



LUNDS
UNIVERSITET

DEPARTMENT of PSYCHOLOGY

***Looking for nurses: The relation between agency salience
in job advertisements and the appeal of nursing for men***

My Eriksson

Master's Thesis (30 hp)

Spring 2019

Supervisor: Una Tellhed

Abstract

In Sweden, nursing is strongly gender segregated. Additionally, there is a national nursing shortage. To target these issues simultaneously, the current study attempted to make nursing more appealing to men (and as a secondary aim, also to women) by making agency salient in a job advertisement in a sample of Swedish high school students ($N = 242$, 75 men). Agency salience was manipulated through removing occupational title and by describing the occupation in agentic terms (compared to communal terms). The manipulation aimed to positively affect job appeal by increasing men's sense of belongingness as well as the perceived congruence between occupational goals and the goal affordance of nursing. Results showed that manipulating agency salience in a job advertisement did not make nursing more appealing to men or women (as compared to when communion was salient), nor did it affect belongingness or goal congruence. However, corroborating previous research, the study found that belongingness predicted appeal for men, and communal goal endorsement positively predicted the appeal of nursing regardless of gender (but women tended to have higher communal goal endorsement). The discussion contextualized these findings, suggesting that the manipulation may have lacked effect due to the strong connotations nursing has with femininity and low status, meaning it may be hard to increase job appeal with a wording manipulation alone. Nevertheless, the shown importance of belongingness and goal congruity for job appeal suggests that creating job advertisements that target these can be an efficient way to reduce the gender segregation and nursing shortage.

Keywords: Social role theory, belongingness, goal congruity, communion, agency, gender segregation, job advertisements, nursing

Looking for nurses: The relation between agency salience in job advertisements and the appeal of nursing for men

Nursing is currently gender segregated in most places in the world (e.g., Büscher, Sivertsen, & White, 2010; United States Census Bureau [USCB], 2013, Feb 25), including in Sweden. In Sweden, 88% of working nurses are women, making it one of the most gender segregated occupations in the country (Statistics Sweden, 2010; The National Board of Health and Welfare, 2019, Jan 31). In addition to the gender segregation, there is a national shortage of nurses. Recent statistics warn that 70% of employers are unable to recruit enough employees to the profession (Statistics Sweden, 2018, Dec 11). Since so few men are nurses, they constitute a large, untapped pool of potential employees. Increasing men's presence in nursing will be necessary to meet the current demands for nurses, but men's entrance into female-dominated occupations has largely remained stagnant during the past 20 years (Croft, Schmader, & Block, 2015). Projections suggest that this will not change any time soon, the year 2030 the expected percentage of male nurses is only 13% (Statistics Sweden, 2010).

A recent inquiry on men and gender equality from the Swedish government called for more active equality work to be done to increase men's entrance into female-dominated occupations (SOU, 2014). Reducing gender segregation is something that has already been focused on in research, but the efforts has so far focused almost exclusively on women and male-dominated occupations (see e.g., Kahn & Ginther, 2017, for a review). There is a scarcity of similar research on men and female-dominated careers (Croft et al., 2015). As such, research specifically how to increase men's presence in female-dominated occupations is needed.

The main aim of the study is to make nursing more appealing to men. This will be done by manipulating how job advertisements for nursing are presented, as they are one of the earliest points of contact with an occupation (see e.g., Feldman, Bearden, & Hardesty, 2006). This could expand the knowledge in an under-researched area (men's interest in communal occupations), as well as target the nursing shortage and current gender segregation (Croft et al., 2015; SOU, 2014). Three theories will be used to substantiate the study; social role theory (Eagly & Wood, 2012, 2016), the need-to-belong theory (Baumeister, 2012; Baumeister & Leary, 1995), and the goal congruity perspective (Diekman, Clark, Johnston, Brown, & Steinberg, 2011; Diekman, Steinberg, Brown, Belanger, & Clark, 2017).

Social Roles and Nursing

Social role theory can be used to provide insight into the gender segregation in nursing (Eagly & Wood, 2012, 2016). The theory posits that stereotypes about men and women are primarily caused by social roles, where occupational roles are especially important (Dulin, 2008; Eagly & Wood, 2016). The stereotypes, or gender role beliefs, are created when we continuously observe men and women in certain social roles and assume that they must be in those roles because of some unique disposition of their gender (Eagly & Wood, 2012). According to the theory, the stereotypes can be seen on two core dimensions; communion and agency (Dulin, 2008; Eagly & Wood, 2016). Men are stereotypically seen as agentic, which entails characteristics such as assertiveness, independence, and competence (Eagly & Wood, 2016). Women, on the other hand, are stereotypically perceived as communal, characterized by traits such as selflessness, compassion, and friendliness (Eagly & Wood, 2016). These gender stereotypes are pervasive: They are generally shared in society (Cejka & Eagly, 1999) and are both descriptive (they describe how men and women are perceived) and injunctive (they prescribe what behavior is best-suited for men and women; Eagly & Wood, 2016). The stereotypes also influence individuals' self-perceptions and behaviors (Diehl, Owen, & Youngblade, 2004; Donnelly & Twenge, 2017; Eagly & Wood, 2012).

In the context of nursing, the gender role beliefs outlined above help us understand the gender segregation. As most observations of nurses are of female nurses, social role theory argues that this will lead to people inferring that women have an innate quality (i.e., communion) that make them better nurses (Eagly & Wood, 2012). This is substantiated by research that has shown that both men and women tend to rate male nurses more unfavorably than female nurses (Allison, Beggan, & Clements, 2007) and that people to some extent believe that women are inherently more appropriate as nurses due to their unique communal disposition (Bartfay, Bartfay, Clow, & Wu, 2010). These gender role beliefs suggest that men do not have what it takes to be a good nurse, which may be one of the reasons it is difficult for men to enter nursing. Even when men do become nurses, they are sometimes seen as deviant and met with opposition. For example, there is a widely held stereotype that male nurses are gay and consequently, male nurses are met with homophobia and marginalization (Harding, 2007). Moreover, some male nurses lack support from close others and are

routinely questioned in their occupation, and subsequently, question their own capability as nurses (Yang, Gau, Shiau, Hu, & Shih, 2004).

However, in contrast to the negative view of male nurses, research has also found that some men who become nurses benefit from a so-called glass escalator, where their status as a gender minority actually enhances their careers (Dill, Price-Glynn, & Rakovski, 2016; Williams, 1992). In addition, research have found that men have advantages in all types of careers, whether they were male-dominated, female-dominated or gender balanced (Budig, 2004). This may be a consequence of the strong association between masculinity and factors such as leadership, careerist attitudes, authority, and competence (Fiske, Cuddy, Glick, & Xu, 2018; Simpson, 2004). Despite the advantages that men and some male nurses benefit from, the lack of male nurses (Statistics Sweden, 2010; The National Board of Health and Welfare, 2019, Jan 31) suggest that the stereotypes of communion and agency still discourage many men from becoming nurses. As such, the current study will attempt to use agency and communion to instead encourage men to pursue nursing.

Belongingness

Taking into consideration belongingness further explains men's absence from nursing. Belongingness, or the need to belong, is considered to be a fundamental need and motivation that saturates all contexts, including one's working life (Baumeister, 2012; Baumeister & Leary, 1995). In the context of work, belongingness has been defined as "feeling that one fits in with others in a particular domain" (Gaucher et al., 2011, p. 112). Research has begun to confirm that belongingness is important for the appeal of nursing (Andersson & Edberg, 2010; Borrott, Day, Levett-Jones, & Sedgwick, 2016; Mohamed, Newton, & Mckenna, 2014). A longitudinal study found that there was a strong positive correlation between a sense of belonging and workplace satisfaction among nursing students (Borrott et al., 2016). Similarly, belongingness (most importantly, acceptance by others) was reported as important for working nurses, in both qualitative (Andersson & Edberg, 2010) and quantitative studies (Mohamed et al., 2014). However, it should be noted that in the above studies, the majority of the sample was female (75-97%). This is the case with many studies on nursing and limits the generalizability to male nurses and the importance of belongingness to them.

With regards to men, research has investigated the importance of belongingness in job appeal more generally. Cheryan and Plaut (2010) found that among several predictors (social

identity threat, expectations of success, and perceived similarity), perceived similarity to others was the best predictor of interest in academic fields for both men and women. Although perceived similarity cannot necessarily be equated to belongingness, the concepts overlap as both concern similarities of traits, attributes and values between people (Cheryan & Plaut, 2010; Gaucher et al., 2011). Of more relevance to the current study, a Swedish study with high school students, that looked specifically at career interest, found that belongingness partially mediated men's interest in communal careers, while self-efficacy (i.e., belief in one's capability) did not (Tellhed, Bäckström, & Björklund, 2017). This meant that when men felt higher belongingness, they were also more interested in communal occupations. Combined, this research suggests that belongingness is important for nurses and that the negative views of male nurses may indicate that men cannot belong in the context because of the incompatibility between men's agency and nurses' communion. As such, belongingness might be an important part of understanding men's disinterest in nursing.

Furthermore, the potential importance of belongingness for job appeal is strengthened when considering the precedent it took over self-efficacy and expectations of success in previous studies (Cheryan & Plaut, 2010; Tellhed et al., 2017). As men tend to believe they can succeed at stereotypically female occupations if they want to, their disinterest is not due to a lack of confidence (Cheryan & Plaut, 2010; Tellhed et al., 2017), as often is the case for women in stereotypically male occupations (e.g., Cheryan, Siy, Vichayapai, Drury, & Kim, 2011; Tellhed et al., 2017). Accordingly, research has shown that men are associated with competence generally (Fiske et al., 2018). Consequently, they may also hold this belief themselves. Men tend to have higher self-efficacy than women (Tellhed et al., 2017) and tend to self-estimate their intelligence as significantly higher compared than women's self-estimates (Bennett, 1997; Furnham, Crawshaw, & Rawles, 2006; Furnham, Reeves, & Budhani, 2002).

The marginalization of male nurses (Allison et al., 2007; Bartfay et al., 2010; Harding, 2007; Yang et al., 2004) and the confidence men tend to have in themselves (Bennett, 1997; Furnham et al., 2006, 2002) suggest that men may find nursing unappealing because they do not feel like they belong in the occupation, rather than because they lack confidence. Thus, focusing on the anticipated sense of belongingness over e.g., self-efficacy may be more beneficial when making nursing more appealing to men. In light of this, one

aim of the current study is to strengthen men's sense of belonging in nursing by making agency more salient, and thereby also increasing the appeal of nursing.

Goal Congruity

In addition to belongingness, it is also important to consider if one *wants* to belong to a certain setting (Walton & Brady, 2017). In other words, it is not just lack of belongingness to communal occupations, such as nursing (Cheryan & Plaut, 2010; Tellhed et al., 2017) that may deter men from the occupation. Even without this deterrent men may not want to pursue the occupation because it is not perceived to fulfil their occupational goals (Diekman et al., 2011; Walton & Brady, 2017). The goal congruity perspective (an extension of social role theory) argues that individuals are motivated to seek professional roles that align with the occupational goals they value, wherein, stereotypically, men pursue agentic goals and roles whereas women pursue communal goals and roles (Diekman et al., 2011, 2017). Alignment is inherently motivating seeing as constructed gender roles (and goals) are internalized, so that it feel like one is pursuing one's own individual goals, rather than gendered goals (Diehl et al., 2004; Donnelly & Twenge, 2017; Eagly & Wood, 2012). However, alignment is also crucial as people are evaluated in accordance with the congruency between their gender role and their social role (Eagly & Diekman, 2005; Eagly & Karau, 2002). Incongruence (i.e., men acting communally and women agentially) can result in negative evaluations and penalization of the individual (Eagly & Diekman, 2005; Heilman & Wallen, 2010), as for example, seen in the marginalization of male nurses (Harding, 2007; Yang et al., 2004).

Empirical research supports the notion that congruity motivates career choices. Evans and Diekman (2009) found that men expressed more interest in male-stereotypic occupations because they were perceived as fulfilling more agentic goals, whereas women were more interested in female-stereotypic occupations because they were perceived as fulfilling more communal goals. More recently, Block, Croft, and Schmader (2018) and Tellhed, Bäckström, and Björklund (2018) found that men's lower interest in stereotypically feminine careers were partially explained by their lower communal values. Furthermore, Brown and Diekman (2010) found that university students' goals for themselves 10-15 years in the future tended to be gender congruent (focus on family for women and focus on career for men) and underlying this tendency was hope for congruence and fear of incongruence. It has been argued that this motivation could be used to make communal occupations (such as nursing) more appealing to men (Diekman et al., 2011). In the current study, increasing the appeal of

nursing could be achieved by lowering the occupation's association with communion and raising its perceived agentic goal affordance (i.e., the goals the occupation is thought to fulfil), as this could increase the congruence and consequently, the appeal of nursing for men (Croft et al., 2015; Diekman et al., 2011, 2017).

However, unlike belongingness, where the focus in the current study is specifically on men's sense of belongingness, goal congruity will be explored separately from gender. Examining goal congruity separately from gender makes sense when considering that goal incongruence could deter anyone (Boucher, Fuesting, Diekman, & Murphy, 2017). Supporting this, research found that endorsing communal goals (regardless of gender) lead to higher interest in careers that were perceived to fulfil communal goals and activating communal goals (as compared to when they were not activated) lowered the interest in stereotypically male occupations for both men and women (Diekman et al., 2011). Therefore, the study also aims to explore if the effect of manipulating agency and communion salience is moderated by the degree to which one endorses agentic or communal goals, regardless of gender.

Goal congruity and gender. Although goal congruity will be explored separately from gender, previous research has shown that there are gender differences in goal endorsement, in particular for communal goals (Diekman et al., 2011, 2017). This suggests that the manipulation may affect men and women differently. For men, it is expected that congruence (and thereby job appeal) should be highest when the occupation is agency affording (Croft et al., 2015). However, for women, the effect may be more complex. Traditionally, women tend to rate themselves higher on communion than men (Diekman et al., 2011) and may find nursing more appealing when it is perceived as communion affording. However, women are also increasingly rating themselves as agentic (Donnelly & Twenge, 2017; Twenge, Campbell, & Gentile, 2012) and increasingly valuing agentic goals (Tellhed et al., 2018), suggesting that manipulating agency salience may affect women positively. As such, a secondary aim of the study is to also investigate how the manipulation affects the appeal of nursing for women. Increasing women's interest in nursing would be beneficial in itself, as the current nursing shortage suggests their interest in the occupation is low as well.

Agency and Communion Salience in Job Advertisements

Two issues have been identified as important to men's absence from nursing; a lack of belongingness and goal incongruence. Manipulating communion and agency salience in job advertisements could target both of these issues. Firstly, it could work to imply that those who work in the occupation can be agentic and thus more similar to men, thereby perhaps increasing men's anticipated sense of belonging in nursing. Secondly, the manipulation could also imply that the occupation is agency affording, thus increasing the appeal of nursing among men (and potentially women) by making it goal congruent. To manipulate agency and communion, the study will use an experimental paradigm that has previously succeeded in increasing job appeal.

Previous research has successfully manipulated words to affect job appeal, specifically using communal/stereotypically female words or agentic/stereotypically male words. This research has focused mainly on raising the appeal of male-dominated occupations among women and found that increasing communal salience in typically agentic occupations positively affected women's interest in those occupations (Born & Taris, 2010; Diekmann et al., 2011; Gaucher, Friesen, & Kay, 2011; Taris & Bok, 1998). Specifically, Diekmann et al. (2011) manipulated the presence of independent versus collaborative work in the role of a scientist. When the occupation was described as collaborative it was perceived as fulfilling more communal goals (as compared to when it was described as independent). This led to women (who endorsed communal goals more) expressing more positive attitudes towards the occupation. It has similarly been found that increasing the presence of masculine or feminine traits or behaviors in a job advertisement affect inclination to apply to a job, where women were especially attracted to occupations described femininely (Born & Taris, 2010). Furthermore, Taris and Bok (1998) found that advertisements that mentioned typically male characteristics negatively affected women's self-perceived eligibility and attraction to the occupation. Likewise, Gaucher et al. (2011) found that when job advertisements used agentic words, women rated those jobs as less appealing and reported a lower sense of belongingness (as compared to when communal words were used).

In contrast, the same type of manipulation on men has resulted in conflicting results. Despite the above-cited studies successfully raising the appeal for women, their male participants remained unaffected by their manipulations. Specifically, the results showed that men's rating of job appeal and belongingness (Gaucher et al., 2011), men's attitude

toward a job as a scientist (Diekman et al., 2011), men's inclination to apply for a job (Born & Taris, 2010), and men's attraction and self-perceived eligibility for a job (Taris & Bok, 1998) were not affected by the wording in the different manipulations. However, men were not the focal point in these studies and research on similar manipulations focusing on men is scarce. Only one experimental study has been identified, further emphasizing the need for research on men's underrepresentation in female-dominated occupations (Croft et al., 2015). This study by Forsman and Barth (2017), focusing specifically on men, managed to increase men's interest in female-dominated occupations, using a similar wording paradigm as the above-cited studies (Born & Taris, 2010; Diekman et al., 2011; Gaucher et al., 2011; Taris & Bok, 1998). They examined the effect of occupational titles and description (stereotypically female versus male) and found that when occupations were presented without a title (compared to when a title was presented, e.g., "Nurse"), men were more interested in stereotypically female occupations. This interest was further accentuated when the job was described with stereotypically masculine characteristics, as compared to stereotypically female characteristics (Forsman & Barth, 2017). Yet, in line with previous research, they found that there was no effect of description on career interest when a title was present. This suggests that men are less affected by the semantics of job advertisements when pursuing careers, but not completely unaffected.

The notable difference between the previously successful and unsuccessful manipulations of job appeal among men comes down to title. It seems that for description to have an effect, the job advertisement must actually be taken into consideration. If the first thing read in a job advertisement has a strong association with women, and thereby communion, the rest of the advertisement may be ignored regardless of wording. In accordance with this, job title has been found to be a strong activator of gender stereotypes (Oakhill, Garnham, & Reynolds, 2005; Reynolds, Garnham, & Oakhill, 2006). Reynolds et al. (2006) found that the mere presence of a social role name, such as nurse, influenced individuals to assume the gender of the person being described. In the context of job advertisements, this could suggest that occupational title leads to an assumption that that the advertised role is for a woman. Furthermore, it was found that the name of an occupation immediately and automatically activated a gender presumption, even when the individual was actively trying to not make these presumptions (Oakhill et al., 2005). Removing the title may, therefore, minimize the immediate gender presumption and communal salience. This may

allow the individual to judge the appeal of the occupation based on the content of the advertisement, rather than on the title.

However, it should be noted that although Forsman and Barth (2017) successfully affected men's interest in communal occupations, they did not manage to make men more interested than disinterested. The highest interest score, from men in the condition with no title and an agentic description, was on average as 2.21 (under the mid-point of the 5-point Likert scale used). Nonetheless, as will be discussed below, Forsman and Barth's (2017) study can be improved upon, which may affect the impact of the manipulation.

Extending Previous Research

The current study will utilize a similar experimental wording paradigm as previous research (e.g., Forsman & Barth, 2017; Gaucher et al., 2011). The study will manipulate the presence of agentic and communal words in a job advertisement for nursing, to increase the appeal of nursing for men (and women). In line with Forsman and Barth (2017), title will also be part of the manipulation, as this seems to be a vital element for the manipulation to have an effect on men. However, to improve upon previous research, some additional considerations have been taken.

To begin with, how occupations have been presented in previous research has varied in external validity. Forsman and Barth's (2017) study, the only identified study that has focused on a male sample, presented a total of 20 job descriptions that were only two sentences long. This gave the reader only general information on what the job entailed and did not approximate what real job advertisements tend to look like. It has been suggested that specificity in job advertisements is positively associated with the individuals' perceived appropriateness for a job (Feldman et al., 2006). The research focusing on women presented more externally valid job advertisements (modelled after real advertisements) and provided more specific information (see e.g., Born & Taris, 2010; Gaucher et al., 2011). Therefore, the job advertisement used in the current study was adapted from Gaucher et al. (2011) to ensure that it approximates a real advertisement and has more specific information.

Moreover, most previous studies cited here used a sample consisting of university students (Born & Taris, 2010; Forsman & Barth, 2017; Taris & Bok, 1998), often psychology undergraduates (Diekman et al., 2011; Gaucher et al., 2011). Forsman and Barth (2017)

cautioned the generalizability of results from university students. They highlighted that at university people may already have chosen a general career direction and may not consider another type of career, regardless of how it is presented. The high school years, on the other hand, are a critical time during which students are already influenced by occupational gender stereotypes (see e.g., Tellhed et al., 2018), but while their career choice still remains open and could be affected. As such, the current study will use high school students. It should be noted that school students (secondary school and high school) have previously been researched on similar topics (Tellhed et al., 2017, 2018), but these studies were correlational rather than experimental, limiting the inferences that could be drawn. The current study will employ an experimental paradigm, to also be able to infer causality.

Summary and Hypotheses

To summarize, the main aim of the study can be formulated in the research question: Can nursing be made more appealing to men (and women) by increasing the agency salience in job advertisements for nursing? The research aims to positively affect belongingness and thereby the appeal of nursing for men. Moreover, it aims to manipulate the goal affordance of nursing in order to positively affect the appeal of nursing in the instances where goal affordance is congruent with goal endorsement. The hypotheses are as follows:

Hypothesis 1: Men's ratings of job appeal for the job advertised will be higher when a) the job advertisement is described with agentic words compared to when it is described with communal words and b) the job advertisement has no title compared to when it has a title.

Hypothesis 2: Men's ratings of belongingness will partially mediate the relationship between condition and job appeal, so that men will feel more belongingness when the job advertisement has no title and/or is described with agentic words, which in turn will increase job appeal.

Hypothesis 3a: Agentic goal endorsement will positively moderate the relationship between the effect of the agentic job description and job appeal, so that higher agentic goal endorsement will lead to higher job appeal in the agentic description condition.

Hypothesis 3b: Communal goal endorsement will positively moderate the relationship between the effect of the communal job description and job appeal, so that higher communal goal endorsement will lead to higher job appeal in the communal description condition.

Exploratory hypotheses. A secondary explorative aim of the study is to investigate how the manipulation of description and title affects women's ratings of job appeal. Furthermore, the study will explore the differences between men and women's communal and agentic goal endorsement to further understand the potential effect of the manipulation with regards to goal congruity.

Method

Design

The study design was a 2x2 between-subjects design. The independent variables were title (title present or no title) and description (communal or agentic). The dependent variable was job appeal. Belongingness was included as a mediating variable. Agentic goal endorsement and communal goal endorsement were included as moderating variables.

Participants

An a-priori power analysis for linear multiple regressions was conducted in GPower (Faul, Erdfelder, Buchner, & Lang, 2009) to determine the required number of participants. Related research has found effect sizes between small and large, with the majority being medium (Forsman & Barth, 2017; Gaucher et al., 2011). In accordance, a medium effect size was used (Cohen's $f^2 = 0.15$). As both separate and combined regressions were conducted for men and women, power was calculated for a regression with just men or just women. With an alpha level of .05, to reach 80% power in a regression with two predictors (title and description), the power analysis concluded that a minimum of 68 participants were needed for each regression.

The sample consisted of Swedish school pupils recruited from high schools in Sweden. Initially, schools located in the province of Scania were contacted to be able to offer offline data collection. However, due to the low response rate, randomly selected schools from all of Sweden were contacted to extend the sample (selected from a randomized list of all cities in Sweden; Sveriges Kommuner och Landsting, 2017). In total, 254 students

participated. However, six participants had to be excluded (four participants had not ticked the box to give informed consent, one participant had not completed the goal endorsement scale and one participant had not indicated age so it was not clear if they had adhered to the age criteria for participation). Of the remaining 248 participants, 75 were men, 167 were women and six indicated their gender as other. Due to the focus of the study and the small sample of participants who indicated their gender as other, these six participants were not included in the final sample. Therefore, the final sample consisted of 242 participants. The participants were between 15-19¹ years old ($M = 17$, $SD = 0.80$).

Materials

Experimental manipulation. The manipulation consisted of four job advertisements for a nursing job, adapted from Gaucher et al. (2011). The job advertisements were presented in Swedish. The translations from the original English versions were done by the researcher and were back-translated by another researcher fluent in Swedish and English (see Appendix A for the English versions and Appendix B for the Swedish versions). Half of the job advertisements had a job title (Looking for nurses! [Sjuksköterska sökes!]), whereas the other half had no title. Half of the job advertisements with title and half of the job advertisements without title were described with communal words (e.g., community, appropriately, dependable, collaborate) and the other half with agentic words (e.g., determined, decisively, self-reliant, independently). Thus, there was four experimental groups: Group 1 (title and communal description), group 2 (no title and communal description), group 3 (title and agentic description), and group 4 (no title and agentic description).

Measures. Participants rated the job advertisements on job appeal and belongingness, rated endorsement of agentic and communal occupational goals, and provided age and gender. It should be noted that the female participants' responded to the belongingness measure even though these scores were not analyzed, as it was practically easier to distribute the same questionnaire to all participants. To control that no participants had figured out the manipulation, a control question was also asked ("What factors affected your perceptions of the advertisement?"; adapted from Gaucher et al., 2011). No participant guessed the true intention of the study. All measures were given to the participants in Swedish. The

¹ In the information about the study, the requested sample was stated to be between 15 to 18 years. However, this was later changed to 15 to 19 years through email correspondence with the participating schools, as it was overlooked that some high school students would already have turned 19 at the time the data was collected.

translations (with the exception of the Goal Endorsement Scale, that had previously been translated by Tellhed et al., 2018) was done by the researcher and back-translated by another researcher fluent in English and Swedish.

Job appeal. Job appeal was measured with a six-item scale on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree; Gaucher et al., 2011). The job appeal score was calculated by taking the average score of the items. The items were “This job is appealing”, “I think I could enjoy this job”, “This is not a job I would want” (reverse coded), “This company would be a good employer”, “This job looks interesting”, and “This company seems like a great place to work”. The measure has previously shown good reliability (Cronbach’s $\alpha = .90-.94$; Gaucher et al., 2011) and showed good reliability in the current study as well ($\alpha = .84$; Trobia, 2008).

Belongingness. Belongingness was measured with a four-item scale on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree; Gaucher et al., 2011). The belongingness score was calculated by taking the average score of the items. The items were “I could fit in well at this company”, “I’m similar to the people who work in this career”, “My values and this company’s values are similar”, and “The type of people who would apply to this job are very different from me” (reverse coded). The measure was adapted from Walton and Cohen (2007) by Gaucher et al. (2011). The original measure has shown good reliability ($\alpha = .89$, Walton & Cohen, 2007) and also did so in the current study ($\alpha = .75$; Trobia, 2008).

Goal endorsement. The importance of communal and agentic occupational goals was measured with the 24-item Goal Endorsement Scale (Diekman, Brown, Johnston, & Clark, 2010; Diekman et al., 2011). Participants indicated the importance of goals on a 7-point Likert scale ranging from 1 (not at all important) to 7 (extremely important). The scale consists of two subscales, agentic goals and communal goals (derived through factor analysis, see Diekman et al., 2010). Two scores were calculated for each participant, agentic goal endorsement and communal goal endorsement, by taking the average score from each subscale. The communal goal subscale included 10 items (serving community, working with people, altruism, helping others, connecting with others, serving humanity, attending to others, caring for others, spirituality, and intimacy). The scale has shown good reliability ($\alpha = .84$; Diekman et al., 2011) and also did so in the current study ($\alpha = .87$; Trobia, 2008). The

agentic goal subscale included 14 items (power, recognition, achievement, status, focus on the self, success, financial reward, self-direction, mastery, self-promotion, independence, individualism, demonstrating skill, and competition). The scale has previously shown good reliability ($\alpha = .84$; Diekman et al., 2011) and also did so in the current study ($\alpha = .85$; Trobia, 2008).

Procedure

The data was collected by initially contacting schools through emailing the principal, the study and career adviser, or specific teachers who may have had an interest in the study. They then gave the students the opportunity to complete the study online or invited the researcher to collect data at the schools (only for the schools located in Scania). In total, 65 participants completed the study offline and 184 completed it online. The online data was gathered via the online survey tool Sunet (<https://www.sunet.se/>). The offline data was collected via pen and paper outside a school cafeteria and in a classroom at the beginning of class. The students were given a piece of candy for participating in the study. The study looked the same both online and offline. The participants were randomly allocated to read one of the four advertisements. Participants initially read the information about the study and gave informed consent. The participants then received the general instructions and were presented with one job advertisement, followed by the job appeal measure, the belongingness measure, the goal endorsement measure (agentic and communal goal items in a randomized order), demographic questions (gender and age), and the control question. Lastly, they were debriefed (see Appendix C for the study in its entirety).

Ethical Approval

The study was conducted in accordance to the Law (2003:460) on Ethics of Research Involving Humans. In line with the regulations, all participants gave informed consent by ticking a box before taking part in the study. They were informed verbally and in writing that participation in the study was voluntary and anonymous. They were informed in writing that they had the right to withdraw at any point and that all data was treated confidentially. As the true intention of the study could not be told before participation, participants were also debriefed with a written debriefing once having participated. The data was only analyzed at group level and only available to the researcher and supervisor.

The study did not present any substantial negative consequences for the participants. However, two ethical considerations were considered to ensure this. Firstly, there was a potential psychological effect of the manipulation, as the study sought to affect the participants' feelings toward the nursing occupation. Importantly, the job advertisements were neither positive nor negative and should not have had any substantial affective impact on the participants outside the intended effect on job appeal and belongingness. Secondly, a risk related to this kind of manipulation was raising the expectations of the occupation above its real circumstances. To avoid this, the job advertisements were designed so that they were not deceptive or untrue. Compared to real advertisements available on the Swedish Public Employment Service's website (www.arbetsformedlingen.se), the job descriptions were accurate but exaggerated in their use of communal or agentic words.

Data Analysis

The statistical analyses were conducted in R (version 3.5.3; R Core Team, 2019). To test hypothesis 1 (the effect of title and description on job appeal among men) a multiple linear regression including interaction terms was built. To test hypothesis 2 (the mediating effect of belongingness), a mediation analysis was conducted using the package psych (Revelle, 2018). To test hypothesis 3 (the moderating effect of goal congruity), two multiple linear regressions including interaction terms were built. Lastly, the exploratory hypotheses were tested by building a multiple linear regression (exploring the manipulation's effect on women) and by conducting two t-tests (comparing communal and agentic goal endorsement between men and women).

Results

Missing Data

In the final data ($N = 242$), there were 56 cases of non-responses on items (0.5% of all items) among 42 participants. Conducting Little's MCAR test (Beaujean, 2012) revealed that the data was not missing completely at random, $\chi^2(1040, N = 242) = 1182.65, p = .001$. In other words, the missing data most likely had some systematic underlying process causing it (Myers, 2011). However, theoretical knowledge did not indicate that the data was missing due to the values being measured (i.e., missing not at random; Myers, 2011), as the items missing were individual items in previously validated scales not pertaining to sensitive information (Myers, 2011). This suggested the data was missing at random, meaning that

listwise deletion would potentially bias the data and estimates. Furthermore, as 42 participants had missing data, removing them would result in an underpowered sample.

Thus, it was decided to impute the missing data using the hot deck imputation method (D’Orazio, 2017; Myers, 2011). Hot deck imputation involves imputing missing data from another participant that matches the participant with the missing data in theoretically relevant variables (Myers, 2011). The imputation was performed using the function `NND.hotdeck` from the package `StatMatch` (D’Orazio, 2019). The data was imputed step-wise, building each imputed data set on the former imputed dataset to preserve associations between variables, which is important for regression analyses (Andridge & Little, 2010). The chosen matching variables were the other scale items, as they theoretically would be good predictors of the missing items (Andridge & Little, 2010; Myers, 2011). The following analyses were conducted on the dataset containing imputed variables.

Preliminary Analyses

Descriptive statistics. To begin, the descriptive statistics were explored. Of importance was examining the scores that the manipulation intended to affect. Specifically, job appeal for men and women, and belongingness for men. As seen in Table 1, men scored job appeal slightly over the mid-point in all groups (7-point Likert scale). Women scored job appeal under the mid-point only in the title and agentic description condition. Men scored belongingness over the mid-point in all groups, except the title and agentic description.

Table 1

Descriptive statistics for job appeal and belongingness by group

Variable	Group 1 ^a <i>M (SD)</i>	Group 2 ^b <i>M (SD)</i>	Group 3 ^c <i>M (SD)</i>	Group 4 ^d <i>M (SD)</i>
Job appeal (only men) ^e	4.34 (1.06)	4.12 (1.33)	4.08 (1.21)	4.43 (1.03)
Job appeal (only women) ^f	4.25 (1.35)	4.18 (1.29)	3.93 (1.31)	4.07 (1.21)
Belongingness (only men) ^g	4.46 (0.97)	4.16 (1.47)	3.98 (1.49)	4.04 (1.28)

^atitle + communal. ^bno title + communal. ^ctitle + agentic. ^dno title + agentic. ^e*n* = 75. ^f*n* = 167. ^g*n* = 75.

Group comparisons. A MANOVA was conducted to ensure that the random allocation of the groups had been successful and that any differences between the groups on

the dependent variable were due to the manipulation rather than pre-existing differences on the variables not intended to be affected by the manipulation. The MANOVA compared communal goal endorsement, agentic goal endorsement, gender, and age between the four groups. There was no significant difference between the groups, $F(3, 238) = 0.69$ $p = .782$, indicating that the groups were equivalent. The descriptive statistics for the groups can be seen in Table 2.

Table 2

Descriptive statistics for communal and agentic goal endorsement, age, and gender by group

Variable	Group 1 ^a <i>M (SD)</i>	Group 2 ^b <i>M (SD)</i>	Group 3 ^c <i>M (SD)</i>	Group 4 ^d <i>M (SD)</i>
CGE	5.12 (1.05)	4.92 (1.14)	4.91 (1.04)	5.10 (1.08)
AGE	4.79 (0.78)	4.74 (0.92)	4.79 (0.81)	5.06 (0.80)
Age	17.00 (0.79)	17.06 (0.85)	16.97 (0.80)	16.98 (0.79)
Gender	M = 17 F = 42	M = 17 F = 45	M = 20 F = 40	M = 21 F = 40

Note. CGE = Communal goal endorsement; AGE = Agentic goal endorsement; M = Male; F = Female.

^a $n = 59$, title + communal. ^b $n = 62$, no title + communal. ^c $n = 60$, title + agentic. ^d $n = 61$, no title + agentic.

Outliers. Univariate outliers were screened for by comparing the mean and trimmed means for each variable, no outliers were detected. Multivariate outliers were screened for in each regression model and are reported in the relevant section.

Hypothesis 1

Building the model and assumption testing. To explore hypothesis 1, a regression was built for the male sample ($n = 75$). The regression predicted job appeal based on title (title or no title) and description (communal or agentic), including an interaction term. Before analyzing the model, model diagnostics were run. Cook's distance revealed 3 multivariate outliers (cut off = $4/n$; Navarro, 2017). However, running a regression without these participants did not affect the regression substantially. Furthermore, investigating the participants' scores did not provide an explanation as to why these cases should be excluded and thus, they were included in the regression (Navarro, 2017). Assumption tests revealed no violations of normality, homoscedasticity or multicollinearity (see Appendix D for further

information on each test). The model was not tested for linearity as this is not meaningful for categorical predictors.

Main analysis. The regression model was built to explore if men's ratings of job appeal would be higher when the job advertisement had no title compared to when it had a title and/or when the job was described with agentic words compared to when it was described with communal words. The regression model was not a significant predictive model for job appeal, $F(3, 71) = 0.43$, $p = .733$, adjusted $R^2 = -0.02$. Thus, the first hypothesis was not supported, description and title did not have an effect on men's ratings of job appeal. Further details about the statistics describing the coefficients of the predictors can be seen in Table 3.

Table 3

Regression coefficients in the regression model for men

Predictors	Coefficient	95% CI	b^*	t	p
(Intercept)	4.34	[3.78, 4.90]	-	15.47	< .001
Description2	-0.27	[-1.03, 0.49]	-0.12	-0.70	.485
Title2	-0.23	[-1.02, 0.57]	-0.19	-0.57	.572
Description2*Title2	0.58	[-0.49, 1.65]	0.23	1.08	.285

Note. CI = Confidence interval; Description1 (baseline) = Communal; Description2 = Agentic; Title1 (baseline) = Title; Title2 = No title.

Hypothesis 2

A mediation analysis was conducted using the package psych (Revelle, 2018) to explore hypothesis 2, that belongingness mediated the relationship between description and/or title, and job appeal among men ($n = 75$). Description was dummy coded as communal = 0 and agentic = 1, so that a positive regression coefficient would indicate that the agentic description condition led to higher belongingness. Likewise, title was dummy coded as title = 0 and no title = 1, so that a positive regression coefficient would indicate that the no title condition led to higher belongingness. As illustrated in Figure 1, the path between title and belongingness was non-significant ($p = .520$), as were the paths between description and belongingness ($p = .276$) and between the interaction term and belongingness ($p = .566$). The

path between belongingness and job appeal was significant ($p < .001$). This suggested that hypothesis 2 could be rejected as there was no moderation of belongingness.

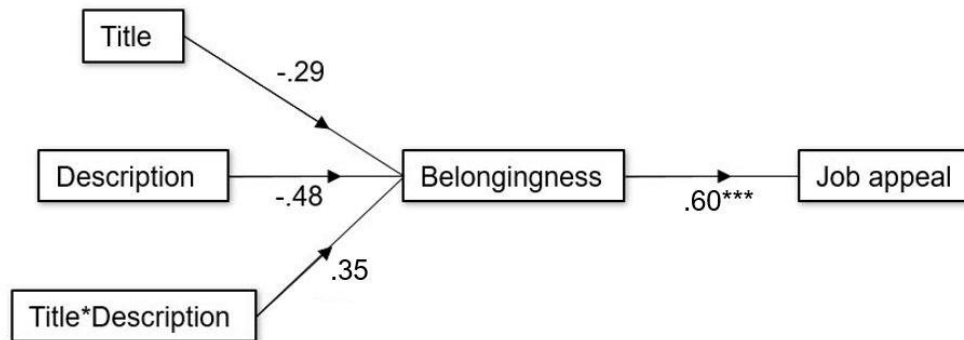


Figure 1. Unstandardized regression coefficients for the relationship from title and description to belongingness and from belongingness to job appeal.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Bootstrapping procedures were used to confirm these results. Unstandardized indirect effects were computed for 10,000 bootstrapped samples and the 95% confidence interval (CI) was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. The mediation model was significant, $F(4, 70) = 16.14, p < .001$, adjusted $R^2 = 0.69$. However, the bootstrapped unstandardized indirect effect for title to job appeal (through belongingness) was not significant as the confidence interval range contained zero, $b = -0.18, SE = 0.26, 95\% CI [-0.73, 0.30]$. The bootstrapped unstandardized indirect effect for description to job appeal (through belongingness) was also not significant, $b = -0.29, SE = 0.25, 95\% CI [-0.78, 0.19]$. Lastly, the bootstrapped unstandardized indirect effect for the interaction between title and description to job appeal (through belongingness) was not significant, $b = 0.22, SE = 0.37, 95\% CI [-0.49, 0.98]$.

Hypothesis 3

Building the models and assumption testing. To explore hypothesis 3a and 3b, that communal and agentic goal endorsement would moderate the relationship between the effect of the descriptions and job appeal, two regression models were built including all participants ($N = 242$). Model 1 predicted job appeal based on description (communal or agentic) and agentic goal endorsement score, including an interaction term to explore the moderation. Model 2 predicted job appeal based on description (communal or agentic) and communal goal endorsement, also including an interaction term to explore the moderation.

Before exploring the models, model diagnostics and assumption tests were conducted. Cook's distance revealed 15 multivariate outliers in model 1 and 14 multivariate outliers in model 2 (cut off = $4/n$; Navarro, 2017). Running two new regressions, excluding these participants, did not change the regression coefficients substantially. Furthermore, as no valid reason for excluding the participants could be identified, all participants remained in the regression (Navarro, 2017). Assumption tests revealed no violations of normality, linearity or homoscedasticity for model 1 (see Appendix D for further information on each test). For model 2, the assumptions for normality and linearity were not violated (see Appendix D for further detail on each test). However, a non-constant variance test detected violation of homoscedasticity for model 2, $\chi^2(1, N = 242) = 6.20, p = .013$. To rectify this, sandwich estimators were obtained using the `coefest` function from the `lmtest` package (Zeileis & Hothorn, 2002). The coefficients, t-values, and significance levels of each predictor in model 2 were interpreted based on these estimators (Navarro, 2017). Multicollinearity over the cut off of 5 (Alin, 2010) was detected in both model 1 and model 2. However, as structural multicollinearity can be created when regressions include an interaction term, the continuous variables (communal and agentic goal endorsement) in the two regressions were centered to remove this (Kraemer & Blasey, 2004). Neither model 1 nor model 2 displayed multicollinearity after centering the variables. Centering the variables did not affect the regression model and thus the following analysis is based on the un-centered scores.

Hypothesis 3a. To test hypothesis 3a, model 1 predicting job appeal based on description and agentic goal endorsement was explored. A significant interaction term would suggest that the effect of description on job appeal differed as a function of agentic goal endorsement. The regression model was not a significant predictor of job appeal, $F(3, 238) = 1.94, p = .124$, adjusted $R^2 = 0.01$, meaning that agentic goal endorsement did not moderate the relationship between description and job appeal. Further details about the statistics describing the coefficients of the predictors can be seen in Table 4.

Table 4

Regression coefficients in regression model 1

Predictors	Coefficient	95% CI	b^*	t	p
(Intercept)	3.81	[2.55, 5.07]	-	5.95	< .001
Description2	-1.20	[-3.05, 0.66]	-0.48	-1.27	.204
AGE	0.09	[-0.17, 0.35]	0.06	0.65	.515
Description2*AGE	0.21	[-0.16, 0.59]	0.44	1.12	.265

Note. CI = Confidence interval; Description1 (baseline) = Communal; Description2 = Agentic; AGE = Agentic goal endorsement.

Hypothesis 3b. To test hypothesis 3b, model 2 predicting job appeal based on description and communal goal endorsement was explored. Again, a significant interaction term would indicate a moderation effect. The regression model was a significant predictor of job appeal, $F(3, 238) = 8.81, p < .001$, adjusted $R^2 = 0.09$. Details about the statistics describing the coefficients of the predictors can be seen in Table 5. Examining the predictors closer revealed that no moderation was found as the interaction term was not significant, $p = .773$. However, the regression model revealed that communal goal endorsement was a significant predictor of job appeal, regardless of description, $b^* = 0.33, p < .001$, suggesting that the higher the communal goal endorsement was, the higher the job appeal was.

Table 5

Regression coefficients in regression model 2

Predictors	Coefficient ^a	95% CI	b^*	t^a	p^a
(Intercept)	2.32	[1.32, 3.32]	-	4.77	< .001
Description2	0.08	[-1.35, 1.51]	0.03	0.11	.911
CGE	0.38	[0.18, 0.57]	0.33	3.76	< .001
Description2*CGE	-0.04	[-0.32, 0.24]	-0.09	-0.29	.773

Note. CI = Confidence interval; Description1 (baseline) = Communal; Description2 = Agentic; CGE = Communal goal endorsement

^aStatistics based on sandwich estimators

Exploratory Hypotheses

The effect of the manipulation on women. To explore how the manipulation affected women, the same data analysis procedure as conducted for hypothesis 1 was repeated. A regression was built for the female sample ($n = 167$), predicting job appeal based on title (title or no title) and description (communal or agentic), including an interaction term. To begin, model diagnostics were run. Cook's distance revealed 7 multivariate outliers (cut off = $n/4$; Navarro, 2017). However, removing the participants resulted only in small differences in the regression and exploring the participants' scores closer did not reveal an explanation as to why they should be excluded, thus they were included in the regression (Navarro, 2017). Further assumption testing did not reveal violation of normality, homoscedasticity or multicollinearity (see Appendix D for further information on each test). As mentioned previously, testing for linearity is not meaningful when predictors are categorical and as such, the model was not tested for this. The regression model was not a significant predictive model for job appeal, $F(3, 163) = 0.48$, $p = .696$, adjusted $R^2 = -0.01$, suggesting that description and title did not have an effect on women's ratings of job appeal. Further details about the statistics describing the coefficients of the predictors can be seen in Table 6.

Table 6

Regression coefficients in regression model for women

Predictors	Coefficient	95% CI	b^*	t	p
(Intercept)	4.25	[3.86, 4.65]	-	21.38	< .001
Description2	-0.32	[-0.88, 0.24]	-0.13	-1.13	.262
Title2	-0.07	[-0.62, 0.47]	-0.03	-0.27	.788
Description2*Title2	0.21	[-0.58, 1.00]	0.07	0.53	.597

Note. CI = Confidence interval; Description1 (baseline) = Communal; Description2 = Agentic; Title1 (baseline) = Title; Title2 = No title

Gender differences in goal endorsement. Two t-tests were conducted to compare men and women's scores on communal goal endorsement and on agentic goal endorsement. The variance between men and women's scores was equal, $F(74, 166) = 1.43$, $p = .062$ for communal goal endorsement and $F(74, 166) = 1.06$, $p = .754$ for agentic goal endorsement. As such, Student t-tests were conducted. There was no significant difference between men

and women's scores on agentic goal endorsement, $t(240) = 1.27, p = .205$ (see Table 7 for descriptive statistics). However, women scored significantly higher than men on communal goal endorsement, $t(240) = -3.21, p = .001$ (see Table 7 for descriptive statistics).

Table 7

Descriptive statistics for agentic and communal goal endorsement by gender

Variable	Male sample ^a	Female sample ^b
	<i>M (SD)</i>	<i>M (SD)</i>
AGE	4.95 (0.85)	4.80 (0.83)
CGE	4.69 (1.19)	5.16 (0.99)

Note. AGE = Agentic goal endorsement; CGE = Communal goal endorsement.

^a $n = 75$. ^b $n = 167$.

The previous finding that communal goal endorsement was a significant predictor of job appeal, suggested that communal goal endorsement acted as a mediator between gender and job appeal, as women had significantly higher communal goal endorsement. To test this, a mediation analysis was conducted using the mediate function from the package psych (Revelle, 2018). Gender was dummy coded as male = 0 and female = 1, so that a positive regression coefficient would indicate that women had higher communal goal endorsement than men. As illustrated in Figure 2, gender (female) was a significant positive predictor of communal goal endorsement ($p = .002$), and communal goal endorsement was a significant positive predictor of job appeal ($p < .001$). Neither the total effect ($p = .448$) nor the direct effect ($p = .062$) of gender to job appeal were significant. Bootstrapping procedures were used to test the significance of the indirect effect from gender to job appeal through communal goal endorsement. Unstandardized indirect effects were computed for 10,000 bootstrapped samples and the 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. The overall model was significant, $F(2, 239) = 14.77, p < .001$, adjusted $R^2 = .03$. The bootstrapped unstandardized indirect effect of gender on job appeal through communal goal endorsement was also significant, $b = .18, SE = 0.07, 95\% CI = [.06, .33]$, suggesting there was an indirect mediation of gender on job appeal through communal goal endorsement.

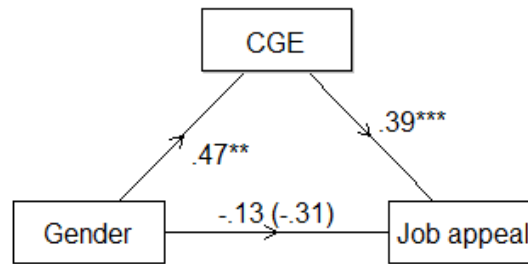


Figure 2. Unstandardized regression coefficients for the relationship between gender and job appeal as mediated by communal goal endorsement (CGE). The unstandardized regression coefficient between gender and job appeal, controlling for CGE, is in parentheses.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Discussion

The main aim of the study was to make nursing more appealing to men (and as a secondary aim to women) by increasing the salience of agency in a job advertisement for nursing. Contrary to the hypotheses, the manipulation of title and description did not affect the appeal of nursing for men or women. Furthermore, belongingness did not mediate the relationship between title and/or description and men's ratings of job appeal, as the manipulation did not manage to affect men's sense of belonging. However, it was found that belongingness significantly predicted job appeal, so that higher belongingness led to higher job appeal for men.

Looking at the moderating effect of goal congruity, the results showed that congruence between description and goal endorsement did not affect job appeal for men and women. In other words, when the description was communal, having higher communal goal endorsement did not affect job appeal (as compared to when the description was agentic). Similarly, when the description was agentic, having higher agentic goal endorsement did not affect job appeal (as compared to when the description was communal). However, it was found that communal goal endorsement predicted job appeal regardless of description, so that higher communal goal endorsement positively affected job appeal for all participants. Exploratory analyses revealed that there was no difference between men and women's agentic goal endorsement, but women rated communal goals significantly higher than men. As women had higher communal goal endorsement and communal goal endorsement was shown to be a positive predictor of job appeal, a mediation analysis was conducted and

confirmed that communal goal endorsement was a positive mediator of the relationship between gender and job appeal.

The context of nursing was chosen as it is topical; there is both an urgent need for more nurses (Statistics Sweden, 2018, Dec 11) and men are vastly underrepresented in nursing in Sweden (Statistics Sweden, 2010; The National Board of Health and Welfare, 2019, Jan 31). However, the manipulations did not manage to affect the appeal of nursing for men or women. Despite these results, the study still provides insight into a previously under-researched area, that is, how to increase men's presence in female-dominated occupations (Croft et al., 2015). The following discussion will examine possible reasons for why the manipulation did not work. Furthermore, the implications of the research with regards to belongingness and goal congruity will also be discussed in terms of its importance for targeting gender segregation and the nursing shortage.

Manipulating Title and Description

To begin, the current study did not find a main effect of title on job appeal for men or women. With regards to men, this was in contrast to Forsman and Barth (2017), who found that when there was no title, men were overall more interested in stereotypically female occupations regardless of description. The studies differed methodologically; manipulating title may not have worked in the current study because the advertisements were substantially longer than the advertisements presented in Forsman and Barth's (2017) study. Although longer advertisements were argued to provide higher external validity, as an unexpected consequence, participants may have had more chance to infer what the occupational role was. This would have meant that they deduced that the occupation was nurse, even when a title was not present. On the other hand, the advertisements did not directly indicate nurse and it may instead have been interpreted as e.g., medical doctor, an occupation generally associated with men (e.g., Blakemore, 2003; Wilbourn & Kee, 2010). In both cases, participants in the no title-condition may have deduced the occupation, but with different conclusions (nurse versus doctor). If an assumption of the occupational title was made, this would have precluded the effect a job advertisement with no title was theorized to have. Rather than removing the activation of gender stereotypes that occupational title can cause (Oakhill et al., 2005; Reynolds et al., 2006), the participants may have activated it themselves when reading the description. However, this is speculation at this point and similar future studies may want

to pilot test a no-title manipulation, to see what the occupation is perceived to be before implementing it in research (Hauser, Ellsworth, & Gonzalez, 2018).

Following this, there was no main effect of description on job appeal, nor was there an interaction effect of title and description on men or women's ratings of job appeal. The lack of interaction effect for men was also contrary to Forsman and Barth's (2017) results. The lack of interaction effect for both men and women may be due to the lack of main effect of title, perhaps due to the methodological differences between the current study and Forsman and Barth's (2017) study, as discussed above. However, the lack of main effect of description for men gave support to tendencies seen in previous research, where experimental wording paradigms have not been sufficient to affect men's interest in communal occupations (Born & Taris, 2010; Diekman et al., 2011; Forsman & Barth, 2017; Gaucher et al., 2011; Taris & Bok, 1998). Further discussing and attempting to understand why the manipulation did not have an effect and what that means in the context of nursing will benefit future studies focusing specifically on men's under-representation in nursing. Two aspects in particular are of relevance. Firstly, the title of nurse in Sweden having a feminine form, and secondly, the general association between communal occupations and low-status.

The feminine form of nurse. Taking into consideration the strong connotations the occupation has to femininity in Sweden, help us understand why agency salience in a job description was not enough to affect the appeal of nursing for men. Unlike other occupations with feminine connotations (e.g., librarian or interior decorator; Forsman & Barth, 2017), nurse has a somewhat unique position in Sweden. It is one of very few occupations where the title used for both men and women has a feminine ending ("sjuksköterska rather than sjukskötare; Edlund, 2004). Most occupational titles in Sweden are considered gender neutral, but originate in what was previously the male title, while the female title is retired (e.g., lärare [teacher, male/neutral] versus lärarinna [teacher, female] or frisör [hairdresser, male/neutral] versus frisös [hairdresser, female]; Edlund, 2004). The adoption of the feminine ending of nurse has led to debates regarding whether male nurses could or should go under this title and the title was argued to be one the reasons men were dissuaded to pursue the occupation (Edlund, 2004). Many women accept taking male titles, in contrast to the common objections from men to take feminine titles (Edlund, 2004). As such, when understanding the current study's results, it is necessary to consider how the occupational title of nurse being specifically feminine may place nursing in the Swedish context in a particular position. It

suggests that affecting men's interest in the occupation may be hindered by the connotations of the occupations which, in turn, is accentuated by the gendered nature of the title.

The role of status. Furthermore, the opposition from men toward the feminine form of nurse suggests that men may be more opposed to adopting gender-incongruent roles generally (as compared to women; Edlund, 2004). This is in agreement with the research that found an effect of a wording manipulation on women, but not on men (Born & Taris, 2010; Diekman et al., 2011; Gaucher et al., 2011; Taris & Bok, 1998). Even when men have specifically been focused on and a successful manipulation has been conducted, interest has remained relatively low, not going above the mid-point of a 5-point Likert scale (Forsman & Barth, 2017). Why is it that encouraging men to pursue stereotypically feminine occupations is more difficult than encouraging women to pursue stereotypically male occupations? In the current study, it may be a methodological artifact of the manipulation or due to nursing's strong connotations with femininity in Sweden, as discussed above. However, considering that research focusing on other occupations than nursing, in other countries than Sweden, have found similar results, the lack of effect in the current study may also be due to how communal occupations are viewed generally (Croft et al., 2015; England, 2010).

The unevenness of women entering male-dominated careers, compared to men entering female-dominated careers has been argued to stem from the view of stereotypically female labor as low-status (Croft et al., 2015; England, 2010). England (2010) argued that the devaluation of stereotypically female jobs provide little incentive for men to pursue these occupations. For women, on the other hand, pursuing stereotypically male jobs come with increases in pay, status and power (England, 2010). Likewise, Croft et al. (2015) argued that communion and communal occupations are associated with lower status and thereby not as desirable. This is further substantiated by research that has found that low-status occupations are perceived as requiring more communion and less agency (Conway, Pizzamiglio, & Mount, 1996), that individuals in arbitrary low-status groups are perceived as more communal and less agentic than high-status individuals (Conway et al., 1996) and that stereotypically female and communal careers are seen as having lower worth to society compared to stereotypically male and agentic careers (Block et al., 2018).

This research suggests that a wording paradigm may not be strong enough to overcome the connotations of status in communal occupations, as also indicated by the lack

of effect in the current study. For female samples and stereotypical male occupations, status would not be an issue, as suggested by the significant results in the research on women (Born & Taris, 2010; Diekmann et al., 2011; Gaucher et al., 2011; Taris & Bok, 1998). To combat the status connotations, future studies may need to strengthen the manipulation by also including status cues. For example, research has found that higher salary is a status cue (Block et al., 2018). A manipulation indicating higher salary could suggest higher status and therefore, may be more successful. However, in that instance, it might be necessary to provide false information in the job advertisement, which may potentially raise ethical concern. However, indications from Swedish politicians suggest that raising nurses' salaries is an important issue for them (e.g., Petersen, 2018, June 25) and as such, it may be possible to include it in a manipulation ethically in future research.

Belongingness Predicts the Appeal of Nursing

The analysis showed that belongingness was a significant positive predictor of job appeal for men, but that the manipulation itself did not manage to affect appeal or belongingness. The association between belongingness and job appeal corroborates previous research that has shown that the need to belong is central to job appeal and interest (Cheryan & Plaut, 2010; Tellhed et al., 2017). This suggests that focusing on belongingness can be useful when targeting job appeal. However, it is not possible to infer if the sense of belongingness was due to agency or communion perceptions of nursing as the manipulation did not succeed. To establish agency and communion's role in belongingness for men, a successful manipulation would need to be designed and implemented. This could be achieved by taking into consideration the importance of status outlined above. However, another option would be to pursue other research paradigms that have successfully increased belongingness.

One area of research increased belongingness by framing lack of belongingness as transient and common among everyone, to separate it from social identities such as gender or ethnicity (Walton & Cohen, 2007, 2011; Walton, Logel, Peach, Spencer, & Zanna, 2015). However, the reason this paradigm was not considered for the current study was due to the manipulations' temporal differences. These interventions focused on those already in the context where they felt that they did not belong, i.e., Black students feeling a lack of belongingness at university (Walton & Cohen, 2007, 2011) and female students feeling a lack of belongingness in engineering school (Walton et al., 2015). The current study instead

focused on an earlier point in time, where lack of belongingness may deter men from even considering a career as a nurse. Nevertheless, future research could potentially adapt this belongingness manipulation, so that it can target those considering an occupation or degree, not just those already pursuing it.

Communal Goal Endorsement Predicts the Appeal of Nursing

The manipulation had no effect on the appeal of nursing for the participants, suggesting that it did not manage to affect the goal affordances of nursing. However, corroborating previous research, it was found that women were on average higher in communal goal endorsement (Diekmann et al., 2011, 2017) and that high communal endorsement predicted the appeal of nursing, regardless of description. This suggested that goal congruity may partially underlie the current gender segregation in nursing, as women pursue nursing in part due to higher goal congruence. Furthermore, this corroborated the importance of goal congruence (e.g., Diekmann et al., 2010, 2017; Evans & Diekmann, 2009). Since the manipulation itself did not manage to affect the perceived goal affordance of nursing, nursing was most likely perceived as affording communal goals (in line with previous research; Diekmann et al., 2011). The positive effect of communal goal endorsement among women thus suggests that goal congruity was important for job appeal, as high communal goals led to higher job appeal in a communal occupation (nursing). The evidence for the importance of goal congruity suggests that increasing men's presence in nursing may still be achievable by targeting goal congruity.

However, rather than focusing on goal affordances, focusing on goal endorsement (i.e., increasing communal goal endorsement) may be a better way to increase congruity, and thereby men's interest in nursing. This may be especially beneficial if distancing nursing from communion with wording paradigms is too difficult, as it has strong connotations to femininity in Sweden (Edlund, 2004). Social role theory argues that although women rate themselves higher in communion, this is due to the prescriptiveness of gender role beliefs not because communion in itself is an essential quality of women (Eagly & Wood, 2012). This suggests increasing men's communal values would be possible. Croft et al. (2015) has previously suggested this and initial results suggest it may be possible. A pilot study recently showed that a brief session of "compassion meditation" increased both men's and women's communal career goals, as compared to a control group (Tellhed, 2019). Moreover, one study found that it was possible to increase self-ratings of communion among men when they were

informed that other men were less disapproving of communal traits than was generally assumed (Van Grootel, Van Laar, Meeussen, Schmader, & Sczesny, 2018). Although initial results are positive, there may be some difficulties in targeting men's communal values rather than the agentic affordances of nursing. Targeting communal goal endorsement, focuses the manipulation on the individual rather than the occupation, potentially limiting the scope of the manipulation. However, both avenues (targeting goal affordance and targeting goal endorsement) should be pursued in future research as this likely will have the most impact.

Limitations

Although the study had strengths compared to previous research, such as the more externally valid job advertisements, there were still some limitations that need to be addressed. To begin with, a high school sample was argued to be preferable to a university sample, as high school students have not yet made as many decisions about their future. However, due to choosing a job advertisement as the manipulation, the sample also constituted a limitation, as high school students are several steps away from an actual job as a nurse. Before becoming a nurse, the participants would first have to attend nursing school. As such, they were perhaps not as motivated as someone closer to the beginning of their working life would be, when reading the job advertisements. It has been found that motivation is key when processing job advertisement (Jones, Shultz, & Chapman, 2006). Specifically, high motivation was found to be related to participants judging their attraction to the occupation based on the quality of content, rather than peripheral cues, such as the design of the advertisement (Jones et al., 2006). The current study's manipulation hinges on the participants processing the content of the advertisement, in particular, the communal and agentic words. Future studies may want to replicate the current study and instead manipulate descriptions of a university course or program, as this is more relevant to a high school student, thus increasing their motivation. Furthermore, limiting the sample to only those in their last year of high school means the participants would be especially motivated to consider the description, as they will soon make a decision about their further studies. This could potentially increase the likelihood of the manipulation working.

Moreover, as participation in the study was anonymous, only demographic information regarding age and gender was collected. This meant that it was not possible to know what high school programs the participants attended and, therefore, the potential confounding effect of this could not be controlled for. This limited the internal validity of the

study. Controlling for this would have been beneficial, as some high school programs do not offer the courses necessary to be eligible to the nursing program at university, which could indicate disinterest in itself. However, it should be noted that the two most popular high school programs, social sciences and natural sciences (gymnasium.se, 2019, Mars 18), both allow for eligibility to the nursing program through the required courses or through the addition of a few elective courses. Nevertheless, some programs, especially vocational ones, limit the options to pursue nursing. As such, controlling for high school program should, when possible, be done in future studies.

Implications

From a practical perspective, creating a job advertisement that can increase the appeal of nursing has the potential to be useful in real-life. Although the current study was not successful in this, suggestions for future research has been given to make this possible. Such job advertisements may be efficient in recruiting more men (and women) to nursing. As argued throughout, this would have important implications for the gender segregation in nursing, as well as the nursing shortage. In addition, increasing men's presence in nursing may have long-term effects on the gender role beliefs that deter men from nursing in the first place. Social role theory suggests that gender role beliefs are dynamic and that stereotypes can be altered, despite their pervasiveness. In line with this, it has been found that exposure to male nurses lead to more favorable evaluations of them, suggesting that a process of changing gender roles in nursing is already underway (Clow, Ricciardelli, & Bartfay, 2014).

The results of the current study also have theoretical implications for the research field. The results solidified the importance of belongingness and goal congruity in job appeal. Although the manipulation itself did not work, the results showed that belongingness predicted job appeal, and that congruity between one's goal endorsement and the goal affordances of an occupation was important for job appeal. This suggests that pursuing experimental paradigms that can increase men's sense of belonging and goal congruity in nursing, and communal occupations generally, are worthwhile.

Conclusion

The study aimed to make nursing more appealing to both men and women by manipulating the salience of agency through title and description in job advertisements.

Specifically, the aim was to increase job appeal by targeting anticipated sense of belongingness and one's expected congruity between occupational goal endorsement and occupational goal affordance. The aim targeted a topical issue; increasing the presence of men in nursing would work not only to even out the current gender segregation in nursing in Sweden but would also target the national nursing shortage. However, the job advertisements did not succeed in affecting job appeal for men or women, nor did they affect sense of belongingness for men or manipulate the goal affordance of nursing. The manipulation may have lacked effect due to the design of the job advertisement itself. However, taking into account the particular context of nursing showed that the results may also be an artifact of the occupation specifically, as nursing has an especially strong connotation with femininity (as indicated by the feminine form of the title in Swedish; Edlund, 2004). Moreover, nursing specifically and communal occupations more generally, have strong connotations to low status, which may have been a deterrent in and of itself (Block et al., 2018; Conway et al., 1996; Croft et al., 2015; England, 2010). Nevertheless, the study corroborated previous studies' results and showed that both belongingness (Andersson & Edberg, 2010; Borrott et al., 2016; Cheryan & Plaut, 2010; Mohamed et al., 2014; Tellhed et al., 2017) and goal congruity (Block et al., 2018; Brown & Diekmann, 2010; Evans & Diekmann, 2009; Tellhed et al., 2018) were important predictors of job appeal. As such, attempting to increase the appeal of nursing for men, by targeting the congruence between occupational goal endorsement and occupational goal affordance, is a research avenue that should be pursued. Likewise, targeting belongingness could have a positive impact on the appeal of nursing for men. If this could be achieved through manipulation a job advertisement, it would be an efficient way to target the gender segregation in nursing and the current nursing shortage.

References

- Alin, A. (2010). Multicollinearity. *Wiley Interdisciplinary Reviews: Computational Statistics*, 2(3), 370–374. <https://doi.org/10.1002/wics.84>
- Allison, S. T., Beggan, J. K., & Clements, C. (2007). Derogatory stereotypic beliefs and evaluations of male nurses. *Equal Opportunities International*, 23(3/4/5), 162–178. <https://doi.org/10.1108/02610150410787783>
- Andersson, P. L., & Edberg, A.-K. (2010). The transition from rookie to genuine nurse: Narratives from Swedish nurses 1 year after graduation. *The Journal of Continuing Education in Nursing*, 41(4), 186–192. <https://doi.org/10.3928/00220124-20100326-05>
- Andridge, R. R., & Little, R. J. A. (2010). A review of hot deck imputation for survey non-response. *International Statistical Review*, 78(1), 40–64. <https://doi.org/10.1111/j.1751-5823.2010.00103.x>
- Bartfay, W. J., Bartfay, E., Clow, K. A., & Wu, T. (2010). Attitudes and perceptions towards men in nursing education. *The Internet Journal of Allied Health Sciences and Practice*, 8(2), 1–7.
- Baumeister, R. F. (2012). Need-to-belong theory. In Paul A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of Theories of Social Psychology* (Vol. 2, pp. 121–140). London. <https://doi.org/http://dx.doi.org/10.4135/9781446249222.n32>
- Baumeister, R. F., & Leary, M. F. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human-motivation. *Psychological Bulletin*, 117(3), 497–529. <https://doi.org/0033-2909>
- Beaujean, A. A. (2012). BaylorEdPsych: R Package for Baylor University Educational Psychology Quantitative Courses. R package version 0.5. <https://CRAN.R-project.org/package=BaylorEdPsych>
- Bennett, M. (1997). Self-estimates of ability in men and women self-estimates of ability in men and women. *The Journal of Social Psychology*, 137(4), 540–541. <https://doi.org/10.1080/00224549709595475>
- Blakemore, J. E. O. (2003). Children's beliefs about violating gender norms: Boys shouldn't look like girls, and girls shouldn't act like boys. *Sex Roles*, 48(9–10), 411–419. <https://doi.org/10.1023/A:1023574427720>
- Block, K., Croft, A., & Schmader, T. (2018). Worth less?: Why men (and women) devalue care-oriented careers. *Frontiers in Psychology*, 9(AUG), 1–20. <https://doi.org/10.3389/fpsyg.2018.01353>
- Born, M., & Taris, T. (2010). The impact of the wording of employment advertisements on

- students' inclination to apply for a job. *Journal of Social Psychology*, 150(5), 485–502. <https://doi.org/10.1080/00224540903365422>
- Borrott, N., Day, G. E., Levett-Jones, T., & Sedgwick, M. (2016). Nursing students' belongingness and workplace satisfaction: Quantitative findings of a mixed methods study. *Nurse Education Today*, 45, 29–34. <https://doi.org/10.1016/j.nedt.2016.06.005>
- Boucher, K. L., Fuesting, M. A., Diekman, A. B., & Murphy, M. C. (2017). Can I work with and help others in this field? How communal goals influence interest and participation in STEM fields. *Frontiers in Psychology*, 8(MAY), 1–12. <https://doi.org/10.3389/fpsyg.2017.00901>
- Brown, E. R., & Diekman, A. B. (2010). What will I be? Exploring gender differences in near and distant possible selves. *Sex Roles*, 63(7–8), 568–579. <https://doi.org/10.1007/s11199-010-9827-x>
- Budig, M. J. (2004). Male advantage and the gender composition of jobs: Who rides the glass escalator? *Social Problems*, 49(2), 258–277. <https://doi.org/10.1525/sp.2002.49.2.258>
- Büscher, A., Sivertsen, B., & White, J. (2010). *Nurses and midwives: A force for health*. Copenhagen: World Health Organization Europe. Retrieved from <http://www.euro.who.int/document/e93980.pdf>
- Cejka, M. A., & Eagly, A. H. (1999). Gender-stereotypic images of occupations correspond to the sex segregation of employment. *Pspb*, 25(4), 413–423. <https://doi.org/https://doi-org.ludwig.lub.lu.se/10.1177/0146167299025004002>
- Cheryan, S., & Plaut, V. C. (2010). Explaining underrepresentation: A theory of precluded interest. *Sex Roles*, 63(7–8), 475–488. <https://doi.org/10.1007/s11199-010-9835-x>
- Cheryan, S., Siy, J. O., Vichayapai, M., Drury, B. J., & Kim, S. (2011). Do female and male role models who embody stem stereotypes hinder women's anticipated success in stem? *Social Psychological and Personality Science*, 2(6), 656–664. <https://doi.org/10.1177/1948550611405218>
- Clow, K. A., Ricciardelli, R., & Bartfay, W. J. (2014). Attitudes and stereotypes of male and female nurses: The influence of social roles and ambivalent sexism. *Canadian Journal of Behavioural Science*, 46(3), 446–455. <https://doi.org/10.1037/a0034248>
- Conway, M., Pizzamiglio, M. T., & Mount, L. (1996). Status, communality, and agency: Implications for stereotypes of gender and other Groups. *Journal of Personality and Social Psychology*, 71(1), 25–38. <https://doi.org/10.1037/0022-3514.71.1.25>
- Croft, A., Schmader, T., & Block, K. (2015). An underexamined inequality: Cultural and psychological barriers to men's engagement with communal roles. *Personality and*

- Social Psychology Review*, 19(4), 343–370. <https://doi.org/10.1177/1088868314564789>
- D’Orazio, M. (2017). Statistical Matching and Imputation of Survey Data with the StatMatch. Retrieved from https://cran.r-project.org/web/packages/StatMatch/vignettes/Statistical_Matching_with_StatMatch.pdf
- D’Orazio, M. (2019). StatMatch: Statistical Matching or Data Fusion. R package version 1.3.0. <https://CRAN.R-project.org/package=StatMatch>
- Diehl, M., Owen, S. K., & Youngblade, L. M. (2004). Agency and communion attributes in adults’ spontaneous self-representations. *International Journal of Behavioral Development*, 28(1), 1–15. <https://doi.org/10.1080/01650250344000226>
- Diekman, A. B., Brown, E. R., Johnston, A. M., & Clark, E. K. (2010). Seeking congruity between goals and roles: A new look at why women opt out of science, technology, engineering, and mathematics careers. *Psychological Science*, 21(8), 1051–1057. <https://doi.org/10.1177/0956797610377342>
- Diekman, A. B., Clark, E. K., Johnston, A. M., Brown, E. R., & Steinberg, M. (2011). Malleability in communal goals and beliefs influences attraction to STEM careers: Evidence for a goal congruity perspective. *Journal of Personality and Social Psychology*, 101(5), 902–918. <https://doi.org/10.1037/a0025199>
- Diekman, A. B., Steinberg, M., Brown, E. R., Belanger, A. L., & Clark, E. K. (2017). A goal congruity model of role entry, engagement, and exit: Understanding communal goal processes in STEM gender gaps. *Personality and Social Psychology Review*, 21(2), 142–175. <https://doi.org/10.1177/1088868316642141>
- Dill, J. S., Price-Glynn, K., & Rakovski, C. (2016). Does the “glass escalator” compensate for the devaluation of care work occupations?: The careers of men in low- and middle-skill health care jobs. *Gender and Society*, 30(2), 334–360. <https://doi.org/10.1177/0891243215624656>
- Donnelly, K., & Twenge, J. M. (2017). Masculine and feminine traits on the Bem Sex-Role Inventory, 1993–2012: A cross-temporal meta-analysis. *Sex Roles*, 76(9–10), 556–565. <https://doi.org/10.1007/s11199-016-0625-y>
- Dulin, A. M. (2008). A lesson on social role theory: An example of human behavior in the social environment theory. *Advances in Social Work*, 8(1), 104–112. Retrieved from <https://journals.iupui.edu/index.php/advancesinsocialwork/article/view/134>
- Eagly, A. H., & Diekman, A. B. (2005). What is the problem? Prejudice as an attitude-in-context. In J. Dovidio, P. Glick, & L. Rudman (Eds.), *On the nature of prejudice: Fifty years after Allport* (pp. 19–35). Malden, Massachusetts: Blackwell Publishing.

- Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, *109*(3), 573–598. <https://doi.org/10.1037/0033-295X.109.3.573>
- Eagly, A. H., & Wood, W. (2012). Social role theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of Theories of Social Psychology: Volume 2* (Vol. 2, pp. 180–199). London: SAGE Publication Ltd. <https://doi.org/http://dx.doi.org/10.4135/9781446249222.n49>
- Eagly, A. H., & Wood, W. (2016). Social role theory of sex differences. In N. A. Naples (Ed.), *The Wiley Blackwell Encyclopedia of Gender and Sexuality Studies* (pp. 1–3). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118663219.wbegss183>
- Edlund, A. (2004). Kan män vara sjuksköterskor och kvinnor brandmän ? Om sambandet mellan yrkesbeteckningar och kön. In *Den könsuppdelade arbetsmarknaden : Betänkande av utredningen om den könssegregerade svenska arbetsmarknaden* (pp. 263–280). Stockholm: SOU 2004:43. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-25410%0A>
- England, P. (2010). The gender revolution: Uneven and stalled. *Gender and Society*, *24*(2), 149–166. <https://doi.org/10.1177/0891243210361475>
- Evans, C. D., & Diekmann, A. B. (2009). On motivated role selection: Gender beliefs, distant goals, and career interest. *Psychology of Women Quarterly*, *33*(2), 235–249. <https://doi.org/10.1111/j.1471-6402.2009.01493.x>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149–1160.
- Feldman, D. C., Bearden, W. O., & Hardesty, D. M. (2006). Varying the content of job advertisements: The effects of message specificity. *Journal of Advertising*, *35*(1), 123–141. <https://doi.org/10.2753/joa0091-3367350108>
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2018). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Social Cognition: Selected Works of Susan Fiske*, *82*(6), 163–214. <https://doi.org/10.4324/9781315187280>
- Forsman, J. A., & Barth, J. M. (2017). The effect of occupational gender stereotypes on men's interest in female-dominated occupations. *Sex Roles*, *76*(7–8), 460–472. <https://doi.org/10.1007/s11199-016-0673-3>
- Furnham, A., Crawshaw, J., & Rawles, R. (2006). Sex differences in self-estimates on two

- validated IQ test subscale scores. *Journal of Applied Social Psychology*, 36(2), 417–440. <https://doi.org/10.1111/j.0021-9029.2006.00013.x>
- Furnham, A., Reeves, E., & Budhani, S. (2002). Parents think their sons are brighter than their daughters: Sex differences in parental self- estimations and estimations of their children's multiple intelligences. *The Journal of Genetic Psychology*, 163(1), 24–39. <https://doi.org/10.1080/00221320209597966>
- Gaucher, D., Friesen, J., & Kay, A. C. (2011). Evidence that gendered wording in job advertisements exists and sustains gender inequality. *Journal of Personality and Social Psychology*, 101(1), 109–128. <https://doi.org/10.1037/a0022530>
- Gymnasium.se. (2019, Mars 18). *De populäraste gymnasieprogrammen 2018*. Retrieved from <https://www.gymnasium.se/om-oss/popularaste-programmen-2018-15224>
- Harding, T. (2007). The construction of men who are nurses as gay. *Journal of Advanced Nursing*, 60(6), 636–644. <https://doi.org/10.1111/j.1365-2648.2007.04447.x>
- Hauser, D. J., Ellsworth, P. C., & Gonzalez, R. (2018). Are manipulation checks necessary? *Frontiers in Psychology*, 9(JUN), 1–10. <https://doi.org/10.3389/fpsyg.2018.00998>
- Heilman, M. E., & Wallen, A. S. (2010). Wimpy and undeserving of respect: Penalties for men's gender-inconsistent success. *Journal of Experimental Social Psychology*, 46(4), 664–667. <https://doi.org/10.1016/j.jesp.2010.01.008>
- Jones, D. A., Shultz, J. W., & Chapman, D. S. (2006). Recruiting through job advertisements : The effects of cognitive elaboration on decision making. *International Journal of Selection and Assessment*, 14(2), 167–180. <https://doi.org/10.1111/j.1468-2389.2006.00342.x>
- Kahn, S., & Ginther, D. (2017). Women and science, technology, engineering, and mathematics (STEM): Are differences in education and careers due to stereotypes, interests, or family? In S. L. Averett, L. M. Argys, & S. D. Hoffman (Eds.), *The Oxford Handbook of Women and the Economy* (pp. 1–39). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780190628963.013.13>
- Kraemer, H. C., & Blasey, C. M. (2004). Centring in regression analyses: a strategy to prevent errors in statistical inference. *International Journal of Methods in Psychiatric Reserach*, 13(3), 141–151. <https://doi.org/http://dx.doi.org/10.1002/mpr.170>
- Law (2003:460) on ethics of research involving humans. Stockholm: Utbildningsdepartementet. Retrieved from https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/lag-2003460-om-etikprovning-av-forskning-som_sfs-2003-460

- Mohamed, Z., Newton, J. M., & Mckenna, L. (2014). Belongingness in the workplace: A study of Malaysian nurses' experiences. *International Nursing Review*, *61*(1), 124–130. <https://doi.org/10.1111/inr.12078>
- Myers, T. A. (2011). Goodbye, listwise deletion: Presenting hot deck imputation as an easy and effective tool for handling missing data. *Communication Methods and Measures*, *5*(4), 297–310. <https://doi.org/10.1080/19312458.2011.624490>
- Navarro, D. (2017). *Learning statistics with R: A tutorial for psychology students and other beginners (Version 0.5.1)*. Retrieved from <http://www.compcogscisydney.com/learning-statistics-with-r.html><http://www.lulu.com/content/13570633>
- Oakhill, J., Garnham, A., & Reynolds, D. (2005). Immediate activation of stereotypical gender information. *Memory & Cognition*, *33*(6), 972–983. <https://doi.org/10.3758/BF03193206>
- Petersen, K. (2018, June 25). *Så vill riksdagspartierna lösa bristen på vårdpersonal*. Retrieved from <https://www.svt.se/nyheter/lokalt/vast/sa-vill-riksdagspartierna-losa-bristen-pa-vardpersonal>
- R Core Team (2019). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.
- Revelle, W. (2018) psych: Procedures for personality and psychological research, Northwestern University, Evanston, Illinois, USA, <https://CRAN.R-project.org/package=psych> Version = 1.8.10.
- Reynolds, D. J., Garnham, A., & Oakhill, J. (2006). Evidence of immediate activation of gender information from a social role name. *Quarterly Journal of Experimental Psychology*, *59*(5), 886–903. <https://doi.org/10.1080/02724980543000088>
- Simpson, R. (2004). Masculinity at work: The experiences of men in female dominated occupations. *Work, Employment and Society*, *18*(2), 349–368. <https://doi.org/10.1177/09500172004042773>
- SOU. (2014). *Män och jämställdhet*. Stockholm: Betänkande av Utredning om män och jämställdhet. Retrieved from <http://www.regeringen.se/contentassets/6e2024c9c99948bfa052224089272c0e/man-och-jamstallldhet-fran-missiv-till-bilaga-8-sou-20146>
- Statistics Sweden (2010). *Tema: Utbildning; Könnsstruktur per utbildning och yrke 1990-2030*. Retrieved from https://www.scb.se/statistik/publikationer/uf0521_1990i30_br_a40br1001.pdf

- Statistics Sweden. (2018, Dec 11). *Labour market tendency survey 2018: Increased shortage of dental hygienists*. Retrieved from <https://www.scb.se/en/finding-statistics/statistics-by-subject-area/education-and-research/analysis-trends-and-forecasts-in-education-and-the-labour-market/labour-market-tendency-survey/pong/statistical-news/labour-market-tendency-survey-2018/>
- Taris, T. W., & Bok, I. A. (1998). On gender specificity of person characteristics in personnel advertisements: A study among future applicants. *Journal of Psychology: Interdisciplinary and Applied*, 132(6), 593–610.
<https://doi.org/10.1080/00223989809599292>
- Tellhed, U. (2019). *Untitled work*. Manuscript in preparation.
- Tellhed, U., Bäckström, M., & Björklund, F. (2017). Will I fit in and do well? The importance of social belongingness and self-efficacy for explaining gender differences in interest in STEM and HEED majors. *Sex Roles*, 77(1–2), 86–96.
<https://doi.org/10.1007/s11199-016-0694-y>
- Tellhed, U., Bäckström, M., & Björklund, F. (2018). The role of ability beliefs and agentic vs. communal career goals in adolescents' first educational choice. What explains the degree of gender-balance? *Journal of Vocational Behavior*, 104(April 2017), 1–13.
<https://doi.org/10.1016/j.jvb.2017.09.008>
- The National Board of Health and Welfare. (2019, Jan 31). *Statistik om legitimerad hälso- och sjukvårdspersonal 2017 samt arbetsmarknadsstatus 2016*. Retrieved from <https://www.socialstyrelsen.se/Lists/Artikelkatalog/Attachments/21218/2019-1-15.pdf>
- Trobia, A. (2008). Cronbach's alpha. In P. J. Lavrakas (Ed.), *Encyclopedia of Survey Research Methods* (pp. 169–170). Thousand Oaks: SAGE Publications, Inc.
<https://doi.org/http://dx.doi.org/10.4135/9781412963947.n117> Print
- Twenge, J. M., Campbell, W. K., & Gentile, B. (2012). Generational increases in agentic self-evaluations among american college students, 1966–2009. *Self and Identity*, 11, 409–427. <https://doi.org/10.1080/15298868.2011.576820>
- United States Census Bureau [USCB]. (2013, Feb 25). *Male nurses becoming more commonplace census bureau report*. Retrieved from <https://www.census.gov/newsroom/press-releases/2013/cb13-32.html>
- Van Grootel, S., Van Laar, C., Meeussen, L., Schmader, T., & Sczesny, S. (2018). Uncovering pluralistic ignorance to change men's communal self-descriptions, attitudes, and behavioral intentions. *Frontiers in Psychology*, 9(AUG), 1–12.
<https://doi.org/10.3389/fpsyg.2018.01344>

- Walton, G. M., & Brady, S. T. (2017). The many questions of belonging. In A. J. Elliot, C. S. Dweck, & D. S. Yeager (Eds.), *Handbook of Competence and Motivation: Theory and Application* (2nd ed., pp. 272–293). Guilford Publications.
- Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology*, *92*(1), 82–96.
<https://doi.org/10.1037/0022-3514.92.1.82>
- Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science*, *331*(6023), 1447–1451.
<https://doi.org/10.1126/science.1198364>
- Walton, G. M., Logel, C., Peach, J. M., Spencer, S. J., & Zanna, M. P. (2015). Two brief interventions to mitigate a “chilly climate” transform women’s experience, relationships, and achievements in engineering. *Journal of Educational Psychology*, *107*(2), 468–485.
<https://doi.org/10.1037/a0037461>
- Wilbourn, M. P., & Kee, D. W. (2010). Henry the nurse is a doctor too: Implicitly examining children’s gender stereotypes for male and female occupational roles. *Sex Roles*, *62*(9), 670–683. <https://doi.org/10.1007/s11199-010-9773-7>
- Williams, C. L. (1992). The glass escalator: Hidden advantages for men in the “female” professions. *Social Problems*, *39*(3), 253–267. <https://doi.org/10.2307/3096961>
- Yang, C.-I., Gau, M.-L., Shiau, S.-J., Hu, W.-H., & Shih, F.-J. (2004). Professional career development for male nurses. *Journal of Advanced Nursing*, *48*(6), 642–650. Retrieved from
<http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed6&NEWS=N&AN=15548255>
- Zeileis, A., & Hothorn, T. (2002). Diagnostic Checking in Regression Relationships. *R News*, *2*(3), 7-10. <https://CRAN.R-project.org/doc/Rnews/>

Appendix A

English versions of job advertisements

Looking for nurses!

About the company

- Our hospital *serves a community* of approximately 100 000 people. We are *committed to provide top quality health care that considers our patients' needs.*

About you

- Ability to *respond appropriately* to emergencies
- *Caring and compassionate* professional with *a passion* for the profession
- *Dependable* and *willing* to work shift work

About the job

- As a *part of a team*, you will *provide health services* to the wide variety of *community members who come for care*
- You will *consider* patient symptoms in order *to select appropriate treatment and support*
- You will *collaborate with other care providers*, but are also able to work independently

Figure A1. Job advertisement with communal description and title. Italics added to show the specific communal words.

Looking for nurses!

About the company

- The hospital is located within a city of approximately 100 000 people. We are *determined to deliver superior medical treatment to each individual patient.*

About you

- Ability to *act decisively* in emergencies
- *Principled* and *self-reliant* professional with *dedication* to the profession
- *Able* to work shift work

About the job

- In your *career*, you will *administer medical interventions* to the wide variety of *individuals who require treatment*
- You will *analyse* patient symptoms *to determine appropriate interventions*
- You will be *self-reliant and able to work independently*, but are also able to work in a team
- You will have *opportunity for skills development*

Figure A2. Job advertisement with agentic description and title. Italics added to show the specific agentic words.

Appendix B

Swedish versions of job advertisements

Sjuksköterska sökes!

Om verksamheten
 Vårt sjukhus *tar hand* om ett *samhälle* på cirka 100 000 personer. Vi är *engagerade* i att *erbjuda vård av högsta kvalitet* som *tar hänsyn till våra patienters behov*.

Om dig

- Förmåga att *reagera på lämpligt sätt* i nödsituationer
- *Omtänksam* och *sympatisk* professionell individ med *passion* för yrket
- *Pålitlig* och *villig* att arbeta skift

Om jobbet

- Som *en del av ett team*, *förser* du hälso- och sjukvård till de många olika patienterna som *behöver vård*
- Du *tar hänsyn* till patienters symptom för att *välja lämplig behandling och stöd*
- Du *samarbetar med andra vårdgivare*, men kan också arbeta självständigt

Figure B1. Swedish version of job advertisement with title and communal description. Italics added to show the specific communal words.

Sjuksköterska sökes!

Om verksamheten
 Sjukhuset ligger i en stad med cirka 100 000 invånare. Vi är *fast beslutna* om att *leverera överlägsen medicinsk behandling till varje enskild patient*.

Om dig

- Förmåga att agera *beslutsamt* i nödsituationer
- *Principfast* och *självständig* professionell individ med *engagemang* för yrket
- *Kan* arbeta skift

Om jobbet

- *I din karriär* kommer du att *administrera sjukvård* till de många olika *individer* som *behöver behandling*
- Du *analyserar* patienters symptom för att *fastställa lämpliga ingrepp*
- Du har *självförtroende* och *kan arbeta självständigt*, men du kan också arbeta i ett team
- Du har *möjlighet till kompetensutveckling*

Figure B2. Swedish version of job advertisement with title and agentic description. Italics added to show the specific agentic words.

Appendix C

The survey (with title + communal description job advertisement)

Informerat samtycke

Nedan ges information inför deltagande i en studie om gymnasieelevers intresse i olika yrken. Läs igenom denna information och kryssa sedan i rutan innan vänder blad.

Vem är jag? Jag heter My Eriksson och studerar mastersprogrammet i psykologi på Lunds universitet. Jag håller för närvarande på att utföra mitt examensarbete och söker gymnasieelever mellan 15-18 år för att delta i en studie.

Syfte. Studien undersöker gymnasieelevers intresse i olika yrken genom att kolla närmre på vilka faktorer som påverkar varför människor söker och inte söker sig till vissa yrken. Syftet med studien är att få djupare information om hur yrkesval görs.

Deltagande. Du är tillfrågad att delta i denna studie då du är en gymnasieelev mellan 15-18 år. Att delta är helt frivilligt.

Hur går studien till? Deltagande i studien tar ca 10 minuter. Du kommer att få läsa en jobbbanners och sedan svara på ett antal frågor angående din inställning till detta jobb, samt ge kort information om dig (könsidentitet och ålder).

Följder och risker? Studien bör inte innebära några följder eller risker för dig.

Hantering av data och sekretess. Dina svar kommer att behandlas så att inte obehöriga kan ta del av dem. All information du ger är anonym och kommer inte kunna kopplas till dig som person. All data kommer endast att analyseras på gruppnivå och presenteras i en mastersavhandling.

Medverkan. Medverkan är frivillig. Om du väljer att delta kan du närsomhelst välja att avsluta ditt deltagande i studien utan att uppge orsak.

Ansvar. Studien genomförs som del av kursen PSYPO1 Master's Thesis in Psychology inom programmet Master of Science Programme in Psychology. Ansvarig för studien är studenten (My Eriksson) och handledaren (Una Tellhed). Har du frågor om studien i efterhand eller önskar ta del av studiens resultat, är du varmt välkommen att kontakta studenten (My Eriksson).

Student

My Eriksson
Lunds universitet
my4551er-s@student.lu.se

Handledare

Una Tellhed
Universitetslektor
Institutionen för psykologi
Lunds universitet
una.tellhed@psy.lu.se

Genom att kryssa i rutan intygar jag att jag förstått informationen och ger mitt samtycke att delta i studien.

Instruktioner

Vänligen läs igenom instruktionerna först. Börja med att noggrant läsa jobbannonsen i den gråa rutan nedan. Samtala inte med andra under tiden. När du läst igenom jobbannonsen, svara på påståendena och frågorna på följande två sidor. Ange hur väl påståendena stämmer in på dig. Dina svar är anonyma och kommer endast att analyseras på gruppnivå.

Sjuksköterska sökes!

Om verksamheten

Vårt sjukhus tar hand om ett samhälle på cirka 100 000 personer. Vi är engagerade i att erbjuda vård av högsta kvalitet som tar hänsyn till våra patienters behov.

Om dig

- Förmåga att reagera på lämpligt sätt i nödsituationer
- Omtänksam och sympatisk professionell individ med passion för yrket
- Pålitlig och villig att arbeta skift

Om jobbet

- Som en del av ett team, förser du hälso- och sjukvård till de många olika patienterna som behöver vård
- Du tar hänsyn till patienters symptom för att välja lämplig behandling och stöd
- Du samarbetar med andra vårdgivare, men kan också arbeta självständigt

Hur väl stämmer följande påstående på dig i förhållande till jobbannonsen?	1 Stämmer inte alls	2	3	4	5	6	7 Stämmer helt
Detta jobb är tilltalande							
Jag tror att jag skulle kunna trivas med det här jobbet							
Det här är inte ett jobb jag vill ha							
Det här företaget skulle vara en bra arbetsgivare							
Det här jobbet ser intressant ut							
Detta företag verkar som ett bra ställe att arbeta							

Hur väl stämmer följande påståenden på dig i förhållande till jobbannonsen?	1 Stämmer inte alls	2	3	4	5	6	7 Stämmer helt
Jag skulle kunna passa bra i detta företag							
Jag liknar dem som jobbar i det här yrket							
Mina värderingar och företagets värderingar är liknande							
Den typ av person som skulle ansöka till detta jobb är väldigt annorlunda än mig							

Hur viktigt är det att du i ditt framtida arbete får möjlighet att...	1 Inte alls viktigt	2	3	4	5	6	7 Extremt viktigt
Få status							
Fokusera på mig själv							
Arbeta med människor							
Göra gott för samhället							
Bry mig om andra							
Visa min förmåga							
Få erkännande							
Visa skicklighet							

Få hög lön							
Vara osjälvisk							
Se till mina behov som individ							
Vara självständig							
Nå goda prestationer							
Tillfredsställa mitt behov av andlighet							
Tävla							
Göra gott för mänskligheten							
Ta hand om andra							
Ha nära förtroliga relationer							
Få framgång							
Känna sammankoppling med andra							
Framhäva mig själv							
Hjälpa andra							
Styra mig själv							
Få makt							

Min könsidentitet är...

- Man
 Kvinna
 Annat: _____

Ålder: _____

Vad påverkade din uppfattning om jobbbannonsen?

Ytterligare information om studie

Vad handlade studien om? Studien undersökte gymnasieelevers intresse i olika yrken. Specifikt undersökte den gymnasieelevers intresse i sjuksköterskeyrket. Det finns just nu en stor brist på sjuksköterskor i Sverige, där speciellt män är underrepresenterade i yrket. Genom att undersöka vilka faktorer som påverkar varför människor söker och inte söker sig till yrket hoppas studien kunna ge djupare information om hur man kan höja både män och kvinnors intresse i yrket.

Hur gick studien till? Som deltagare läste du en av fyra olika jobbannonser för sjuksköterska. Hälften av jobbannonserna var skrivna med stereotypiskt feminina ord (så kallade kommunala ord, t ex omtänksam och pålitlig) och den andra hälften med stereotypiskt maskulina ord (så kallade agentiska ord, t ex beslutsam och självständig). Av de kommunala och agentiska jobbannonserna hade hälften en yrkestitel ("Sjuksköterska sökes!") och den andra hälften presenterades utan yrkestitel.

Vad mättes du på? Studien ville undersöka hur ordvalet i jobbannonserna samt närvaron av yrkestitel påverkade din känsla av jobbattraktivitet, samhörighet och arbetsförmåga. Studien undersökte även hur de mål du angav var viktiga påverkade hur du värderade jobbannonserna. Dessutom undersökte studien hur din könsidentitet påverkade värderingen av jobbannonserna, för att specifikt kunna undersöka om och hur mäns intresse i sjuksköterskeyrket kan höjas.

Appendix D
Assumption checks for regression models

Regression models	Normality Shapiro Wilks test	Linearity Tukey's test	Homoscedasticity NCV test	Multicollinearity VIF score < 5 ^a
Model for men (hypothesis 1)	$W = .98$ $p = .324$	-	$\chi^2(1, N = 75) = 1.27$ $p = .259$	None
Model 1 (moderation, AGE) (hypothesis 3a)	$W = .99$ $p = .092$	HSD = 1.02 $p = .307$	$\chi^2(1, N = 242) = 1.51$ $p = .218$	None ^b
Model 2 (moderation, CGE) (hypothesis 3b)	$W = .99$ $p = .463$	HSD = -.14 $p = .888$	$\chi^2(1, N = 242) = 6.20$ $p = .013$	None ^b
Model for women (exploratory hypothesis)	$W = .98$ $p = .060$	-	$\chi^2(1, N = 167) = 0.06$ $p = .811$	None

Note. AGE = Agentic goal endorsement; CGE = Communal goal endorsement.

^a(Alin, 2010)

^bVIF based on centred scores