call (sales). The measure of sales was registered in a Customer Relationship Management (CRM) system called Intelligent Customer Care, and data were retrieved using a reporting tool called Boxi. Sales was operationalized as sales per answered call per employee in order to have the same basis for comparison across part- and full-time employees. It was calculated by dividing individual sales statistics for each employee's total answered calls from data extracted. Sales included various types of sales, ranging from upgrading broadband to the sale of a new television decoder. From the data, the mean number of calls taken was 1,385 (*MD* = 1,146). Employees with the least and most data represented ranges of 223–4,050 calls taken.

Work environment. As mentioned, the survey contained six questions addressing job demands and another addressing job satisfaction. The six questions that referred to job demands were based on Tett and Burnett's (2003) article on trait activation theory. For example, one question was, "How often do you have to deal with unpleasant or angry people?" The question about job satisfaction was, "Everything considered, how satisfied are you with working in the company right now?"

Compensation Strategies

In 2015, the company decided to merge the sales department and support department into one department with similar work tasks. In effect, the merger ended the great commission plans associated with sales, and the call center employees now earn less per sale. Although it is impossible for an individual to raise the profit by sales, if the team or department achieves a

certain goal, then the profit by sales increases. Each employee is expected to maintain a high customer satisfaction score. The call center employees can receive a certification and higher-value bonus (10,000 NOK) if he or she maintains a score over 5.1 for 3 months in a row, although he or she also needs to sell more than a certain level and maintain high efficiency to receive this bonus. Beyond certification, no other reward system exists to motivate high customer satisfaction scores.

Results

Preliminary Analyses and Missing Data

A two-tailed independent *t*-test was performed on each job performance variable to check for significant gender differences, none of which emerged. To the same end, correlation analyses were performed on the two job performance variables, age, part- or full-time employment, tenure, and job satisfaction. Results showed no significant relationship. To preserve the statistical power of the small sample size, the control variables were excluded in the subsequent analyses.

An inspection of missing values revealed that the highest frequency of such values on items was 3 (6.7%). Little's (1988) missing completely at random test, $\chi^2(3,556) = .000, p = 1.000$, suggested that missing values were not missing completely at random (Rubin, 1976). The missing values on the NEO PI-3 could have derived from the respondent's personality; for instance, respondents might have felt that answering questions about anxiety or depression to be too revealing. They might have also feared losing anonymity or struggled to understand the questions. In any case, missing entries were interpreted as being conditionally dependent (Little, 1995) upon the respondents' personality. For that reason, using the expectation-maximization algorithm (Dempster, Laird, & Rubin, 1997) to replace missing values with informed estimates by employing remaining personality variables as predictors was deemed appropriate, since doing so is less likely to introduce bias into the data than treatment methods such as case- or list-wise deletion or unconditional mean replacement (Enders, 2010).

Sample Characteristics and Relationship Between Job Performance Variables and Personality

To the question addressing job satisfaction, respondents were asked to answer on a 5-point Likert scale (1 = *Very dissatisfied*, 5 = *Very satisfied*). Of the 45 respondents, two reported that they were "Very dissatisfied," six "Dissatisfied," 12 "Neither dissatisfied or satisfied," 19 "Satisfied," and six "Very satisfied." Table 1 presents the descriptive results in terms of respondents' answers to six variables of job demands on a 4-point Likert scale (1 = *Very seldom*, 4 = *Very often or always*).

Table 1

Frequency analysis of job demands (N = 45).

To what extent does your work imply...	Very seldom	Rather rare	Fairly often	Very often or always
independence	2	9	24	10
detailed knowledge	0	4	25	16
cooperation with others	4	18	19	4
competition with others	2	11	23	9
creativity and alternative thinking	11	20	13	1
unpleasant or angry people	0	12	25	8

Descriptive statistics and correlations among personality domains, facets of extraversion and agreeableness, and job performance appear in Table 2, as does Cronbach's alpha for the NEO and *T*-scores for the domains and facets, all for the sake of comparisons to norms. Mean *T*-scores of personality traits showed how the sample differed from the population (Martinsen et al., 2011). There were two significant relationships between the facets and job performance; both had a negative direction. The strongest correlations were between customer satisfaction and activity ($r = -.37, p < .05$) and between sales and trust ($r = -.31, p < .05$). Correlations between the job performance variables of sales and customer satisfaction negatively correlated with each other strongly ($r = -.54$) and at a statistically significant level ($p < .01$).

Table 2

Descriptive statistics, Cronbach's alpha and correlation coefficients for personality traits and job performance.

	Sales	CSI	M	SD	α
Neuroticism	.04	-.20	51.92	8.29	.84
Extraversion	.01	-.05	49.44	9.28	.75
Openness	.11	-.18	49.83	7.85	.60
Agreeableness	.09	.06	47.79	9.96	.76
Conscientiousness	.06	-.12	50.60	10.71	.84
Warmth	.14	.12	49.22	10.36	.77
Gregariousness	-.19	.22	46.45	8.73	.67
Assertiveness	.03	-.03	51.70	8.46	.74
Activity	.19	-.37*	47.08	9.19	.67
Excitement-Seeking	.03	-.20	60.92	7.41	.42
Positive Emotions	-.16	.01	49.47	8.30	.68
Trust	-.31*	.23	44.22	7.88	.56
Straightforwardness	.12	.06	47.35	10.41	.69
Altruism	.17	.00	52.36	10.48	.77
Compliance	-.09	.18	51.16	8.59	.49
Modesty	.26	-.10	47.49	9.45	.71
Tender-Mindedness	.15	-.13	50.25	9.67	.57
Sales	1	-.54**	.10	.08	
Customer satisfaction	-.54**	1	4.27	.57	

Note. * $p < .05$, ** $p < .01$. $N = 45$. Personality traits are transformed to T -scores.

Facets as Predictors of Job Performance

To estimate the proportion of variance in the two job performance variables accountable by facets of extraversion and agreeableness, several multiple linear regression analyses were performed. Prior to interpreting the results of those analyses, several assumptions were evaluated. First, the analyses were based on 45 observations, which is marginally below Field's (2013) recommendation of having 10 cases of data for each predictor in the model. Since the statistical strength was low, it was preferable to minimize the number of predictors (Cohen, 1988). Second, VIF and tolerance were also within acceptable ranges, which indicated that multicollinearity would not interfere with the ability to interpret the outcome of the analyses. Durbin–Watson statistics were also within an acceptable range (Durbin & Watson, 1951) of 1.56–1.90 for all analyses.

Two regression analyses were performed on each job performance variable regressed on the five personality traits. None of the models had significant F values. In the regression analysis in which customer satisfaction performance was the dependent variable, neuroticism and conscientiousness had negative β coefficients of $-.32$ and $-.24$ (n.s). Both models had small R^2 values, ranging from $.03$ to $.13$ for sales and customer satisfaction. None of the personality traits could predict the dependent variables.

Four other regression analyses were also performed, for each job performance variables on the facets of either extraversion or agreeableness. In the model of sales regressed on facets of extraversion, warmth had a positive β coefficient of $.43$, gregariousness a negative β coefficient of $-.39$, and positive emotions a negative β coefficient of $-.29$ (n.s). In the model of sales regressed on facets of agreeableness, only trust had a negative β coefficient of $-.42$. In the model of customer satisfaction regressed on facets of extraversion, gregariousness had a positive β , $.34$ (n.s) and activity a β coefficient of $-.56$ (Cohen, 1988). Lastly, in the model of customer satisfaction regressed on facets of agreeableness, trust had a positive effect ($\beta .24$) and tender-mindedness a negative β coefficient of $.23$ (n.s).

Combined analyses. Two additional combined regression analyses were performed for the job performance variables regressed on facets of extraversion and agreeableness. The combined analyses included the strongest predictors of the two job performance variables from the former regression analyses in order to gauge the degree of variation that the predictors would explain together. Since statistical significance is strongly linked to sample size, effect size was used as an indicator. Hence, the strength of the standardized beta coefficient was used as inclusion criterion.

Cohen (1988) posited widely established guidelines about what constitutes a large or small effect; $r = .10$, $r = .30$, and $r = .50$ are recommended to be considered small, medium, and large, respectively. However, other researchers (Gignac & Szodorai, 2016; Hemphill, 2003) have criticized those guidelines as being too exigent and instead suggested that normative guidelines should be closer to .10, .20, and .30, respectively. Accordingly, this study limited inclusion for the standardized beta coefficient at .20. Consequently, two combined regression analyses of each job performance variable with five predictors for sales and four predictors for customer satisfaction were performed. The results appear in Table 3. In the combined model of sales regressed on facets of extraversion and agreeableness, warmth and gregariousness had the largest β coefficients (gregariousness n.s). The three other facets in the model had β coefficients less than .30 (n.s). The model explained 28% of the variance of sales ($R^2 = .28$, $F(5.44) = 2.98$, $p < .05$). In the combined model of customer satisfaction regressed on facets of extraversion and agreeableness, gregariousness and activity had the largest β coefficients. The two other facets in the model had β coefficients less than .30 (n.s). The model explained 32% of the variance of customer satisfaction ($R^2 = .32$, $F(4.39) = 4.39$, $p < .01$).

Table 3.

Facets of extraversion and agreeableness as predictors of Sales and Customer satisfaction.

Sales		Customer satisfaction	
Warmth	.41*		
Gregariousness	-.30	Gregariousness	.31*
Activity	.27	Activity	-.48*
Positive Emotions	-.22	Trust	.21
Trust	-.26	Tender-Mindedness	-.09
<i>F (df)</i>	2.98* (5.44)	<i>F (df)</i>	4.39* (4.44)
<i>R² (adj.)</i>	.28 (.18)	<i>R² (adj.)</i>	.31 (.24)

Note. * $p < .05$, $N = 45$.

Discussion

The purpose of this study was to examine the effects of the domains of extraversion and agreeableness at the facet level in an attempt to elucidate how interpersonal traits might predict job performance among call center employees. Regression analyses revealed that some underlying facets of the domains predicted performance differently. Furthermore, the results suggested that the two criterion variables were opposed. Since great variation emerged in the relationships of the facets to the performance measures, as indicated by the opposed directions of different facets in each domain, results emphasized the benefit of scrutinizing narrower facets.

Extraversion and Agreeableness as Predictors of Job Performance

Extraversion as a predictor of job performance. Studies have indicated positive relationships of extraversion and job performance in competitive contexts, occupations requiring social skills, and occupations that involve dealing with unpleasant or angry people (Judge & Zapata, 2015). Furthermore, extraversion has positively related to subjective measures of customer service and sales performance (Conte & Gintoft, 2005), as well as objective measures of sales performance (Stewart, 1996). However, studies measuring job performance in customer service and sales occupations have shown only weak and inconsistent relationships (e.g., Barrick & Mount, 1991; Grant, 2013; Stewart, 1996; Warr et al., 2005).

Activity represents a facet of the extraversion domain described as a desire to remain busy and work rapidly due to feelings of urgency (Costa & McCrae, 1992). The current study found that the activity facet had a moderately strong positive relationship with sales and a strong negative relationship with customer satisfaction. Thus, activity predicted both performance measures in different directions. A possible explanation of the findings of the positive relationship between activity and sales could be that the nature of the sales occupation requires actively approaching customers. High levels on the activity facet might therefore benefit employees in terms of pace and proactivity as employees receive rewards for each sale. By contrast, the strong negative relationship between activity and customer satisfaction might be explained by the idea that lower levels on the activity facet is more important in the service part of a call center. Employees with lower scores on activity perhaps benefit their lower pace as they might be perceived as being more patient and willing to spend time on each customer, which, in assuring that the customer feels that he or she is being cared for, might generate a higher customer satisfaction score.

The warmth facet of extraversion is the closest to agreeableness in terms of interpersonal space (McCrae & Costa, 2010). In the abridged Big Five dimensional circumplex (Hofstee, De Raad, & Goldberg, 1992), warmth belongs to the dimension of agreeableness. Warm people are affectionate and friendly, genuinely like people, and easily form close attachments to others (McCrae & Costa, 2010). Those two aspects—liking people and forming close attachments—might be considered important in sales. Researchers have observed that consumers seek friendly retail salespeople (Mittal & Lassar, 1996), which corresponds with the current study's findings that a positive relationship exists between warmth and sales. High scores on warmth might be beneficial in sales since customers might perceive warm employees as being more friendly, empathetic, and sincere.

Gregariousness, or sociability, is another facet in the extraversion domain, one characterized as a preference for others' company. Low scorers on gregariousness tend to not seek social stimulation or even to avoid it (McCrae & Costa, 2010). Although gregariousness has been highlighted as important for occupations involving sales (Barrick et al., 2001), new perspectives have given alternative explanations on the extraversion–sales performance relationship. Grant (2013) demonstrated that high levels of extraversion exerted negative effects on sales and, in response, proposed an inverted U-shaped relationship of extraversion and objective measures of sales performance in an outbound call center. He also suggested that whereas extraverts might seek stimulation and social attention, ambiverts are perhaps more flexible when engaging customers because they are better at choosing between appropriate behavior and balancing sales and service. An inspection of the scatterplot in the current study did not indicate a U-shape relationship of extraversion and sales; however, the results revealed a negative relationship between gregariousness and sales. Additionally, a positive relationship surfaced between gregariousness and customer satisfaction; gregariousness predicted the two performance measures in different directions.

To extend some of Grant's (2013) arguments, the negative relationship between gregariousness and sales in the current study might offer some possible explanations. Hypothetically, employees with higher scores on gregariousness focus more heavily on their own perspectives and on dominating the conversation, whereas employees with lower scores on gregariousness perhaps focus on and listen more to customers' needs, analyze customers without revealing any persuasive intent, and as a result, sell more products. However, the positive relationship between gregariousness and customer satisfaction in the current study might be more difficult to explain. Possibly, employees with higher scores on the

gregariousness facet might be rated more positively by customers who call only to receive support, since those employees might be perceived as being more friendly because they are more likely to express enjoyment in the social interaction with the customer.

Positive emotions represent the facet of extraversion that indicates a tendency to experience positive emotions such as joy, happiness, love, and excitement. High scorers on the facet are cheerful and optimistic, whereas lower scorers are not necessarily unhappy but merely less exuberant and high-spirited (McCrae & Costa, 2010). In short, effective salespeople are assertive and enthusiastic (DeYoung et al., 2007). Grant (2013) has argued that salespeople might need to express positive emotions such as enthusiasm and excitement, yet that an overexpression of positive emotions could backfire and reduce the effectiveness of sales. At the same time, high scorers on positive emotions might concentrate too much on enthusiastic pitches and thus forget to focus on the customer's actual needs. Additionally, they might be perceived as being too excited by customers, which could inadvertently signal that they are trying to be persuasive and cost them the sale (Grant, 2013). The current study detected a negative relationship between positive emotions and sales, thereby indicating that lower scores on positive emotions might be an advantage in sales in call centers. For an alternative explanation of the negative relationship in call centers, where sales is restricted to voice-to-voice contact, arguably the prevention of physical contact with customers could mean that behavior associated with positive emotions (e.g., gesticulation) is not sufficiently expressed in an effective way and results in overcompensation—that is, too much talking and less listening to customers' needs and interests. Indeed, researchers have observed that extraversion is the easiest personality trait to detect when an individual is exposed to a picture of a stranger's face (Borkenau, Brecke, Möttig, & Paelecke, 2009). Interestingly, the researchers found remarkably strong correlations between perceived extraversion and self-report on items measuring the facets of positive emotions and excitement-seeking. Therefore, it is conceivable that the findings could have differed if the situation involved face-to-face contact.

Agreeableness as a predictor of job performance. Earlier studies on the agreeableness–job performance relationship found agreeableness to be a valid predictor of job performance in occupations requiring strong social skills or that involve dealing with unpleasant or angry people (Judge & Zapata, 2015). Agreeableness has also correlated significantly and positively with objective job performance measures in an outbound call center (Skyrme et al., 2005), as well as related positively to subjective job performance

measures in jobs involving interpersonal interactions (Mount et al., 1998). However, recent studies have demonstrated that agreeableness negatively relates to subjective measures of job performance in a call center (He et al., 2015). Furthermore, regarding sales occupations, negative correlations between agreeableness and objective measures of job performance have been observed (Crant, 1995; Warr et al., 2005).

Trust is a facet of agreeableness whose high scorers are thought to believe that others are honest and well-intentioned. At the opposite end, low scorers tend to be cynical and skeptical (McCrae & Costa, 2010). Trust is arguably important in virtually any interpersonal interaction, and cooperation is said to be effective only if both parties are willing to trust one other by making themselves vulnerable and cooperating on solving a problem (Brown, Poole, & Rodgers, 2004; Jarvenpaa, Knoll, & Leidner, 1998). The current study found a positive relationship between trust and customer satisfaction, which builds on Timmerman's (2004) validation study, which showed a significant correlation between trust and subjective measures of job performance in a call center.

The negative relationship between trust and sales in the current study might be more complex, however. When attempting to predict the relationship between agreeableness and sales performance, researchers have provided mixed results (e.g., Barrick & Mount, 1991; Tett & Burnett, 2003), thereby suggesting that other situational variables influence the relationship. In explanation, Warr et al. (2005) have proposed several different variables, including that sales jobs can vary in their need for interpersonal interaction in order to cultivate trust. Furthermore, sales jobs can vary in terms of how pay is based on individual instead of team performance. If trust is the opposite of cynicism (Judge, Locke, Durham, & Kluger, 1998; McCrae & Costa, 2010), then low levels of agreeableness might enhance sales in sales jobs that involve proactive persuasion or negotiation with customers (e.g., the use of manipulative techniques). Studies have found a negative relationship between agreeableness and objective sales in real estate agents (Crant, 1995), retail car salespeople, electronic goods salespeople, and door-to-door book salespeople (Warr et al., 2005). Moreover, the positive associations between agreeableness and objective sales performance could emerge in more socially interdependent contexts, whereas negative associations might be more likely in situations requiring more individualistic and potentially manipulative roles (Warr et al., 2005). In call centers in particular, another factor that might influence sales performance is voice-to-voice contact with customers. Perhaps it is easier for employees low in trust to act

cynically toward customers because they do not meet them in person. In fact, this could promote the sort of deindividuation that, in turn, promotes their behavior.

Trait Activation

Several researchers have highlighted the importance of looking at traits in specific contexts (e.g., Judge & Zapata, 2015; Tett & Burnett, 2003). According to Tett and Burnett's (2003) trait activation theory, a situation is central when it is trait-relevant. The essence of their theory is that trait-relevant situations result in better job performance than trait-irrelevant ones. However, the theory does not imply that trait-irrelevant situations will result in poor performance; on the contrary, trait-irrelevant situations are assumed to weaken the relationship (Tett & Burnett, 2003). In the current study, the combined analyses showed that facets of extraversion, some more than others, were the strongest predictors of both performance measures. That finding calls into question whether the situation was trait-relevant enough for all facets to predict the trait–performance relationship. For agreeableness, the relationship with job performance has been weaker in occupations involving a strong level of competition (Judge & Zapata, 2015). Accordingly, it could partly explain the weak relationship between facets of agreeableness and sales, since sales achievement would thus be a trait-irrelevant situation for those facets. Although researchers have reported a negative correlation between agreeableness and objective sales (Crant, 1995, Warr et al., 2005), this study did not find any such relationship, with the exception of the negative relationship between trust and sales.

Yet, agreeableness has proven to positively predict job performance in occupations requiring strong social skills and ones that involve dealing with unpleasant or angry people (Judge & Zapata, 2015). Although researchers have underscored strong positive relationships between agreeableness and performance in cooperative environments (Barrick et al., 1998; Mount et al., 1998; Witt et al., 2002), arguably call centers do not heavily rely on cooperation and teamwork, meaning that the same positive relationships between agreeableness and performance might not be expected. As Mount et al. (1998) noted in their study, the relation between agreeableness and job performance was stronger for jobs involving teamwork than for ones involving dyadic service interactions, not interactions as part of a team. Furthermore, though most of the current sample reported having to deal with unpleasant or angry people at work, call centers might not be comparable to other workplaces where employees have to deal with unpleasant or angry people face-to-face. When helping customers, call center employees are restricted to voice-to-voice contact and prevented from using physical contact. It therefore

might be that call center jobs are not situation-specific enough for facets of agreeableness to appear in relation to the performance measures.

Meanwhile, extraversion positively relates to job performance in competitive contexts (Judge & Zapata, 2015), and a sales reward structure has shown to moderate the extraversion–performance relationship (Stewart, 1996). In the current study, employees were rewarded for sales achieved, which suggests that the reward structure can represent a trait-relevant situation that potentially influences the positive relationship between warmth and sales, as well as between activity and sales. However, since call center jobs involve working with both sales and support, call centers that engage sales might report only stronger positive relations between facets of extraversion and sales. Although three facets of extraversion positively predicted the performance measures, three other extraversion facets negatively predicted them. Although call center jobs can involve interpersonal interaction, the restriction of voice-to-voice contact might prevent employees from using their social skills in sufficient, desirable ways. In line with previous reasoning, it seems that comparing the findings of personality–job performance relationships in call centers with findings of related jobs can be difficult.

Looking at Narrower Facets in Assessing Personality

Researchers have long debated the use of broad or narrow traits to examine the personality–job performance relationship. In particular, recent studies have challenged the use of broad traits and indicated that narrower facets can have better value than dimensions in predicting outcome measures (Ashton et al., 2014; Bergner et al., 2010; Markon et al., 2005). Regardless of the popularity of using the trait perspective in different occupations involving interpersonal interactions, few studies have investigated the effects of NEO facets. Furthermore, even fewer studies have investigated the relationship between personality and job performance in call centers, with a validation study on the effects of NEO facets as perhaps the sole example (Timmerman, 2004).

Nevertheless, the findings of the current study emphasize the benefit of examining narrower facets in the domains of extraversion and agreeableness. The first sign is the considerable variation in job performance in the two domains, as indicated by the opposite directions of the facets in each domain. Second, using facets instead of broad domains can afford different explanatory values, since some facets were more important than others in predicting the performance measures. Together with previous findings, the current study therefore shows that the use of broader dimensions can mask the predictive validity of the most relevant facets between personality and job performance (Hough, 1992), as well as

hindering detection of meaningful curvilinear relationships at the facet level (Paunonen & Nicol, 2001).

Measuring Job Performance

Although job performance ranks among the most studied criteria in industrial-organizational psychology (Bommer et al., 1995), researchers disagree on how to best conceptualize job performance (Murphy, 2005). Improving the quality of performance ratings has been stressed, and choosing relevant performance criteria when investigating the personality–job performance relationship might be an important step in that direction (Barrick et al., 2001; Echchakoui, 2013; Hogan & Holland, 2003; Murphy, 2005; Vinchur et al., 1998). The literature has underscored subjective measures as the most widely employed measure when assessing job performance (e.g., Sawyerr et al., 2009; Witt et al., 2002). However, many researchers seem to favor objective measures (e.g., Barrick & Mount, 1991; Grant, 2013, Skyrme et al., 2005; Stewart, 1996; Warr et al., 2005). Self-report measures can also help to gauge job performance (e.g., Echchakoui, 2013). The use of such diverse variables illustrates the difficulty of interpreting results in literature on the personality–job performance relationship. Indeed, adopting valid measurements of job performance can be challenging, since many jobs today involve a high degree of autonomy and aspects that are not easily quantifiable (Murphy, 2005). Nevertheless, Judge and Zapata’s (2015) recent meta-analysis argues for an interactionist model of personality and job performance that might provide guidelines in future research when selecting relevant performance criteria to measure job performance. Regarding call centers, research has illustrated that call center employees are highly monitored during the work day (Holman et al., 2007), which could represent a great opportunity for measuring job performance objectively. Taking this into account, it is surprising that studies on the personality–job performance relationship in call centers remains limited (Echchakoui, 2013; Sawyerr et al., 2009).

The results of the current study indicate that the two performance measurements were opposed and had specific facets related to job performance. One highly relevant question concerning the opposing measurements, albeit one with no definite answer, is therefore which performance measure the organization values most. Organizations should therefore be aware of this when selecting future call center employees. Sales per answered call can best support the profit margin, whereas customer satisfaction could be linked to the organization’s reputation over time. The objective performance measures used in the current study need to be considered. As mentioned earlier, objective measures are preferable, but can be difficult to

identify and collect information about (Barrick & Mount, 1991). At the same time, they exhibit criterion deficiency, meaning that there always will be other aspects of job performance that are not easily quantifiable (Murphy, 2005). The current study has sought to use relevant performance criteria when investigating the personality–job performance relationship, as recommended by researchers (Barrick et al., 2001; Echchakoui, 2013; Hogan & Holland, 2003; Vinchur et al., 1998). Future studies might want to include supervisory ratings together with objective performance measures in order to get a broader perspective on the job performance of call center employees.

Implications

Despite increased attention on facets of personality in recent years (DeYoung et al., 2007), few studies have investigated the relationship between interpersonal domains and job performance among call center employees at that level. The sole exception is Timmerman's (2004) study. Therefore, the current study has made an important contribution to research, as well as demonstrated the risk of losing valuable information by focusing only on personality domains. Practitioners seeking guidance in selecting better-skilled call center employees could benefit from such knowledge. Although researchers have made progress in resolving how to best measure job performance (Murphy, 2005), future studies need to focus more on developing more standardized performance measures, which could strengthen research on job performance.

Limitations

The study has some limitations that should be considered. First, the small number of participants ($N = 45$) limits the generalizability of the findings. At the same time, the study was a case study of a call center in Norway and never aimed to be generalized to other types of occupations, but to examine a homogeneous group of call center employees with the same working conditions in terms of performance so that participants were comparable. Second, the small number of participants implies that the results of regression analyses do not follow recommendations of having 10 cases of data for each predictor in the model (Field, 2013) and the study has limited statistical power, and therefore increase the risk of type-2 errors. Third, respondents were mostly men (68.9%) and part-time employees (68.9%), and studies have reported inconsistencies when comparing part- and full-time employees and job performance (e.g., Jackofsky & Peters, 1987; Wotruba, 1990). It is therefore conceivable that the results would have differed had the entire sample consisted of part-time employees only. As reported earlier, however, two-tailed independent t -tests were performed on each job performance

variable to check for significant gender differences, none of which emerged. Also, correlation analyses were performed on each job performance variable and employment percentage; again, however, no strong or significant relationship emerged. Lastly, concerning the data extraction of the two job performance measures, the amount of observations for each employee varied considerably. They were calculated to a mean number for each individual, which could have been problematic; some findings could have been more robust because some individuals represented more observations than others.

Conclusion

Altogether, the hypotheses were partly supported, as the personality traits had different explanatory values at the facet versus domain levels when measuring both performance measures. Regression analyses revealed great variation in the relationships of the facets and the performance measures, as indicated by the different direction of facets within each domain. The results of the current study indicated that the two performance measurements, sales and customer satisfaction, were opposing and had specific facets related to job performance. Organizations should therefore be aware of which performance the organization values most when selecting future call center employees. The results add to knowledge that specificity is necessary in order to understand the relationship between personality and job performance. Furthermore, the results recommend the use of different sources when evaluating job performance. Lastly, the findings draw attention to the importance of being context-specific and scrutinizing the connection between personality and job performance in settings of relatively similar characteristics.

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Appendices

Appendix A: Godkjenning fra Norsk senter for forskningsdata AS

Appendix B: Følg brev

Appendix C: Tilbakemeldingsprofil 1

Appendix D: Tilbakemeldingsprofil 2



Eva Langvik
Psykologisk institutt NTNU

7491 TRONDHEIM

Vår dato: 11.07.2016

Vår ref: 48982 / 3 / STM

Deres dato:

Deres ref:

TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 17.06.2016. Meldingen gjelder prosjektet:

<i>48982</i>	<i>Forholdet mellom personlighet og prestasjon i en salg/support kontekst</i>
<i>Behandlingsansvarlig</i>	<i>NTNU, ved institusjonens øverste leder</i>
<i>Daglig ansvarlig</i>	<i>Eva Langvik</i>
<i>Student</i>	<i>Martine Bye Nilsen</i>

Personvernombudet har vurdert prosjektet og finner at behandlingen av personopplysninger er meldepliktig i henhold til personopplysningsloven § 31. Behandlingen tilfredsstiller kravene i personopplysningsloven.

Personvernombudets vurdering forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i meldeskjemaet, korrespondanse med ombudet, ombudets kommentarer samt personopplysningsloven og helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, <http://www.nsd.uib.no/personvern/meldeplikt/skjema.html>. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, <http://pvo.nsd.no/prosjekt>.

Personvernombudet vil ved prosjektets avslutning, 31.12.2017, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsen

Vigdis Namtvedt Kvalheim

Siri Tenden Myklebust

Kontaktperson: Siri Tenden Myklebust tlf: 55 58 22 68

Vedlegg: Prosjektvurdering

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



Prosjektvurdering - Kommentar

Prosjektnr: 48982

Utvalget informeres skriftlig om prosjektet og samtykker til deltakelse. Informasjonsskrivet mottatt 07.07.2016 er godt utformet.

Personvernombudet legger til grunn at student etterfølger NTNU sine interne rutiner for datasikkerhet. Dersom personopplysninger skal sendes elektronisk eller lagres på privat pc/mobile enheter, bør opplysningene krypteres tilstrekkelig.

Forventet prosjektslutt er 31.12.2017, jf. informasjonen til utvalget. Ifølge prosjektmeldingen skal innsamlede opplysninger da anonymiseres. Anonymisering innebærer å bearbeide datamaterialet slik at ingen enkeltpersoner kan gjenkjennes. Det gjøres ved å:

- slette direkte personopplysninger (som navn/koblingsnøkkel)
- slette/omskrive indirekte personopplysninger (identifiserende sammenstilling av bakgrunnsopplysninger som f.eks. bosted/arbeidssted, alder og kjønn)

PERSONLIGHET OG PRESTASJON I EN SALG/SUPPORT-KONTEKST



SPØRREUNDERSØKELSE

FORMÅL

Formålet med denne spørreundersøkelsen er å studere forholdet mellom personlighet, prestasjon og trivsel. Målet er å frembringe ny psykologisk kunnskap om hva som er viktige egenskaper for de som jobber med salg og kundebehandling. Data vil bli brukt i undertegnede mastergradsoppgave ved Norges teknisk-naturvitenskapelige universitet (NTNU).

HVA INNEBÆRER UNDERSØKELSEN?

Å delta innebærer å besvare et spørreskjema på nett, som består av en del bakgrunnsspørsmål, noen spørsmål om jobbkrav og en personlighetstest. Testen som brukes heter NEO-PI-3, og er en av de mest etablerte og anerkjente personlighetstestene som finnes, nasjonalt så vel som internasjonalt. Den brukes mye både i forskning, klinisk arbeid og rekruttering. Data vil bli koplet til ukerapporter fra Get.

KONFIDENSIALITET

Det er frivillig å delta, og alle opplysninger vil bli behandlet konfidensielt. Resultatene fra undersøkelsen vil bli presentert slik at ingen enkeltpersoner kan gjenkjennes. Datamaterialet vil bli anonymisert ved prosjektslutt, senest ved utgangen av 2017. Du vil bli bedt om å oppgi ditt ansattnummer i Get, dette er nødvendig for at vi skal kunne kople svarene dine til ukerapportene, og for at vi skal kunne lage din personlige tilbakemelding. Nummeret vil *bare* bli brukt til dette. Undersøkelsen er meldt til Personvernombudet for forskning, Norsk senter for forskningsdata AS (NSD).

PREMIETREKNING OG MULIGHET FOR TILBAKEMELDING!

Når datainnsamlingen er avsluttet (august 2016), vil alle som deltar få tilbud om en individuell og personlig tilbakemelding med resultatene fra personlighetstesten og forklaring av skårene. Alle som deltar vil også få mulighet til å delta i trekningen av fem gavekort. Undersøkelsen tar ca 30 minutter å besvare, og det er mulig å lagre svarene underveis.

HAR DU SPØRSMÅL?

Har du spørsmål om undersøkelsen og gjennomføringen av den, vennligst kontakt Martine Bye Nilsen. For spørsmål om selve personlighetstesten kan du også kontakte prosjektleder og faglig ansvarlig Eva Langvik.

Takk for at du er villig til å delta!

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Appendix C: Tilbakemeldingsprofil 1

NEO PI-3 TILBAKEMELDING

(ID-NR.HER)	M
ID	Kjønn

Personlighetsspørreskjemaet NEO PI-3 måler fem omfattende dimensjoner av personligheten. Måten du har besvart påstandene om dine tanker, følelser og målsettinger sammenlignes med andre personers svar på de samme påstandene. Dette danner utgangspunktet for en beskrivelse av din personlighet. Nedenfor finner du de fem dimensjonene inndelt i tre ulike kategorier. Kategoriene som er merket med et kryss gir en beskrivelse av deg basert på dine svar på de ulike påstandene.

NEO PI-3 er laget for å måle individuelle forskjeller i normalbefolkningen. Den er ikke en intelligens- eller evnetest, og er heller ikke laget for å diagnostisere mentale helseproblemer eller tilpasningsvansker. Den vil imidlertid gi deg noen ideer om hva som gjør deg unik i din måte å tenke, føle og samhandle med andre på.

Hensikten med denne tilbakemeldingen er å gi deg en generell ide om hvordan din personlighet kan beskrives - dette er ingen detaljert rapport. Gjennomfører du NEO PI-3 på nytt senere, kan det tenkes at du skårer noe annerledes. På den annen side har personlighetstrekk hos voksne en tendens til å være svært stabile, så om du ikke gjennomgår større livsendringer, eller bevisst prøver å endre deg, vil denne tilbakemeldingen gjelde for deg også i fremtiden.

Sammenlignet med andre menneskers besvarelser, kan du ut fra dine egne svar beskrives slik:

<input type="checkbox"/> Sensitiv, emosjonell og med en tilbøyelighet til å oppleve vanskelige og ubehagelige følelser.	<input checked="" type="checkbox"/> Vanligvis rolig og i stand til å mestre stress, men du kan tidvis oppleve skyldfølelse, sinne eller tristhet.	<input type="checkbox"/> Sikker og trygg, robust og vanligvis avslappet selv under stressende betingelser.
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<input type="checkbox"/> Utadvendt, sosial, aktiv og i godt humør. Du foretrekker å ha folk rundt deg det meste av tiden.	<input checked="" type="checkbox"/> Moderat entusiasme og aktivitetsnivå. Du har glede av å ha andre mennesker rundt deg, men verdsetter også ditt eget selskap.	<input type="checkbox"/> Innadvendt, reservert og alvorlig. Du foretrekker å være alene eller sammen med noen få nære venner.
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<input type="checkbox"/> Åpen for nye erfaringer. Du har et bredt interessefelt og har god forestillingsevne/er svært fantasirik.	<input checked="" type="checkbox"/> Praktisk, men villig til å vurdere nye måter å gjøre ting på. Du søker balanse mellom gammelt og nytt.	<input type="checkbox"/> Jordnær, praktisk og tradisjonell. Du har dine måter å gjøre ting på.
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<input checked="" type="checkbox"/> Godhjertet og med evne til medfølelse. Du liker å samarbeide med andre, og unngår helst konflikter.	<input type="checkbox"/> Vanligvis varm, tillitsfull og behagelig, men kan av og til være sta og konkurranseorientert.	<input type="checkbox"/> Nøkttern, skeptisk, stolt og konkurranseorientert. Du har en tendens til å uttrykke sinne direkte.
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<input type="checkbox"/> Planmessig, pliktoppfyllende og velorganisert. Du setter høye standarder for deg selv og anstrenger deg for å nå dine mål.	<input checked="" type="checkbox"/> Avslappet og moderat velorganisert. Du har vanligvis klare mål, men har også evnen til å legge arbeid til side.	<input type="checkbox"/> Avslappet, sorgløs og ikke spesielt velorganisert. Noen ganger kan du være likeglad. Du foretrekker ofte å ikke legge planer.
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NEO PI-3: FEMFAKTORMODELLEN (FFM)

(ID-NR.HER)

Femfaktormodellen er en hierarkisk modell som måler normal personlighet. Den har fem store hovedtrekk og tretti fasetter, seks under hver av de fem store. Forfatterne av NEO-PI-testene og kortversjonen Neo-FFI, Paul T. Costa og Robert McCrae, bruker betegnelsen «domener» for de fem store trekkene og «fasetter» for de tretti små. Her er en beskrivelse av de fem domenene:

N: Nevrotisme (Neuroticism): Det viktigste domene blant personlighetstrekkene er kanskje det som skiller mellom god tilpasning og emosjonell balanse på den ene siden og ubalanse og vanskelige følelser på den andre. Dette trekket handler om hvorvidt følelser er vonde, vanskelige og stressende eller om de er gode og en ressurs i sosial fungering. Psykologien skiller mellom flere former for vonde emosjoner som angst, depresjon og ubehersket irritabilitet. Men mange undersøkelser har vist at individer som er tilbøyelige til å reagere med en av slike emosjonelle tilstander også er tilbøyelig til å ha de andre. Den generelle tilbøyelighet til å bli preget og stresset av vanskelige emosjoner er kjernen i N. Dette hemmer god tilpasning og god fungering, og personer med høy N kan utvikle irrasjonelle ideer og oppfatninger om både seg selv og andre. Pasienter som har vært diagnostisert som nevrotiske og «syke» skårer som regel høyt på N. I FFM og NEO PI er N imidlertid et normalt trekk, som alle har noe av. Den som ikke vet hva angst, depresjon, irritabilitet, sjenanse osv. er ut fra erfaringer med seg selv, er ikke et normalt menneske. Det er ikke et skarpt eller kvalitativt skille mellom de som får det så vanskelig med sine følelser at de kan trenge hjelp og alle andre. Det er likevel slik at de som skårer svært høyt på N, har større risiko for å utvikle en psykiatrisk sinnslidelse. Men høy N er i seg selv ikke en slik lidelse. Det er også slik at noen «personlighetsforstyrrelser» ikke er knyttet til høy N. Det gjelder for antisosiale personlighetsforstyrrelser, dvs. mangel på samvittighet og moralske sperrer. Personer med lav N er emosjonelt stabile, rolige, avslappet og kan håndtere stress uten å bli desperate.

E: Ekstraversjon (Extraversion): Ekstraverte personer liker samvær med mange mennesker, søker spenning og stimulering, kan være aktive til det rastløse, er gjerne optimistiske og entusiastiske, de har lett for å le og vise følelser. De introverte (lav på E) er ikke nødvendigvis sky og engstelige, men de trives godt i eget selskap eller sammen med utvalgte venner. De er ikke nødvendigvis pessimistiske eller ulykkelige. Men de har ikke så sprudlende følelser som ekstraverte og er ikke så opptatt av å dele følelser med et stort antall andre. Grupper som gjennomsnittlig skårer høyt på Ekstraversjon er selgere, politikere og ledere. Mer introverte grupper er forskere, forfattere og kunstnere.

O: Åpenhet (Openness): Åpenhet er en langt mindre påaktet personlighetsdimensjon enn N og E, som oftest står øverst på lister over personlighetstrekk. Et sterkt fantasi- og estetisk sensitivitet, oppmerksomhet på indre følelser, forkjærlighet for nyhet og variasjon fremfor rutine, intellektuell nysgjerrighet osv. har ofte stått sentralt i personlighetspsykologien, men at disse henger i hop og definerer et bredt personlighetsdomene, er nytt. Åpne individer er søkende og nysgjerrige både innover, mot sitt indre liv, og utover mot den ytre verden. De har et «rikt» fantasi- og opplevelsesliv. De liker nye ideer og ukonvensjonelle verdier og de er mer oppmerksomme på både positive og negative emosjoner enn mer lukkede mennesker. Åpenhet er det eneste av domenene som henger litt sammen med utdannelse, intelligens og kreativitet. Selv om det er en slik sammenheng regnes intelligens og kreativitet ikke som personlighetstrekk. Individer som skårer lavt på O er tilbøyelige til å være konvensjonelle og konservative. De foretrekker det vanlige og tilvendte fremfor det nye og ukjente. «Jordnærhet» er en positiv beskrivelse av lav O, som kan tjene til å understreke at lav O ikke nødvendigvis betyr fiendtlig intoleranse eller autoritær aggresjon. Åpenhet betyr ikke ukritiskhet, men villighet og interesse for å vurdere nytt og se på nye muligheter uten at det settes utenfor en kritisk analyse. Den lukkede person er ikke så interessert i analyser i det hele tatt.

A: Medmenneskelighet (Agreeableness): Den medmenneskelige person er besjelet med altruisme, hun eller han er positivt sympatisk innstilt overfor andre mennesker og innstilt på å hjelpe. Lav A betyr en antagonistisk, egosentrisk og skeptisk holdning til medmennesker. Lav A betyr konkurranse mer enn samarbeid. Personer som ligger høyt på A blir gjerne bedre likt og mer populære enn de som ligger lavt på A. Det er imidlertid mange forhold som ikke kan styres av sympati og snillhet. Det gjelder for ledere og andre som kan måtte ta upopulære avgjørelser, dommere som skal dømme rettferdig, soldater i krig osv. Skeptisk og kritisk tenkning er sentralt i vitenskap. Karen Horney (psykoanalytiker og elev av Freud) beskrev to bevegelser: «moving towards people» og «moving against people», som tilsvarer høy og lav A. Det første betyr at du beveger deg mot mennesker med tillit; du ønsker å være venn og gi vennskap. Det siste betyr at du møter medmennesker meg piggene ute; du regner med at de ikke vil deg godt og det er best å stikke før du selv blir stukket. I ekstreme former kan dette bety henholdsvis en ekstrem avhengig personlighet og en antisosial og paranoid personlighet.

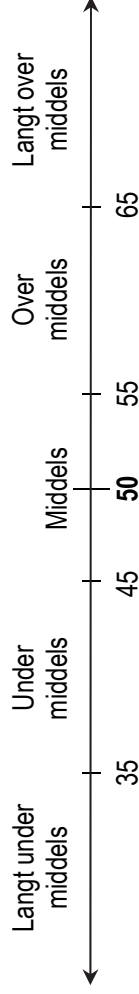
C: Planmessighet (Conscientiousness): Kontroll av impulser, å kunne beherske seg, å kunne utsette tilfredsstillelse på kort sikt for å nå mer langsiktige mål er et sentralt element i den voksne, modne personlighet. Dette henger sammen med N. Men en mer bevisst og aktiv selvkontroll er nødvendig for å nå mål i utdannelse, yrke og karriere. Planmessighet dreier seg om å legge realistiske planer og holde ut i innsats slik at planene blir realisert. Den som legger nye planer hver dag, vil vanskelig kunne komme noen vei. C er det eneste personlighetstrekk som henger sammen med effektivitet og suksess i alle yrker. Det finnes ikke yrker hvor giddeløshet og rot er en fordel! Men det er ikke sikkert at høy C bringer lykke; suksess garanterer ikke lykke. I verste fall kan høy C bety tvangsmessig pertentlighet, «workaholics» og liten evne til å kunne slappe av og nyte livet.

DIN NEO PI-3 PROFIL

(ID-NR.HER) M

ID Kjønn

De oppgitte tallene er «T-skårer», som har middelverdi (aritmetisk gjennomsnitt) på 50, og standardavvik på 10. Dette innebærer at skårene kan tolkes slik:



N - Nevrotisme.....	46	O - Åpenhet.....	48	A - Omgjengelighet.....	57	C - Planmessighet.....	47
N1 - Angst.....	46	O1 - Fantasi.....	44	A1 - Tillit.....	47	C1 - Kompetanse.....	49
N2 - Fiendtlighet.....	48	O2 - Estetikk.....	54	A2 - Rettfermhet.....	62	C2 - Orden.....	51
N3 - Depresjon.....	49	O3 - Føleiser.....	38	A3 - Altruisme.....	56	C3 - Pliktroskap.....	43
N4 - Selvsikkerhet.....	43	O4 - Handlinger.....	49	A4 - Føyelighet.....	63	C4 - Prestasjonsstreben.....	47
N5 - Impulsivitet.....	48	O5 - Ideer.....	57	A5 - Beskjedenhet.....	48	C5 - Selvdisciplin.....	46
N6 - Sårbarhet.....	49	O6 - Verdier.....	44	A6 - Følsomhet.....	52	C6 - Betenksomhet.....	51
E - Extraversjon.....	47	E - Extraversjon.....	47	E1 - Varme.....	53	E2 - Sosiabilitet.....	44
E1 - Varme.....	53	E2 - Sosiabilitet.....	44	E3 - Selvmarkering.....	45	E4 - Aktivitet.....	38
E2 - Sosiabilitet.....	44	E3 - Selvmarkering.....	45	E5 - Spenningsøkning.....	54	E6 - Positive føleiser.....	52
E3 - Selvmarkering.....	45	E4 - Aktivitet.....	38	E6 - Positive føleiser.....	52		
E4 - Aktivitet.....	38						
E5 - Spenningsøkning.....	54						
E6 - Positive føleiser.....	52						

Denne NEO PI-3-tilbakemeldingen ble gitt i tilknytning til Martine Bye Nilsens mastergradsprosjekt.
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