Integrating Determinants of Sexism and Gender Wage Gap in Naturalistic Work Settings

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Shirazi, R, Biel, A, and Fransson, N., Integrating determinants of sexism and gender wage gap in naturalistic work settings, Göteborg Psychological Reports, 2002, 32, No. 3. Hypotheses derived from general and sex-congruency models of sexism and pay differentials were tested. A questionnaire was sent to 904 employees in low-paid sex-segregated occupations. Results indicated gender-typed perceptions of personality traits and occupations. Consistent with general models, results also revealed a negative relationship between stereotypically “feminine” traits as job requisites, a high percentage of women in the workforce, being female and salary. The relationship remained significant even when the influence of human capital variables, job requirements, working conditions, and job characteristic preferences on salary was partialed out. The gender wage gap was smallest in male-dominated occupations. There was mixed support for contingent models of sex bias and no support for compensating differential models. The differentiating influence of gender-typed job requisites and sex ratio of employees on salary is discussed.

Keywords: Gender wage gap, stereotypes, sexism, pay differentials.

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A recent survey of earnings and labor conditions of full-time employees in the 15 countries of the European Union revealed that, on average, women's earnings were 76.3% that of men's (Eurostat, 1999). The segregation of the sexes into different jobs with different salaries was also evident from the fact that women worked primarily in low-paid and/or service-oriented jobs, whereas men were employed in high-paid and/or production-oriented occupations. Even when differences in the type of occupation and human capital variables such as education, organizational tenure, and age were accounted for, the gender wage gap amounted to 15%. Results of the survey indicated that pay differentials were lowest in former East Germany, Denmark, and Sweden.

Although many studies (for a recent review, see Roos & Gatta, 1999) including the Eurostat survey, have suggested that the uneven distribution of the sexes into different job sectors and occupations is the main determinant of pay differentials, the relationship might be more complex than it appears. For example, Sweden is the most advanced country with regard to pay equality between the sexes with a ratio of female to male earnings of 90% (Anker, 1997, p. 331; Roos & Gatta, 1999, p. 104; Willborn, 1986, p. 78) while at the same time the labor market has remained extremely segregated (Anker, 1997; Jacobs, 1999). In 1996, 19% of the economically active population worked in health and social work occupations of which more than 87% were female employees (Statistics Sweden, 1998, p. 194). For instance, in the professional categories of child day-care center worker, municipal home-aid, and nurse (both trained and untrained), women accounted for 97%, 96%, and 94% of the employees, respectively (Statistics Sweden, 1998, p. 186).

Taking into account the importance of the human capital variables, the present study was designed to examine direct and indirect effects of sexism on job evaluation and pay differentials. In particular, the direct relationship between stereotypically gender-typed personality traits and job evaluation, and the joint influence of stereotypical traits and occupational segregation on gender pay differentials were examined when the influence of other variables was held constant. An additional purpose of the present study was to examine the generalizability of a model integrating predictors of salary to males' and females' salaries, respectively, and to test effects of explanatory differences and single-group validity of such predictors in explaining gender wage gap. In the present study, this type of analysis would make it possible to determine, for example, whether one or several predictors are positively associated with salary for the male subsample, and whether the same predictors are not related or negatively related with salary for the female group.

Finally, the fact that the sample was planned to consist of actual employees in low-paid and/or blue-collar occupations complements and extends previous studies. Thus, the sampling took into consideration the criticism directed towards some previous studies for not including the low-paid male-dominated blue-collar occupations in the non-random selection of occupations (Glick, Wilk, & Perreault, 1995; Gottfredson, 1981). Another criticism leveled at previous research known as gender in organizations concerns the rarity of international studies (Cooper & Bosco, 1999). These authors reviewed articles published from 1985 to 1997 in four major journals in the field: Journal of Applied Psychology, Psychology of Women Quarterly, Academy of Management...
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Review, and Academy of Management Journal). Of 175 articles with 186 individual studies addressing one or several topics of research on gender in organizations, only seven studies consisted of non-American participants. Thus, the present study is also an attempt to enrich the research by making international comparisons possible.

The empirical and theoretical literature on gender wage gap and occupational and gender stereotypes is voluminous and detailed. A comprehensive review of this literature is beyond the scope of the present paper and we therefore intend to provide a selection of early and recent research of relevance to our study. The first section of the paper contains a brief review of general and contingent models of sexism and gender pay differentials in work settings. Next, we present an overview of the literature on occupational stereotypes and gender stereotypes.

Sexism in Work Settings

Early research on hiring and initial salary decisions showed a general devaluation of women compared to men even when the applicants’ qualifications were held constant (e.g., Dipboye, Arvey, Terpstra, 1977; Dipboye, Fromkin, & Wiback, 1975). Dipboye and colleagues suggested that the preference for males could be conditioned by the gender-type of the job and personality attributes required. They also demonstrated participants’ stereotypical perception of the applicants’ personality traits (Dipboye et al., 1977). However, attempts to define and measure the gender-type of the job as a major independent variable in the hiring and salary decision studies were not common.

Although some researchers (e.g., Macan, Detjen, & Dickey, 1994) follow the definition suggested by Krefting, Berger, and Wallace (1978) that “the sextype of a job is a normative expectation concerning the appropriate sex of a jobholder …” (p. 182), the gender-type of a job may be defined as the perception of a job on a continuum ranging from typically female to typically male, regardless of the perceived appropriateness.

In scientific research and media, there seem to be two types of confounded perception of what is referred to (and measured) as occupational gender-type. Figure 1 shows three variables that underlie most common definitions of the occupational gender-type, that is, the sex ratio of employees, attributes (e.g. physical, cognitive, and personality traits) associated with the job content, and attributes associated with the typical jobholder.

<table>
<thead>
<tr>
<th>Sex Ratio of Employees</th>
<th>Typical Jobholder</th>
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<tr>
<td>Male-dominated</td>
<td>Feminine</td>
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<td>Female-dominated</td>
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*Figure 1. The gender-type of the job as a function of the target of the association of attributes and the sex ratio of employees.*
First, it is not always clear whether authors label an occupation male/masculine or female/feminine according to the ratio of men to women among job incumbents or according to the attributes (e.g., gender-typed personality traits) that are, directly or indirectly, associated with the occupation. Second, with regard to the latter, the gender-typing of occupations according to attributes required by the content of the job and tasks has not always been distinguished from the attributes that are stereotypically associated with the sex of the typical jobholder. In the present study, the first two definitions are distinguished and applied: the gender-type of the job defined as the sex ratio of jobholders and gender-typed personality traits required by the job and tasks, respectively (see the left portion of Figure 1).

Arvey (1979) reviewed the research to date and proposed “… women tend to be evaluated more poorly than men. Moreover, the degree of differential evaluation appears to be related to the type of job for which women are considered; a more prominent bias occurs when women are considered for typically masculine-oriented jobs” (p. 758). According to Arvey’s sex-congruency model, the evaluation of the sexes is affected by a matching process between the applicant’s sex and attributed stereotypical traits on the one hand, and the gender-type of the job, that is, the dominance of one sex or the content of activities, on the other. In the context of occupational suitability judgments and occupational segregation, sex-congruency models (e.g., Kalin & Hodgins, 1984) maintain that there are at least two forms of sex bias. One form emanates from the devaluation of women in general, and the other results from the perceived sex role incongruity. Sex role congruence was defined as the match between the sex of an applicant and the gender-type of the job.

Similar to sex-congruency models of occupational suitability and hiring decisions, Glick (1991) summarized research on differences in prestige and salary between men’s and women’s jobs and suggested that there have been two competing general approaches: (a) sex-based discrimination (“male chauvinism”) and (b) gender-typed trait discrimination (“masculine chauvinism”). The former emphasizes that the sex of jobholders and applicants affects salary regardless of the characteristics and personality traits that jobholders are assumed to have. The effect is assumed to be advantageous to men. The latter approach explains observed differences in salary and prestige as a result of greater value associated with stereotypically masculine, compared with stereotypically feminine, attributes and personality traits. Hence, two matching processes were suggested as explanations: one between the sex of the jobholder and the ratio of female to male job incumbents and a matching process between traits of the job incumbent and trait requisites of the job.

Heilman’s lack of fit model (1983) offered a general and parsimonious model to predict seemingly different types of occupational sex bias against women. It also integrated predictions of not only the evaluations made by others but also self-evaluations of individuals. According to Heilman, the ratio of perceived attributes of a job applicant or jobholder to perceived job requirements results in a fit assessment that, through mediation of performance expectations, affects evaluations and subsequent behaviors. The characteristics attributed to job applicants and job requirements may consist of more or less subjective components such as human capital, sex (biological sex of the job applicant vs. sex
ratio of job incumbents in a work place), personality traits, physical attributes, cognitive abilities, and other skills attributed or required. However, it is important to emphasize that Heilman (1983) did not discuss direct effects of the fit assessment on career and selection decisions and reward allocations; that is, effects not mediated by performance expectations and ensuing evaluations. It seems reasonable to assume that fit assessment may have direct effects and/or indirect effects through mediators other than expectations (e.g., institutional and labor market segmentation; for reviews, see Anker, 1997; Roos & Gatta, 1999).

In summary, the present research intended to study general and contingent effects of the lack of fit between characteristics of jobholders (e.g., biological sex) and attributes of jobs (e.g., gender-type of jobs, defined as the gender-typed personality traits required and/or defined as the sex ratio of jobholders). The study included tests of general and direct effects of actual and perceived characteristics of jobholders on pay differentials between individuals when the impact of other variables was accounted for. Furthermore, at the occupational level, effects of the lack of fit between the content or the target of stereotyped personality traits and the gender-type of the job (defined as the sex ratio) on job evaluation were studied.

Most importantly, we intended to extend previous studies by disentangling two aspects of the general and contingent sexism with respect to the gender-typed personality traits: positive or appreciative versus negative or depreciatory effects of sexism. For instance, it is of both theoretical and practical importance to examine whether there is a more rewarding relationship between “masculine”, relative to “feminine”, personality traits and salary in general, or salaries in the male-dominated occupations in particular. Moreover, is such a difference, if any, a result of (a) a generally appreciative evaluation of stereotypically masculine traits or of the perceived congruency between the gender-type of traits and the gender-type of the job, (b) a generally depreciatory evaluation of the feminine traits or of the perceived incongruity between these two, or (c) both?

**Occupational Stereotypes**

Results of studies on gender stereotyping of occupations have shown that the perceived ratio of male to female jobholders is the most influential predictor of the perceived gender-type of a job (e.g., Glick, 1991; Krefting et al., 1978; Macan et al., 1994; Shinar, 1975). The same studies also report a very high accuracy in participants’ perceptions of the ratio of male to female employees in various occupations. However, results have been mixed with regard to the explanatory value of personality traits in predicting the perceived gender-type of an occupation. This is partly due to the confounding of personality traits as required by the content of the job and tasks with personality traits associated with the sex of the typical jobholder in some studies.

McLean and Kalin (1994) found distinct occupational stereotypes, indicating that male-dominated occupations were perceived as more dominant and less affiliative than female-dominated occupations. Furthermore, concerning occupational choice of females and males, there was congruence between self-images of students enrolled in male-dominated versus female-
dominated fields and the occupational stereotypes, respectively. Students, especially women, enrolled in female-dominated fields were more affiliative than participants, especially men, enrolled in male-dominated fields.

In an attempt to disentangle the confounding of the personality traits as job requisites and the traits associated with the sex of typical job incumbent, Glick (1991) explicitly instructed participants to rate personality traits as job requirements. Results indicated some degree of consistency between the gender-type of a job, defined as the sex ratio of jobholders, and the gender-type of the job measured by the sex-typicality of personality traits required by the job. Nevertheless, almost half of the occupations dominated by either female or male jobholders were not perceived as requiring predominantly feminine or masculine traits. Moreover, all occupations with a balanced composition of female and male jobholders were perceived as either feminine or masculine. Similarly, Cejka and Eagly (1999) reported reliable but low to moderate correlations between percentage of female jobholder and masculine and feminine personality traits as job requisites.

In sum, we expected a strong relationship between the perceived gender-type of a job and the perceived and actual ratio of female to male employees. In line with previous studies (Cejka & Eagly, 1999; Glick, 1991), we defined and measured gender-typed personality traits as perceived job requisites. Although studies cited above are of great importance in explaining the effects of stereotypical personality traits on differences in hiring decisions, prestige, and salary between occupations, it is seminal to examine the process by which the perceived personality traits affect pay differentials between individuals in actual work settings and when the influence of other variables is accounted for. The present study was mainly concerned with the latter.

Gender Stereotypes

Psychological models of gender-related behavior (e.g., Deaux & Major, 1987; Eagly, 1987) and personal entitlement (e.g., Major, 1994) have emphasized the relationship between gender beliefs, attributions, and expectancies and the perceiver's and the target's perception and behavior. One important category of gender beliefs is gender stereotypes (e.g., cognitive or physical), in particular personality attributes that are associated with the sexes. Two intriguing studies may best exemplify the reciprocal relationship between gender beliefs and perception and behavior, particularly division of labor. First, Skrypnik and Snyder (1982) illustrated how beliefs held by a perceiver about the gender of a target could bring about a division of labor and an assignment of gender-typed tasks consistent with the assumed gender of the target. Second, in two experiments, Hoffman and Hurst (1990) demonstrated the relationship between stereotypes and division of labor in the opposite direction, that is, the process by which the perceived division of labor and tasks may create stereotypical beliefs about dispositions and personality attributes of a social group in the absence of any prior experience or encounter with the group.

In recent years, empirical studies (e.g., Eagly, Mladinic, & Otto, 1991) and reviews (e.g., Eagly, 1995; Eagly & Mladinic, 1994) of the research on the evaluative content of gender stereotypes and attitudes have revealed a generally
more positive and favorable evaluation of stereotypes and traits attributed to women than men. Central attributes in female stereotypes are nurturance, communion, expressiveness, and affiliation (e.g., helpful, understanding, and emotional), whereas agency, instrumentality, and dominance constitute core traits in male stereotypes (e.g., self-reliant, determined, competitive, and aggressive).

According to social role theory (Eagly, 1987; Eagly & Steffen, 1984), agentic and communal personality traits constitute two core aspects of gender roles and gender stereotypes that supposedly differentiate men and women. Men are stereotypically perceived to be more agentic than are women. Conversely, women are supposedly more communal than are men. Nevertheless, the general tendency of attributing relatively positive traits to women may result in access and treatment discrimination of women and the devaluation of their work, particularly in high-status, high-pay occupations that presumably require agentic and instrumental traits (Eagly, 1995; McLean & Kalin, 1994). The devaluation of women and stereotypically female traits has been shown to be contingent on the domain and the context of evaluation. For example, the devaluation of female compared to male leaders was greater when women's leadership style was perceived as being stereotypically masculine and when women occupied male-dominated roles (Eagly, Makhijani, & Klonsky, 1992).

Job characteristic preferences. A number of psychologists and neoclassical economists, primarily advocates of compensating differential models, have examined the proposal that men and women differ in their preferences and priorities regarding characteristics and outcomes of their jobs. Furthermore, it has been suggested that these differences are related to and partly explain actual and expected salary differences (Bridges, 1989; Browne, 1997; Filer, 1985, 1986; Hollenbeck, Ilgen, Ostroff, & Vancouver, 1987; Jackson, Gardner, & Sullivan, 1992; Lawler, 1971; Major & Konar, 1984; Martin, 1989; Thacker, 1995). For instance, certain job characteristics such as high job-related risks and demands and preferences for upward mobility and high salary are proposed to increase the likelihood of receiving higher salaries. On the other hand, jobs with less physical and psychological discomfort and preferences for friendly co-workers and scheduling flexibility are supposedly related to lower salaries. We refer to the two categories of preferences as instrumental and relational goals, respectively.

However, findings have been mixed and inconclusive with regard to both working conditions (Roos & Gatta, 1999) and preferences and, therefore, the issues require additional studies (for working conditions, see also Job evaluation and analysis section below). For example, Bridges (1989) found that of 18 job characteristic preferences, 11 were rated as more important by women than by men and that the sexes did not differ on the remaining 7 importance ratings. Interestingly, neither Hollenbeck et al. (1987) nor Jackson et al. (1992) reported a sizeable sex difference on the importance of high salary, whereas, for instance, Major and Konar (1984) did. Hence, in the present study, this explanation for sex pay differentials was also included and accounted for, especially the preference for high salary and money. The proposition that the occupational preference differences partially account for salary differentials would be supported if two conditions were met. First, the sexes differed in their
preferences for job-related characteristics. For instance, men should prefer instrumental goals to a greater extent than women, whereas the opposite difference should be indicated for relational goals. Second, the differing preferences should be related to and explain actual pay differentials between the sexes. Hence, instrumental goals should be positively associated with higher salary and/or relational preferences should be negatively related with salary.

**Sex differences in money valuation.** It has been suggested that the sexes differ in money valuation and women value money less than do men (Jackson, 1989; Jackson et al. 1992; Major, Bylsma, & Cozzarelli, 1989; Tang & Gilbert, 1995). Previous studies have indicated that the sex differences in money valuation are related to money allocation to others (Tang, 1996) and intrinsic and extrinsic job satisfaction and organizational stress (Tang & Gilbert, 1995). Sex differences in money valuation have been proposed to partially explain or mediate (Jackson, 1989; Jackson et al. 1992) the result of previous research in which women expected and requested less money than did their male counterparts (Desmarais & Curtis, 1997a, 1997b; Jost, 1997; see also, Major, 1994, for a review to date). However, the empirical research on the issue has been less developed, partly due to measurement problems. In the present study, we examined whether women and men differed in their preferences for three aspects of money valuation; that is, cognitive, affective, and behavioral, and whether such differences were related to actual salary. However, it is not possible to determine the direction of causality of such a relationship between money valuation and salary in passive-observational (e.g., correlational) studies. Low money valuation might be an effect and rationalization of historical and actual pay differences rather than a cause of them.

**Job evaluation and analysis.** Research on job evaluation has addressed various issues with regard to the process of selection and valuation of differing aspects or requirements of jobs, and whether the process is biased in favor of men (for a collection, see Lowe & Wittig, 1989). High job-related responsibility, physical and psychological demands, and hazards have been suggested to be rewarded, for example, in terms of higher salary. Furthermore, in the process of evaluation and comparison of jobs, researchers, employers, and employees take into account the level of education, previous job experience, and the length of organizational training that are demanded to perform tasks. Thus, it has been suggested that pay differentials might be explained by differences in the presence and extent of various occupational demands, regardless of the sex of the jobholder.

However, two qualifications to this proposal have been raised and were examined in the present study. First, sex discrimination in actual pay may occur even when job requirement and working condition differences are non-existent or held constant. Second, the relationship between job components and actual salary might be biased and advantageous to men.

**Human capital accumulation.** Neo-classical economists have emphasized differences in a set of variables labeled human capital (e.g., education, the length of job experience, and tenure with the organization) as primary predictors of salary. Hence, regardless of the sex of the job incumbent, high salary would be explained by high human capital. Applied to gender wage gap studies, it has been suggested that women have had low human capital and low salary
accordingly. Acknowledging the strong influence of human capital variables shown in previous studies, we examined whether gender has unique explanatory power in predicting pay differences when controlling for differences in human capital. Furthermore, we examined whether human capital is rewarded similarly for men and women.

Predictions

Based on the empirical evidence and models of sexism reviewed above, we made the following predictions about the relationships between general and contingent effects of sexism and two major dependent variables: the importance of stereotypical personality traits in work settings, and actual salary.

Concerning the importance of personality traits as job requisites, general models of sexism would predict two forms of overall sex bias: a general bias in favor of and/or against (a) either type of gender-typed traits (agentic-instrumental versus communal-expressive) and/or (b) either sex.

**Hypothesis 1a [H1a].** In line with recent studies and meta-analyses of attitudes toward the content of stereotypes, we expected a generally more positive evaluation of the importance of the communal traits as job requisites in comparison with that for the agentic traits.

**Hypothesis 1b [H1b].** Moreover, we expected that personality traits would be perceived as more important as job requisites in service-oriented occupations than production-oriented occupations. However, as a result of the current division of labor between the sexes and the factual occupational segregation, service-oriented occupations such as health-care, sale services, child-care, and primary education are female-dominated. In contrast, men dominate production-oriented occupational domains, mainly in professional, technical, and high-managerial jobs. Thus, we predicted that, in general, personality traits would be rated more important in female-dominated occupations than in male-dominated occupations.

If we shift the attention from the perceived importance of stereotypical traits to salary, we expected higher salary for participants in the male-dominated occupations compared to female-dominated occupations, other variables being accounted for. Thus, we predicted that, with respect to the gender-type of the job defined as the sex ratio of employees, a general and depreciatory female sexism would be indicated and the gender-typing of an occupation as female would be related to the decrease of actual salary (the sex segregation effect). Prior to testing this hypothesis, it would be necessary to replicate and establish the relationship between perceived gender-typing of an occupation and the sex ratio of jobholders in the occupation.

**Hypothesis 1c [H1c].** In addition to the main effect of the gender-type of the job, defined as the sex ratio of employees, on salary, we also expected a main effect of the sex of the jobholder on salary. Women, in comparison to men, were expected to have lower salary regardless of the sex ratio of the workplace and when controlling for the effect of other variables. This would be indicative of
another form of a general and depreciatory female sexism at the individual level, often referred to as “sex discrimination.”

The sex-congruency and fit models would also suggest some qualifications to the main effects of the type of personality trait (H1a), the sex ratio of job incumbents (H1b), and the sex of the jobholder (H1c). Accordingly, the occurrence and strength of gender bias would be conditioned by the lack of fit between the gender-type of a job (i.e., the sex ratio of employees) on one the hand, and the gender-type of the traits and/or the sex of the jobholder, on the other. In addition, we intended to distinguish and contrast positive and negative valence of various forms of sexism when possible. Appreciative sexism was assumed to stem from the perceived congruency or fit between the type and/or sex typicality of traits and the gender-type of the job, whereas depreciatory bias would emanate from the perceived incongruity. Extrapolating from the sex-congruency models, we tested the following hypotheses with respect to the two plausible forms of the contingent gender bias.

Hypothesis 2a [H2a]. There would be a bias against and/or in favor of either type of traits (communal versus agentic) dependent on the gender-type of the job. Thus, the communal traits would be perceived as less important as job requisites in male-dominated occupations compared to that for female-dominated occupations (the depreciatory communal-male incongruity bias). Moreover, the importance attached to the agentic traits would be higher in male-dominated occupations compared to that for female-dominated jobs (the appreciative agentic-male congruency bias). Prior to testing of these hypotheses, we needed to replicate the stereotypical perception of personality traits found in previous studies. That is, it was necessary to prove that respondents in this study subscribe to the stereotypical perception of the communal and agentic traits as typically female and male traits, respectively.

The combination of Hypothesis 1a and Hypothesis 2a would lead us to expect the lowest importance being associated with the agentic traits in the female-dominated jobs and the highest with the communal traits in the female-dominated occupations followed by the importance attributed to the agentic traits in male-dominated jobs.

Hypothesis 2b [H2b]. Extrapolating from H1b (higher salaries in the male-dominated occupations) and H1c (higher salaries for male employees), we expected a larger gender wage gap in the female-dominated occupations than in the male-dominated occupations, controlling for the influence of other predictors. Women in the female-dominated occupations receive lowest salaries because they work in low-paid occupations, which we expected to be related to the ratio of female to male employees, and also because they, as individuals, are subjected to discriminatory treatment. On the contrary, the same general depreciatory female sexism, which results in generally higher salary for employees in the male-dominated occupations would “spill over” to women in those occupations and increase their salaries compared to that of their counterparts in female-dominated occupations but they still would receive lower salaries than their male colleagues when the influence of other variables on salary was partialed out.

Hypothesis 2c [H2c]. The importance attributed to the communal and agentic traits was expected to be dependent on the perceived sex-typicality of
each type of the traits. Two plausible outcomes were distinguished and tested. (a) Although we expected a generally more positive attitude toward the communal traits per se (H1a), we also expected that the communal traits become less appreciated to the extent that these are associated with women. We refer to this tendency as the depreciatory feminine bias, depreciatory because the more the communal traits are perceived as typical of women, the less they are perceived as important attributes in the context of the workplace.

(b) In a similar vein, an appreciative masculine bias would be indicated if there were an increasingly positive relationship between the perception of the agentic traits as typical of men and the importance associated with the agentic traits. Both depreciatory feminine bias and appreciative masculine bias are mathematically represented with a negative correlation coefficient where a bipolar male-female scale is used. Hypothesis 1a in which a higher value for the communal traits than the agentic traits was predicted, decides the labeling of the effects as the depreciatory feminine versus the appreciative masculine bias.

Previous research has shown a positive relationship between masculine personality traits and salary (Cejka & Eagly, 1999, Glick, 1991) and no relationship (Cejka & Eagly, 1999) or a negative relationship (Glick, 1991) between feminine traits and salary across occupations. We expected to replicate and extend those results and also to find a positive relationship between salary and the increase of the relative importance of the agentic to communal traits.

Thus, not only did we expect a decrease in salary when a job was perceived as female (i.e., a high ratio of female to male employees) but also when the content of a job was perceived as feminine (as operationalized in this study: greater importance attributed to feminine relative to masculine personality traits as job requisites). The latter is referred to as another manifestation of the depreciatory feminine bias.

**Method**

**Participants**

Several labor unions and organizations were contacted for participation in a study of “job evaluation and salary decision making”. The choice of organizations to be contacted was dictated by the fact that we were primarily interested in low-paid, gender-typed occupations (defined according to ratios of female to male employees). Mailing lists maintained by three organizations were obtained and used to select participants. A stratified random sampling procedure was applied and 1739 participants were sent a questionnaire (52.3% returned). First, the Swedish Metalworkers’ Union fulfilled the criteria and 500 members (250 males) were sent the questionnaire. This union includes low-paid, blue-collar occupations with an average of 79.2% male employees (Statistics Sweden, 1998, p. 201). The remaining two organizations encompass female-dominated occupations: one labor union and a large organization with 71.0% and 80.6% female employees, respectively. The former was the Swedish Union of Commercial Employees, which mainly organizes employees in wholesale and retail trade. A total of 400 members (200 males) were sent the questionnaire.
Finally, the third organization selected is one of the largest hospitals in Europe with more than 15,000 employees. Because our interest was in low-paid female-dominated jobs, two large samples were selected, one of which consisted of 400 (109 males) untrained nurses and nurse's aids. The second hospital sample contained 439 trained nurses (102 males), including 29 nurses with supervisory tasks (7 males). Participants did not receive any compensation for their participation. Data analyses were based on the final sample of 904 respondents. There were 333 males (Age: \( M = 40.7, \ SD = 10.55 \)) and 571 females (Age: \( M = 43.7, \ SD = 9.69 \)).

**Questionnaire**

**Actual salary.** Participants were instructed to write down their current monthly salary before taxes. Monthly salary for full-time employment was calculated for all respondents and was used as a dependent variable in analyses.

**Importance of personality traits as job requisites.** To measure requirements of a job regarding agentic and communal personality traits, participants were instructed to rate how important each of fifteen traits (Hoffman & Hurst, 1990) was in order to perform well in their own occupation. The traits consisted of six agentic (or instrumental), six communal (or expressive), and three neutral traits. The agentic traits were “ambitious”, “competitive”, “determined”, “intellectual”, “self-confident”, and “self-reliant”. The communal traits were “considerate”, “emotional”, “helpful”, “honest”, “kind”, and “understanding”. The three neutral traits were “conscientious”, “responsible”, and “realistic”. The traits were presented in a randomized order and were rated on a scale ranging from 1 (not at all important) to 7 (very important).

**Gender-type of job: Sex ratio versus personality traits.** As mentioned above, participants were sampled to represent job incumbents in two categories of workplaces regarding the sex ratio; that is, male-dominated and female-dominated workplaces. Thus, in analyses the sex ratio variable was dummy-coded and represented by two indicator variables in regression equations. The male-dominated job category was chosen as the reference group and the explanatory effect of increased ratio of women to men in the two remaining sample groups (female-dominated occupations in the trade union and at the hospital, respectively) were compared and interpreted in relation to the male-dominated subsample. Similarly, sex of the participant was dummy coded, with male as the reference group.

Two measures were included to establish the relationship between the ratio of female to male job incumbents and perceived sex-typicality of a job. Participants were asked to rate the sex-typicality of 13 occupations on a scale ranging from 1 (typically male) through 4 (neither nor) to 7 (typically female). The occupations were selected on the basis of available statistics (Statistics Sweden, 1998, pp. 186-190). There were four male-dominated jobs (percentage of females ranged 1%-10%) and four female-dominated jobs (percentage of females ranged 84%-94%). We also included five jobs with relatively balanced ratios of females to males (percentage of females ranged 34%-57%). To measure accuracy of ratio ratings in comparison with the actual statistics, the same list of
occupations appeared in the booklet and participants rated the percentage of the female job incumbents in each occupation on a scale ranging from 0 to 100 with intervals of 10.

Job characteristic preferences and values. Participants rated the importance of 15 aspects of a job on scales ranging from 1 (not at all important) to 7 (very important). The main part of the items followed items commonly used in similar studies (Berkowitz, Fraser, Treasure, & Cochran, 1987; Filer, 1985, 1986; Jackson et al., 1992; Major & Konar, 1984; Thacker, 1995). Representative examples are the importance of “high salary”, “good promotional opportunities”, “high status”, “friendly co-workers”, and “opportunities to adjust working hours to childcare”.

Money Ethic Scale. We examined several measures of money attitude and valuation concerning their content and psychometric properties (Money survey: L. A. Jackson, personal communication, August 1995; Money-handling Inventory: Fank, 1994; Money Attitude Scale: Yamauchi & Templer; 1982). The Money Ethic Scale (MES; Tang, 1992, 1993, 1995) was judged to be the most appropriate measure for the present study and the short MES (12 items) was translated and appeared in the booklet.

Examples of items representing cognitive, affective, and behavioral aspects of money are “I value money very highly”, “Money is the root of all evil”, and “I budget my money very well”, respectively. Participants indicated to what extent they agreed with each statement on a scale ranging from 1 (not at all) to 7 (completely).

Job analysis: Employees’ perceived job requirements and components. Participants were instructed to rate perceived requirements for performing their jobs in terms of (a) theoretical education, (b) previous job experience, and (c) within-organizational training. Additional measures of perceived job components appeared in the beginning of the booklet. These measures are labeled (a) responsibility, (b) demands (physical and psychological), and (c) hazards.

Responsibility. Participants were instructed to rate the extent of their responsibility on 12 items that measured different aspects of job-related responsibility (e.g., equipment, planning, controlling others’ work, other employees’ safety). The scale ranged from 1 (no responsibility) to 7 (very high responsibility). The arithmetic mean of the 15 ratings was used as a composite variable referred to as Responsibility (Alpha = .85).

Demands. Respondents rated on 10 items the extent to which they were exposed to various physical or psychological demands in their jobs (e.g., heavy/difficult lifts, demanding contacts with patients/clients/customers). The scale ranged from 1 (not at all) to 7 (to a very high degree). The arithmetic mean of the 10 ratings was used as a composite variable in analyses (Alpha = .75).

Hazards and risks. Participants were instructed to rate the degree to which they were at risk of injury or disease as a result of (a) machines, tools, apparatus; (b) handling dangerous substances; (c) contagion; (d) and physical violence. The scale ranged from 1 (very little) to 7 (very high). Ratings were used in data analyses as they were reported.

Human capital and job sector. Participants reported their highest level of education and years of job experience in their current occupation. They were
also instructed to indicate whether they worked in the private or public sector (dummy coded with the public sector as the reference category).

Results

In reporting results, four steps are followed. First, results for the predicted relationships between general and contingent gender bias and evaluation of gender-typed personality traits in terms of their perceived importance as job requisites are reported. In the second step, we begin with reporting sex differences pertaining to what we considered as control variables and proceed to variables of increasing importance to this article. Third, results for the hypothesized relationships between the two aspects of the gender-type of a job, the sex ratio and gender-typed personality traits, and salary when controlling for other variables are reported. Finally, by separating analyses for the female and male subsamples, explanatory differences and single-group validity of predictors of salaries for female and male participants are examined and reported.

Sex-typing and Evaluation of Traits

Stereotypical perception of traits. Prior to the test of Hypothesis 1a, which predicted a more positive evaluation of the communal traits relative to that for the agentic traits, we examined the occurrence of stereotypical perception of personality traits. To meet this condition, ratings of each trait were averaged across participants. Each mean was compared to the midpoint (neutral) of the scale using the one sample t-test procedure to test the hypothesis that the population mean was 4. The results revealed significant stereotypical perception of the traits in the expected direction. The six communal traits were rated as typically female (t-values’ range: 4.18 – 45.78; effect sizes’ range: Cohen’s d = 0.14 – 1.52). Of the six agentic traits, five were perceived as typically male (t-values’ range: -2.21 – -32.51; effect sizes’ range: Cohen’s d = 0.08 – 1.07). Unexpectedly, the hypothesized agentic trait “ambitious” was rated at the midpoint of the scale (neither male nor female). Thus, on average, we could proceed with the assumption that agency-instrumentality was perceived as an aspect of masculinity and typical of men and communion-expressiveness as a characteristic for femininity and typical of women. The arithmetic averages of the six agentic (instrumental) traits (Alpha = .78) and the six communal traits (Alpha = .90) were computed and used as composite variables in analyses.

Gender-type of the job, type of trait, and importance of traits. A mixed analysis of variance (ANOVA) of the ratings of the importance of traits as job requisites was computed. The sex ratio comprised the between-subjects variable (male-dominated vs. female-dominated) and the type of personality trait was the within-subjects variable (communal vs. agentic traits). Table 1 shows the means of perceived importance of traits and the correlations between perceived importance of traits and perceived sex-typicality of traits (see below).

In support of Hypothesis 1a, the communal traits were perceived as more important as job requisites (F(1, 902) = 203.25, p < .001, η² = .18). A main effect of the sex ratio revealed that, as predicted by H1b, employees in the female-
dominated occupations perceived personality traits as more important than did their counterparts in male-dominated occupations ($F(1, 902) = 229.83, p < .001, \eta^2 = .20$).

The main effects of the type of personality trait and the sex ratio were qualified by a significant interaction ($F(1, 902) = 180.79, p < .001, \eta^2 = .17$). Tests of simple effects indicated the occurrence of the depreciatory communal-male incongruity bias as predicted by Hypothesis 2a: The importance attached to the communal traits was significantly lower in the male-dominated occupations than in the female-dominated ($t(902) = -19.60, p < .001, \eta^2 = .30$). Unexpectedly, participants in the male-dominated occupations also attributed less importance to the agentic traits than did their counterparts in the female-dominated occupations ($t(902) = -7.38, p < .001, \eta^2 = .06$). Furthermore, participants in the male-dominated occupations perceived the agentic and communal traits as equally important ($t(902) = -0.47, \text{ns}$). Whereas results indicated a devaluation of communal traits in male-dominated occupations, the latter two results lent no support for the occurrence of an appreciative agentic-male congruency bias.

### Table 1
**Perceived Importance of Traits as a Function of Sex Ratio, Type of Trait, and Perceived Sex-typicality of Trait**

<table>
<thead>
<tr>
<th>Sex ratio of the job</th>
<th>Type of personality trait</th>
<th>Communal ($n = 6$)</th>
<th>Agentic ($n = 6$)</th>
<th>All ($N = 12$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M       r</td>
<td>M    r</td>
<td>M   r</td>
</tr>
<tr>
<td>Male-dominated</td>
<td>222</td>
<td>4.58    -.93**</td>
<td>4.55  .29</td>
<td>4.57 -.16</td>
</tr>
<tr>
<td>Female-dominated</td>
<td>682</td>
<td>6.16a   -.82*</td>
<td>5.14b .71</td>
<td>5.65 .53</td>
</tr>
<tr>
<td>Trade union</td>
<td>170</td>
<td>5.71a   -.93**</td>
<td>5.28b .46</td>
<td>5.50 .04</td>
</tr>
<tr>
<td>Hospital</td>
<td>512</td>
<td>6.30a   -.71</td>
<td>5.10b .74</td>
<td>5.70 .62*</td>
</tr>
<tr>
<td>All</td>
<td>904</td>
<td>5.77a   -.88*</td>
<td>5.00b .65</td>
<td>5.38 .41</td>
</tr>
</tbody>
</table>

_Note._ Ratings were made on 7-point scales. For the measure used in the computation of means of the perceived importance, higher means indicate that higher importance was attributed to the trait (1 = not important at all, 7 = very important). For the measure of the perceived sex-typicality used in the computation of correlations between the importance and the sex-typicality ratings, higher scores indicated traits being perceived as more typical of women and less typical of men (1 = typically male, 4 = neither nor, 7 = typically female). Means in the same row that do not share subscripts differ significantly at $p < .001$ or less.

* $p < .05$. ** $p < .01$.

As shown in Table 1, there were apparent differences between the two subsamples in female-dominated occupations (the members of the wholesale and retail trade union and the employees at the hospital). To test whether these differences affected the results reported above, we repeated the analysis. A mixed analysis of variance (ANOVA) of the importance ratings with the sample
group as the between-subjects variable (male-dominated vs. female-dominated/the trade union vs. female-dominated/hospital) and the type of trait as the within-subjects variable (agentic vs. communal traits) was computed. The results were similar except post hoc multiple comparisons showed a significant difference between the trade union and the hospital subsamples on their ratings of the importance of the communal traits ($p < .001$, by the Dunnett’s T3 procedure; Kirk, 1995). In summary, there was evidence indicative of the negative evaluation of the perceived communal-male incongruity rather than positive agentic-male congruency bias.

**Sex-typicality of traits and importance of traits.** Preceding the test of the relationships between the perceived sex-typicality of traits and the importance attributed to personality traits as predicted by Hypothesis 2c, it was necessary to establish the following conditions: (a) the relationship between the perceived ratio of female to male employees and the perceived gender-type of a job, (b) the relationship between the actual and perceived sex ratio (the accuracy of ratio ratings).

First, after excluding one job title due to its confounding meaning, we averaged ratings of the sex-typicality of twelve remaining occupations (four male-dominated and four female-dominated jobs, and four jobs with a balanced ratio of females to males) across participants. Thus, the occupation comprised the unit of analysis ($N = 12$). Next, the averages of perceived sex-typicality were correlated with averaged ratings of perceived percentage of the female job incumbents in each job, respectively. In accordance with previous research, the result showed that the perceived gender-typicality of a job was strongly related to its ratio of female to male jobholders as indicated by a nearly perfect correlation ($r = .99, N = 12, p < .001$). Second, participants’ estimates of the sex ratio of employees in occupations accurately reflected the actual labor statistics as indicated by an almost perfect correlation between averaged ratings of the perceived percentage of women in each occupation and the labor statistics ($r = .98, N = 12, p < .001$).

To examine whether there was a general bias either in favor of or against either sex or both, we averaged ratings of the sex-typicality of both agentic and communal traits across participants. Hence, trait comprised the unit of analysis ($N = 12$). The means of sex-typicality were correlated with participants’ averaged ratings of perceived importance of each trait. As shown in Table 1, when the type of trait was not taken into account, the result showed no reliable relationship between perceived sex-typicality of traits and their importance as job requisites ($r = .41, N = 12, ns$). A $z$-test of difference between the correlation coefficients for the male-dominated ($r = -.16, N = 12$) and the female-dominated subsample ($r = .53, N = 12$) did not indicate any sizable difference between the two groups. The result remained nonsignificant at the 5% level when separate coefficients for the trade union group and the hospital group was tested against the male-dominated subsample.

However, taking into consideration the type of the traits, analyses revealed that, as predicted by H2c, for the total sample, the more the communal traits were perceived as typical of women, the less importance was attached to those traits ($r = -.88, n = 6, p < .05$). The equivalent analysis of the agentic traits
did not indicate a reliable relationship between the perception of the agentic traits as typical of men and the importance of the traits ($r = .65$, $n = 6$, $ns$). Putting together these results and the results indicating that the communal traits per se were perceived as more important than the agentic traits and that the communal traits were perceived as female traits lent support to the proposed depreciatory feminine bias rather than the appreciative masculine sexism.

**Comparisons of Men and Women**

Table 2 shows means and standard deviations for variables as a function of the sex of the employee and the $t$-test of significant mean difference$^3$. With regard to our major dependent measure, monthly salary, men reported significantly higher salary than did women.

**Human capital.** A great number of studies of the relationship between gender and pay differentials have suggested that men have higher salaries because they, in comparison to women, have accumulated larger human capital. Thus, a first step was to test whether this assumption was valid in the current sample. With regard to actual level of education and years of job experience, results did not support the assumption. In fact, our female respondents had significantly longer full-time job experience in their current occupation than did men. Therefore, significantly lower salaries for women, relative to men, would be more difficult to explain as a result of objective human capital differences than, for example, as a result of gender biased evaluation of employees’ objective merits and differences in relationships between human capital variables and salaries for female and male employees.

**Job analysis: Employees’ perceived job requirements and working conditions.** Women perceived that a significantly higher level of theoretical education was required in their jobs than did men, whereas men perceived that longer job experience and on-the-job training were required to perform their jobs than did women. According to some human capital theorists, this pattern of differences is rational and advantageous to women. Women, in comparison with men, have less opportunity to accumulate job experience and on-the-job training to increase their suitability and competitiveness for jobs that require these aspects than jobs emphasizing education.
Table 2  
**Means, Standard Deviations, and Test of Mean Differences for Variables as a Function of Sex of the Employee**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Males</th>
<th>Females</th>
<th>t (902)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Salary</td>
<td>16.66</td>
<td>2.81</td>
<td>15.66</td>
</tr>
<tr>
<td>Human capital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual education</td>
<td>4.90</td>
<td>1.96</td>
<td>5.13</td>
</tr>
<tr>
<td>Job experience</td>
<td>14.51</td>
<td>10.71</td>
<td>16.80</td>
</tr>
<tr>
<td>Perceived job requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsibility</td>
<td>3.18</td>
<td>1.16</td>
<td>2.98</td>
</tr>
<tr>
<td>Demands</td>
<td>3.84</td>
<td>1.10</td>
<td>3.91</td>
</tr>
<tr>
<td>Education required</td>
<td>2.87</td>
<td>1.42</td>
<td>3.32</td>
</tr>
<tr>
<td>Job experience required</td>
<td>2.58</td>
<td>0.93</td>
<td>2.32</td>
</tr>
<tr>
<td>Job training required</td>
<td>1.98</td>
<td>0.81</td>
<td>1.67</td>
</tr>
<tr>
<td>Hazard due to machines</td>
<td>3.19</td>
<td>1.93</td>
<td>2.63</td>
</tr>
<tr>
<td>Hazard due to substances</td>
<td>2.59</td>
<td>1.82</td>
<td>2.68</td>
</tr>
<tr>
<td>Hazard due to contagion</td>
<td>2.83</td>
<td>2.11</td>
<td>3.95</td>
</tr>
<tr>
<td>Hazard due to violence</td>
<td>2.67</td>
<td>2.13</td>
<td>2.69</td>
</tr>
<tr>
<td>Job characteristic preferences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrumental preferences</td>
<td>5.45</td>
<td>0.94</td>
<td>5.72</td>
</tr>
<tr>
<td>Job-relational preferences</td>
<td>6.35</td>
<td>0.76</td>
<td>6.60</td>
</tr>
<tr>
<td>Job-family-relational pref.</td>
<td>4.77</td>
<td>1.64</td>
<td>5.50</td>
</tr>
<tr>
<td>Money Ethic Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success</td>
<td>4.64</td>
<td>1.10</td>
<td>4.72</td>
</tr>
<tr>
<td>Evil</td>
<td>3.22</td>
<td>1.75</td>
<td>2.91</td>
</tr>
<tr>
<td>Budget</td>
<td>4.74</td>
<td>1.55</td>
<td>5.12</td>
</tr>
<tr>
<td>Importance of traits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agentic-instrumental</td>
<td>4.89</td>
<td>1.13</td>
<td>5.06</td>
</tr>
<tr>
<td>Communal-expressive</td>
<td>5.36</td>
<td>1.34</td>
<td>6.01</td>
</tr>
<tr>
<td>Traits’ relative import.</td>
<td>-0.47</td>
<td>1.09</td>
<td>-0.95</td>
</tr>
</tbody>
</table>

*Note.* The salary units are monthly salary in thousands Swedish crowns (8 SEK = 1 USD). For the measure of traits’ relative importance, negative values indicate higher means on communal than agentic traits; positive values indicate the opposite. Traits’ relative import. = traits’ relative importance. Job-family-relational pref. = job-family-relational preferences.* *p < .05. **p < .01. ***p < .001.

Considering the composite variable Responsibility, men perceived themselves as having greater responsibility in their occupations than did women. No sizable sex difference was found regarding the perceived physical and non-physical demands in participants’ occupations. Men reported higher risk of injury in their job as a result of their handling of machines, tools and apparatuses than did women, whereas women, compared to men, perceived a higher risk of contracting a disease due to contagion. These results reflect the
characteristics of the current sample rather than support for the general prediction by compensating differential models stating that women, compared to men, work in occupations with better working conditions (e.g., lower physical and non-physical demands and risks).

**Job characteristic preferences and values.** Before we reduced the data, we conducted some analyses in the interest of comparison with previous studies. After dropping one item due to its confounded meaning, a multivariate analysis of variance (MANOVA) of the 14 remaining items with the sex of the respondent as the between subjects variable was computed. The result indicated an overall difference between the sexes ($F(14, 889) = 6.85, p < .001, \eta^2 = .10$). Univariate tests showed that on all but two variables women perceived the respective aspect of the job as significantly more important than did men. Of special interest are also two nonsignificant results on the importance of high salary ($M = 5.85$ and $M = 5.82$ for women and men, respectively, $F(1, 902) < 1, \eta^2 = .00, \text{power} = .06$) and opportunities for advancement in the job ($M = 5.40$ and $M = 5.28$ for women and men, respectively, $F(1, 902) < 1, \eta^2 = .00, \text{power} = .23$).

To test whether the sexes differ in their preferences for job characteristics, and whether such preference differentials are related to actual salary, 14 items were factor analyzed and reduced. A principal components factor analysis with varimax rotation was computed. The factor analysis yielded a three-factor solution (using eigenvalue of 1 as the cutoff) that accounted for 55.8% of the variance. Based on the loadings and the content of the job attribute preferences items, arithmetic averages of the items were computed and used as three composite variables in data analyses. The composite variables are labeled “job-instrumental preferences” (e.g., high salary, 9 items, Alpha = .84), “job-relational preferences” (e.g., friendly co-workers, 3 items, Alpha = .63), and “job-family-relational preferences” (e.g., opportunities to adjust work hours to childcare, 2 items, $r = .64, p < .001$).

A multivariate analysis of variance (MANOVA) of the three composite variables with the sex of the respondent as the between subjects variable was conducted. The result indicated an overall difference between the sexes ($F(3, 900) = 21.25, p < .001, \eta^2 = .07$). Univariate tests showed that on all three composite variables women perceived the respective aspect of the job as significantly more important than did men. Interestingly, women, relative to men, perceived instrumental aspects of a job (e.g., high status) as more important ($F(1, 902) = 19.27, p < .001, \eta^2 = .02$). Moreover, the relationships among composite variables were positive, sizable, and similar for both sexes (range: $r = .22 - .38$ and $r = .28 - .42$ for women and men, respectively; $ps < .001$). These results contradicted the suggestion by compensating differential models that women, compared to men, request or receive lower salaries because they prefer and seek occupations that offer high “intrinsic” rewards (such as friendly co-workers or opportunities to adjust work hours to childcare) in lieu of occupations with high “extrinsic” rewards (such as high status or good promotional opportunities).

**Money Ethic Scale.** A principal components factor analysis of the 12 items (using a criterion of three factors following Tang’s results, 1995) with varimax rotation accounted for 58.6% of the variance. The pattern and loadings were
almost identical to those reported by Tang (p. 813, Table 2). To facilitate comparison, we used original terms and labeled the three factors Success (e.g., “Money represents one’s achievement”, 8 items, Alpha = .81), Evil (e.g., “Money is evil”, 2 items; $r = .75$, $p < .001$), and Budget (e.g., “I use my money very carefully”, $r = .75$, $p < .001$). The arithmetic averages of the three factors were used in data analyses as the indicators of the cognitive, affective, and behavioral dimension of attitude towards money, respectively.

Comparisons of the means of the sexes on the three dimensions revealed that the sexes did not differ on their perception of the value of money, as measured by the composite variable success. However, women reported that they were careful in budgeting their money to a greater extent than men did. Interestingly, women reported less negative attitudes towards money on the affective dimension of the scale and perceived it as less evil.

**Sex differences in the perceived importance of traits.** It would follow women’s self-interest to place higher value on communal traits and lower value on the agentic traits than men do. To examine this suggestion, a mixed analysis of variance (ANOVA) of perceived importance of traits with sex of the rater as a between-subjects variable and type of traits as the within-subjects variable (agentic vs. communal) was computed. Results showed a main effect of sex indicating that women perceived personality traits, regardless of their stereotypical content, as more important than did men ($M = 5.12$ and $M = 5.54$ for men and women, respectively, $F(1, 902) = 35.25$, $p < .001$, $\eta^2 = .04$). As noted above, the communal traits were perceived as more important than the agentic traits ($F(1, 902) = 413.45$, $p < .001$, $\eta^2 = .31$).

Moreover, the main effects were qualified by a significant interaction ($F(1, 902) = 46.60$, $p < .001$, $\eta^2 = .05$). Tests of simple effects indicated that women, in comparison to men, perceived the communal traits as more important ($t(902) = -7.39$, $p < .001$, $\eta^2 = .06$). Unexpectedly, women also rated the agentic traits as more important than did men ($t(902) = -2.43$, $p < .001$, $\eta^2 = .01$). Thus, in the evaluation of traits, men and women did not just follow their self-interest and place higher value on the traits that they are stereotypically equipped with.

**Measure of the relative importance of traits.** To address the theoretical issue of the relative impact of personality traits and the statistical problem of collinearity between the two composite variables of personality traits, a measure of the relative importance of traits was computed. Each participant’s mean rating on the six communal traits was subtracted from his or her mean rating on the six agentic traits. Thus, negative values indicate higher relative importance given to communal traits (higher ratings on communal than agentic traits); positive values indicate the opposite.
Table 3
Means of Significant Variables as a Function of Sex of the Employee and Sample Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male-dominated</th>
<th></th>
<th>Female-dominated:</th>
<th></th>
<th>Female-dominated:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males (n = 112)</td>
<td>Females (n = 110)</td>
<td>Males (n = 89)</td>
<td>Females (n = 81)</td>
<td>Males (n = 132)</td>
<td>Females (n = 380)</td>
</tr>
<tr>
<td>Salary</td>
<td>17,073</td>
<td>15,212</td>
<td>16,076</td>
<td>13,314</td>
<td>16,709</td>
<td>16,287</td>
</tr>
<tr>
<td>Actual education</td>
<td>4.08</td>
<td>3.46</td>
<td>4.31</td>
<td>4.28</td>
<td>5.99</td>
<td>5.79</td>
</tr>
<tr>
<td>Job experience</td>
<td>13.46</td>
<td>12.19</td>
<td>14.03</td>
<td>12.30</td>
<td>15.73</td>
<td>19.10</td>
</tr>
<tr>
<td>Responsibility</td>
<td>2.85</td>
<td>2.39</td>
<td>3.20</td>
<td>2.94</td>
<td>3.45</td>
<td>3.16</td>
</tr>
<tr>
<td>Demands</td>
<td>3.93</td>
<td>3.96</td>
<td>3.69</td>
<td>3.57</td>
<td>3.87</td>
<td>3.98</td>
</tr>
<tr>
<td>Education required</td>
<td>2.22</td>
<td>1.93</td>
<td>2.03</td>
<td>1.85</td>
<td>3.99</td>
<td>4.04</td>
</tr>
<tr>
<td>Hazard due to machines</td>
<td>4.13</td>
<td>3.43</td>
<td>3.28</td>
<td>2.39</td>
<td>2.33</td>
<td>2.45</td>
</tr>
<tr>
<td>Job experience required</td>
<td>2.51</td>
<td>1.56</td>
<td>2.25</td>
<td>1.95</td>
<td>2.86</td>
<td>2.62</td>
</tr>
<tr>
<td>Traits’ relative importance</td>
<td>0.21</td>
<td>-0.28</td>
<td>-0.33</td>
<td>-0.54</td>
<td>-1.15</td>
<td>-1.23</td>
</tr>
</tbody>
</table>

Note. The salary units are monthly salary in Swedish crowns (8 SEK = 1 USD). For the measure of traits’ relative importance, negative values indicate higher means on communal than agentic traits; positive values indicate the opposite.
Prediction of Salary

To test the hypotheses about the relationships between various predicting variables and actual salary, three hierarchical regression analyses were conducted. First, actual salary was regressed on the predictors in a total sample equation for both sexes. In this analysis, gender and its interactions with two variables of major interest (relative importance of gender-typed traits and sex type of job, defined as the ratio of female to male employees) were entered into the equation after controlling for other variables. However, the results of a pooled equation may mask gender specific processes and determinants of actual salary (Dreher, Dougherty, & Whitely, 1989; Thacker, 1995). Thus, two separate regression analyses for either sex were computed and tested for equality between sets and pairs of coefficients, respectively.

Prediction of Salary for the Total Sample

Taking into consideration apparent differences between the two subsamples in the female-dominated occupations (employees in the wholesale and retail trade occupations vs. employees at the hospital), we decided to distinguish these two groups in following analyses and test differences against the reference group, the male-dominated occupations. Table 3 presents means of significant variables for the three subsamples and the sexes.

As summarized in Table 4, results supported the human capital explanation in salary differences and showed a reliable relationship between the first set of control variables and actual salary. Participants with larger human capital, that is, higher education and longer job experience, had higher salaries ($\beta_s = .31$ and .23, respectively, both $p < .001$). Moreover, those who worked in the private sector, compared to the public sector, had higher salaries ($\beta = .08$, $p < .05$).

Next, the set of variables constituting required job requirements and components was added to the regression equation and this significantly increased the explained variance of actual salary. Specifically, participants who indicated that they had higher levels of responsibility in their occupation ($\beta = .25$, $p < .001$), that their jobs required higher levels of theoretical education ($\beta = .28$, $p < .001$), and that they had longer job experience ($\beta = .08$, $p < .05$) had higher salaries. However, the more they perceived that they were exposed to the risk of contagion the less salary they actually received ($\beta = -.16$, $p < .01$). As displayed in Table 4, adding the set of predictors including job characteristic preferences and money valuation indexes did not significantly increase the explained variance.
Table 4
Summary of Hierarchical Regression Analysis for Variables Predicting Monthly Salary for the Total Sample (N = 904)

<table>
<thead>
<tr>
<th>Step and predictor variable</th>
<th>R²</th>
<th>ΔR²</th>
<th>ΔF</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Human capital and sector</td>
<td>.10</td>
<td></td>
<td>32.15***</td>
<td>3</td>
</tr>
<tr>
<td>2. Required job components</td>
<td>.28</td>
<td>.18</td>
<td>25.10***</td>
<td>9</td>
</tr>
<tr>
<td>3. Job preferences and values</td>
<td>.29</td>
<td>.01</td>
<td>1.98</td>
<td>6</td>
</tr>
<tr>
<td>4. Sex ratio of the job</td>
<td>.32</td>
<td>.03</td>
<td>18.56***</td>
<td>2</td>
</tr>
<tr>
<td>5. Traits’ relative importance</td>
<td>.33</td>
<td>.01</td>
<td>10.85**</td>
<td>1</td>
</tr>
<tr>
<td>6. Sex of the employee</td>
<td>.34</td>
<td>.01</td>
<td>17.77***</td>
<td>1</td>
</tr>
<tr>
<td>7. Two-way interactions between sex ratio, traits, and sex</td>
<td>.36</td>
<td>.02</td>
<td>4.71***</td>
<td>5</td>
</tr>
</tbody>
</table>

Note. ΔR² for Step 8, adding three-way interactions among the variables coding sex ratio of job, traits’ relative importance, and sex of jobholder into the equation, was not significant and was therefore omitted. ΔF = F ratio for ΔR² due to entry of variables in step. Sex of the employee: male = 0, female = 1.

* p < .05. ** p < .01. *** p < .001.

Controlling for differences in human capital and job components and preferences, there was evidence for a significant association between gender-type of the job, defined as the ratio of female to male employees, and salary. Participants who worked in the female-dominated workplaces in the trade union received significantly lower salaries than did those working in the male-dominated workplaces (approx. $210, β = -.22, p < .001). The decrease in salary of the participants working in the female-dominated workplace (at the hospital), compared to the male-dominated workplaces, was in the expected direction (approx. $100) although not significant at the 5% level (β = -.13, ns). Thus, the results were at least partially supportive of a general and depreciatory female sexism or the sex segregation effect on salary (H1b).

In the subsequent step, the measure of the relative importance of personality traits was entered into the regression equation. As predicted (H2c), the result showed that as the importance of the communal traits relative to the agentic traits decreased, the actual salary increased (approx. $40 a month for each unit of difference, β = .12, p < .01). This effect was indicative of a general and depreciatory feminine sexism.

To facilitate comparison with previous research, we repeated the analysis with agentic and communal predictors entered simultaneously into the regression equation. In line with our other findings, there was a negative relationship between the importance of the communal traits and salary (pr = -.15, β = -.21, p < .001), whereas the positive relationship between the agentic traits and salary was not reliable (pr = .04, β = .05, ns). Nonetheless, these results must be considered with caution because of the serious collinearity problem among these two predictors and the dependent variable, which was one
of the reasons that led us to compute the measure of the relative importance of traits.

All else being controlled for, results lent support for the hypothesized sex discrimination at the individual level, indicating that women had significantly lower salaries than men (H1c). Female participants received about $100 less in a month than did their male counterparts (β = -.13, p < .001). The effect was qualified by a significant two-way interaction between the sex ratio of the job and sex of the employee.

As predicted by H2b, the wage gap between the sexes was significantly larger in female-dominated workplaces in the trade union compared to the gender wage gap found in the male-dominated workplaces (β = -.13, p < .05). The wage gap between the sexes in one of the female-dominated workplaces (the hospital) did not differ significantly from that of the male-dominated occupations (β = .12, ns). Hence, these results partly supported the hypothesis predicting a larger gender wage gap in the female-dominated occupations. The remaining two-way interactions were not significant.

**Comparison and Prediction of Salary for the Sexes**

As emphasized earlier, the results of an analysis of a total sample may mask gender specific mechanisms. Therefore, we conducted two separate multiple regression analyses that are summarized in Table 5. Next, we tested the two sets of coefficients and pairs of coefficients in the full model for significant differences. A Chow’s test of equality between the two sets of coefficients (Johnston, 1972, p. 207) did not show a significant difference between the sets (F(571, 312) = 1.01, ns).

Following a procedure commonly applied in wage discrimination analyses (Bloch & Kuskin, 1978; Dreher et al., 1989; Thacker, 1995), we tested the difference between the corresponding coefficients in the male and female equations in the full model (Step 5). Let B_m and B_f be the estimated coefficients of the same explanatory variable in the male and female equations and σ_m and σ_f their respective estimated standard errors. A one-tailed t-test was then computed and tested according to the following formula: t = (B_m - B_f) / \sqrt{σ_m^2 + σ_f^2}.

There were three significant differences (see Table 5). First, although the responsibility coefficients were significant predictors of actual salary in both equations, a one-tailed t-test indicated that the difference is statistically significant. For males, higher responsibility in their jobs had significantly stronger positive influence on their actual salary than for females (t(902) = 2.21, p < .05). Thus, women were not monetarily rewarded to the same extent as their male counterparts as their job related responsibilities increased.

Second, contrary to the predictions of the compensating differential models, the perceived physical and non-physical demands of the job did not influence actual salary for males, whereas, for females, the relationship was negative and significant. This implies that in fact females lost salary as their working conditions became more demanding where the increment of demands was neither punished or rewarded for males (t(902) = 2.93, p < .01).
### Table 5
**Summary of Hierarchical Regression Analyses for Variables Predicting Monthly Salary for the Male (n = 333) and Female (n = 571) Subsamples**

<table>
<thead>
<tr>
<th>Step and predictor variable</th>
<th>Males</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Females</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>R²</td>
<td>ΔR²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>R²</td>
<td>ΔR²</td>
<td></td>
</tr>
<tr>
<td>1. Human capital and sector</td>
<td>.07***</td>
<td>.16***</td>
<td>.16***</td>
<td>.16***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Required job components</td>
<td>.22***</td>
<td>.15***</td>
<td>.34***</td>
<td>.18***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Job preferences and values</td>
<td>.24***</td>
<td>.02</td>
<td>.35***</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Sex ratio of job</td>
<td>.27***</td>
<td>.03**</td>
<td>.40***</td>
<td>.05***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Actual job experience</td>
<td>63.96</td>
<td>15.78</td>
<td>.24***</td>
<td></td>
<td>43.74</td>
<td>12.54</td>
<td>.14**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job sector</td>
<td>1151.58</td>
<td>572.45</td>
<td>.20*</td>
<td></td>
<td>196.87</td>
<td>425.09</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsibility</td>
<td>911.34a</td>
<td>143.13</td>
<td>.37***</td>
<td></td>
<td>515.80b</td>
<td>107.43</td>
<td>.19***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demands</td>
<td>213.64b</td>
<td>166.51</td>
<td>.08</td>
<td></td>
<td>-394.15b</td>
<td>123.80</td>
<td>-.13**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education required</td>
<td>319.64</td>
<td>154.20</td>
<td>.16*</td>
<td></td>
<td>603.47</td>
<td>111.17</td>
<td>.30***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job experience required</td>
<td>-78.42</td>
<td>210.04</td>
<td>-.03</td>
<td></td>
<td>309.70</td>
<td>141.14</td>
<td>.10*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female-dominated (trade union) cf. male-dominated</td>
<td>-1126.10a</td>
<td>414.10</td>
<td>-.18**</td>
<td></td>
<td>-2412.26b</td>
<td>388.15</td>
<td>-.28***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traits' relative importance</td>
<td>240.64</td>
<td>162.07</td>
<td>.09</td>
<td></td>
<td>351.17</td>
<td>130.42</td>
<td>.11**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* ΔR² for Step 6, adding two-way interactions between the variables coding sex ratio and traits’ relative importance to the equation, was not significant for either subsample, therefore the interactions were omitted. For Step 5, only those variables that contributed significantly to the regression equation of either or both subsamples are presented. B = Unstandardized regression coefficient, values represent amounts in Swedish crowns (8 SEK = 1 USD). Unstandardized regression coefficients in the same row that do not share subscripts differ significantly at p < .05 or less by the one-tailed t-test procedure. Job sector: public sector = 0, private sector = 1.

* p < .05. ** p < .01. *** p < .001.
Finally, there was a significant difference between the coefficients of the indicator variable female-dominated workplaces in the trade union, compared to male-dominated, in the two equations ($t(902) = 2.27, p < .05$). Although both female and male employees working in the wholesale and retail trade occupations received significantly lower salaries than their counterparts in the male-dominated workplaces, females did so to a significantly greater extent than their male co-workers. This comparison clarifies the increased gender wage gap in female-dominated occupations in the trade union reported earlier. First, in partial support of H2b (the spill-over effect), women in male-dominated occupations received higher salary than their female counterparts in the female-dominated occupations (the trade union members); $B = -2412.26, \beta = -.28, p < .001$. Second, the generally negative effect of the increased number of female employees on employees' salaries was significantly stronger for females' salaries than for males'.

Not presented in Table 5 was a nonsignificant though interesting result of the comparison between the female-dominated occupations at the hospital and the male-dominated occupations in Step 5. In Step 4, adding the two dummy variables testing the two female-dominated subsamples against the male-dominated occupations resulted in a significant increase of the explained variance in the regression equation for the female respondents ($\Delta F(2, 550) = 20.97, p < .001$). Consistent with H2b, women in both subsamples in the female-dominated occupations had lower salaries than women in the male-dominated occupations. Interestingly, women working at the hospital received significantly lower salaries than women in the male-dominated occupations ($B = -1275.73, \beta = -.20, p < .05$). Adding the measure of the relative importance of traits in Step 5 did not affect the relationship between salaries of women working in the wholesale and retail trade occupations compared to salaries of women in the male-dominated occupations. However, the difference between salaries of women employed at the hospital and women employed in the male-dominated occupations became unreliable at the 5% level ($B = -945.38, \beta = -.15, ns$). This change could be attributed to the significant influence of the relative importance of traits on salary ($B = 351.17, \beta = .11, p < .01$).

This pattern of results indicated that both aspects of gender-type of the job, the sex ratio of female to male employees and the importance of the communal traits relative to the agentic traits, were negatively related to salaries for women employed in the female-dominated occupations but to different degrees. For women in the trade union, the high ratio of female to male employees had the strongest negative influence on their salaries, whereas for women working at the hospital the negative effect of the content of their tasks, which required more of the communal traits relative to the agentic traits, outperformed the negative effect of the high ratio of female employees. Considering men's salaries (the left portion of Table 5), the higher ratio of women to men in the trade union than in the male-dominated occupations significantly decreased salaries of male employees in the wholesale and retail trade related occupations.

In sum, Hypothesis 2b was, at least in part, supported. As predicted, the gender wage gap was smallest in the male-dominated occupations. Moreover,
the results supported the hypothesis indicating that women in the male-dominated occupations had significantly higher salaries than women in the female-dominated occupations.

Discussion

This study illustrated the multifaceted and complex relationship between general and contingent sexism in work settings and gender-biased evaluations in terms of the importance of stereotypical personality traits and salary. Considering the importance of personality traits, the pattern of results revealed a refined picture of sexism in work settings by showing the occurrence of a depreciatory female sexism, that is, as the association of communal traits with women increased their perceived importance decreased, rather than an appreciative male sexism. Also, in accordance with the findings of the last decade (e.g., Eagly, 1995; Eagly & Mladinic, 1994; Eagly et al., 1991), we found a general appreciation of the communal traits per se, an aspect of femininity, rather than depreciatory feminine sexism (a negative correlation between the importance of traits and the perceived sex-typicality of the traits as female) or appreciative masculine sexism (greater importance attributed to the agentic traits). The findings were more in support of a general view of sexism than a contingent one: The degree of the female sexism did not vary reliably as a function of the gender type of the occupations (the sex composition of the employees).

However, some mixed support for the congruency models was found where the communal traits were perceived as more important in the female-dominated occupations than in the male-dominated ones, but the opposite relationship for the agentic traits was not indicated. On the contrary, the agentic traits were also perceived as more important in the female-dominated occupations. We may speculate that this asymmetry could have been due to the fact that the male-dominated blue-collar production-oriented occupations represented in this study make low and undifferentiated demands on employees with regard to required personality traits, whereas the female-dominated service-oriented occupations require a high degree of both types of communal and agentic personality traits. Similar suggestions about the occurrence of “androgynous” occupations have been put forward in studies of human service occupations in general and nursing in particular (e.g., Kirchmeyer & Bullin, 1997).

When we consider the gender wage differentials, there was also more evidence corroborating a general view of sexism and less support for the occurrence of conditional forms of negative and positive bias resulting from the perceived incongruity and congruency, respectively. First, neither women nor men lost salary because the opposite sex was in the majority in their occupation. On the contrary, women decreased their salary losses and narrowed the gender wage gap where males dominated the occupation. We might interpret this result as supportive of a contrast effect of depreciatory expectancies about women’s performance (Heilman, 1975, 1983). We may also attribute the higher salaries for women employed in the male-dominated occupations relative to the female-dominated occupations to the great impact of the sex ratio of employees as a powerful predictor of the gender-type of the occupation, job evaluation and
monetary rewards distributed by the employer. Although both processes may have affected the observed outcome, there is more empirical evidence in support of the latter interpretation. Two recent reviews report various estimates of the effect of the occupational segregation on the gender wage gap that range from 14% (Jacobs, 1999, p. 134) to 96% (Roos & Gatta, 1999, p. 114).

Second, we also found support for the occurrence of the discriminatory treatment of women at the individual level when we consider the effect of the jobholder’s biological sex on the salary. The sex of the job incumbent had a direct effect on actual salary beyond and when controlling for the effects of human capital variables, the gender-type of the job (the ratio of female to male employees), and traits required by the content of the job.

Third, our findings were in line with the suggestion that the relative importance of the communal traits compared to the agentic traits is negatively related to actual salary. When it was possible to disentangle the positive and negative relationships in the case of the relationship between personality traits as job requisites and salary, depreciatory feminine sexism was a more consistent interpretation of the results than appreciative masculine sexism. As reported earlier, there was a negative relationship between the importance of the communal traits and salary and no reliable relationship between the agentic traits and salary. This was the case when the influence of other predictors on salary was held constant and both types of traits were entered into the regression equation simultaneously and as separate predictors. These results appear at variance with some previous studies’ findings (e.g., Cejka & Eagly, 1999; Glick, 1991). Although there may be a series of plausible but not directly testable explanations such as differences in sample characteristics (students vs. employees and Americans vs. Swedes), and the unit of analysis (occupational salary vs. individual salary), results of a regression analysis when we did not control for the influence of other variables offer a direct explanation for some of the discrepancies. In a model with only two predictors (the importance of the communal traits and the importance of the agentic traits as job requisites) less than 3% of the variance in salary was explained ($F(2, 901) = 12.04, p < .001$). The relationships were now similar to the findings reported by Cejka and Eagly (1999, p. 420) and partly those presented by Glick (1991, p. 362) and showed a positive relationship between the agentic traits and salary ($r = .15, \beta = .19, p < .001$), and a negative relationship between the communal traits and salary ($r = -.14, \beta = -.17, p < .001$). Adding the interaction between the two predictors to the regression equation did not increase the explained variance ($\Delta F(1, 900) = 1.61, ns$). Thus, in this regard, two issues, one theoretical and one statistical, are raised and require special attention in the future: the necessity of the control of the influence of other variables or confounds (see also, Korabik, 1999) and the relationship between the two types of stereotypical traits, in particular possible collinearity and multicollinearity with other related variables.

Taken together, our results did not support the idea that differences in working conditions, job characteristic preferences, and money valuation, are a plausible explanation for the gender pay differentials. This conclusion is in line with previous studies’ findings (Bridges, 1989; Browne, 1997; Hollenbeck et al., 1987; Jackson et al., 1992; Thacker, 1995) and the criticism leveled at this line of ideas, especially at compensating differential theories elsewhere (Anker, 1997;
Roos & Gatta, 1999). First, with regard to working conditions, for some “compensable” aspects of the occupation, women were not rewarded to the same extent as their male counterparts were (e.g., responsibility), or were not rewarded at all (e.g., risks and hazards), or were penalized and penalized to a greater extent than their male counterparts (e.g., demands).

Second, when job preferences and values are considered, we found some sex differences. However, the results were (a) partly in the opposite direction of the difference hypothesized difference compensating differential models (e.g., instrumental or intrinsic characteristics were preferred by women to a greater measure). (b) There was no trade-off (negative relationship) between the intrinsic or extrinsic preferences.

Finally, the sex differences were not associated with actual salary. The results give rise to two issues: In the matter of the explanatory value of job preferences for predicting actual salary, positive results of some previous studies (e.g., Major & Konar, 1984) might have been influenced by particular characteristics of the sample (for example, being students and lacking longer full-time job experience) or the dependent variable (pay expectations vs. actual salary). However, job preferences and values might still be proven to have explanatory value when people choose their course of education and/or apply for new jobs, particularly early in their careers. Furthermore, the absence of a relationship between preferred job characteristics and actual salary in this study might partially be due to the institutional and labor market differences influencing the salaries of the respondents in this study and previous studies. Because of its strongly unionized labor market, the negotiation and setting of wage levels in Sweden has been extremely centralized with very little room for individual bargaining. This, in addition to our respondents being full-time employees for a long time, may have affected the results.

Concerning the valuation of salary and money, the results closely paralleled several previous studies using a single item measure of preference for high salary (e.g., Browne, 1997; Jackson et al. 1992; Hollenbeck et al., 1987; Martin, 1989) and studies using multiple item measures of money (Ekehammar & Niemenmaa, 1993; Tang, 1992, 1996). Our findings suggest that women hold no less positive attitudes towards salary and money but are careful how they budget their money (see also, Tang, 1992). Women may simply adjust their behavior to the amount of money they receive, which is generally less than men’s. This interpretation is supported by the mixed results of the cognitive, affective, and behavioral dimensions of money attitudes measured in this study. Previous studies’ use of aggregated or single-item measures of attitude towards money in terms of the preference for high salary could not make these distinctions possible and might have obscured and simplified complex attitudes towards money. Our results may also point to cultural differences rather than sample and measurement differences. In a study by Ekehammar and Niemenmaa (1993), 227 psychology undergraduates at Stockholm University rated items from the Money Attitude scale (Yamauchi & Templer, 1982) and the Money Beliefs and Behavior Scale (Furnham, 1984). Ekehammar and Niemenmaa’s results, at variance with a comparable study to theirs, did not indicate any sizable sex difference on those items.
We need to address some boundaries of the present study. First, one of the subsamples, employees at the female-dominated workplace (the hospital), consisted of a considerably homogeneous group. This may have resulted in some unexpected results. Not only did they share similar work tasks, work settings and socioeconomic background, but this group has also been very active in political and labor lobbying to improve their work conditions, particularly their salaries. These activities have received intense national and local media coverage, which may have accentuated actual and perceived homogeneity of the group. Thus, additional studies including participants from other groups of employees in human service and female-dominated occupations in both public and private sectors seem necessary. Moreover, in the present study, we examined the employees’ evaluation and perspective (a supply side approach) on the relationship between predictors and job evaluation and salary, whether employers and administrators (a demand side approach) subscribe to the same evaluation and relationships is a matter of empirical research for future studies.

An additional limitation of this study pertains to our measurement of occupational segregation. As pointed out elsewhere (Anker, 1997; Jacobs, 1999; Roos & Gatta, 1999), the level of data collection and analysis affects the obtained estimates of the effects of the occupational segregation on earnings and gender wage differentials. To avoid putting too great a demand on our participants, we used available but very aggregated labor market statistics in this study. Our results are probably indicators of lower bounds of the effect of the occupational segregation on salary. However, in a second survey, we addressed this issue by measuring the sex segregation at the two lowest levels possible, that is, at the location and task level (the number of women and men at the place of work and working with similar tasks, respectively). Our decision to ask participants for the sex segregation data in the second survey was also affected by the fact that, similar to previous studies (Glick, 1991; Macan et al., 1994), our respondents were highly accurate in their perceptions of the sex segregation and sex ratio of various job titles.

Although the effect size of the main effects of the sex and the relative importance of traits predictors were small in terms of the explained variance, their practical importance and implications should not be underestimated. For example, Dipboye and his collaborators (1977) found that the effect sizes of sex on hiring and salary ratings were small (both $\eta^2$s = .01). However, when the participants were instructed to choose only one applicant that they would hire, they chose a male applicant. In fact, 61.5% of the participants chose a highly qualified male applicant, whereas only 32.3% chose an equivalently highly qualified female candidate. Martell, Lane, and Emrich (1996) demonstrated the impact of small effect sizes in a simulation study and suggested that two organizational characteristics must be taken into consideration: the hierarchical structure of most organizations resulting in a limited number of positions at the top, and the strong effect of the initial performance evaluations on the likelihood of the employee reaching a top management position. Their results showed that in an organization with eight organizational levels and 500 employees, a sex-bias favoring men, accounting for 1% and 5% of the variance in performance evaluations, resulted in women having only 35% and 29% of the highest level positions, respectively.
In a recent review of the literature on sex differences, Eagly (1995) concluded that the percentage of variance metric “mislleads psychologists into discounting findings that have considerable practical importance” (p. 151). Eagly added, “in practical terms, the importance of a difference depends on the consequences of the behavior in natural settings” (p. 152). For instance, as shown by Gerhart and Rynes’s study (1991), an initial advantage of $742 in the average initial salary for men compared to that for women would result in a career advantage of $75,738 over a 30-year time period when the annual pay increases were set at 7% on average. Even when the average salary increase for women was 1.03 times larger than that for men, it would take 10 years for women to reach men’s salaries and this would incur a cumulative loss of $3,922.

Along global changes in the capital and labor market and increased mobility and competition among the various parties involved, Sweden is currently experiencing fundamental restructuring of its labor market which puts the implications of our and previous studies in some perspective. Liberalization of parts of the labor market, outsourcing of jobs, and entry and competition of the private sector in a number of sex segregated occupations previously managed by the public sector have led to increased salary for some groups of female employees and female-dominated occupations. For instance, health care employees, particularly nurses and physicians, have significantly increased their salaries in recent years by changing employers from county councils to other, mostly private, employers in Sweden or neighboring countries. In many cases the employee continues working with the same tasks and at the same workplace though with higher salary and less job security offered by the private employer. Effects of the recent labor market changes on the sex segregation in these occupations are yet to be studied. Furthermore, our reading of the results presented here suggests that the emphasis and marketing of personality traits, particularly the communal traits, as a monetarily “compensable” requisite and skill in human service occupations may decrease wage penalties imposed on these occupations. Also, private employers’ emphasis on the productivity and profitability of their enterprise may result in framing and redefinition of service-oriented occupations as production-oriented. This may also promote a positive relationship between personality traits, especially the communal traits, and salary.

As evident from our and other researchers’ findings (Anker, 1997; Jacobs, 1999; Roos & Gatta, 1999; Willborn, 1986), there is a complex relationship between occupational sex segregation and gender wage equality and in some cases they may even coexist (e.g., Sweden, Australia, Japan). Furthermore, the findings that occupational sex segregation partly accounts for women’s lower salaries do not implicate that political and labor market policies (e.g., affirmative action) to facilitate entry and career development of women in male-dominated occupations suffice to increase women’s salary when complementary changes at individual and institutional levels are absent. As noted by Roos and Gatta (1999), in some instances, employment of women in male-dominated occupations did not increase their salary or decrease job segregation but even resulted in the re-segregation of the occupation. Nor do the results of the current study implicate that a simple increase of percentage of male employees in female-dominated occupations without a necessary increase in the status and salary of
those occupations is enough or even desirable. Results of attempts to attract men to move to female-dominated occupations in the absence of structural changes have not been encouraging.

Individuals’ early choices of education and subsequent vocational and specialty training have long-term effects on their salaries. These choices and systematic devaluation of women’s performance, “feminine” attributes, feminine and female occupations are influenced by gendered socio-cultural norms and expectations. Psychological knowledge can be exploited to make these norms and expectations and their effects salient and possibly change the relationship between sex roles, gender stereotypes, and individuals’ and employers’ preferences and course of actions.

This knowledge needs to be exploited even more urgently now because of increased occupational sex segregation and the alarming absence of women in the high-tech and IT-related occupations, particularly in top positions. A recent report by the Gender Equality Council for Transport and IT (Thurdin, Agné, Mörtberg, Persson, Warsén, & Lindahl, 2000) indicates that in the board of directors of 60 IT-related companies listed on the Stockholm Stock Exchange, female members constitute just 4% of the places and 20% of all employees in these companies (p. 61). The future seems also less promising as the same report reveals a decrease of the percentage of women graduating in EDP and applied system sciences from 46% to 34% between academic years 1991/92 and 1998/99 (p. 73). These emerging data in combination with young employees’ lack of interest in joining labor unions, individualization of wage bargaining, especially in the high-tech occupations, may in fact indicate an increase of the gender wage gap in the future.
References


Footnotes

1Following Unger’s (1979) suggestion and the received definitions in psychology (American Psychological Association, 1994), the term sex refers to the grouping of people to males and females according to biological criteria and the term gender denotes socio-cultural meanings attributed to males and females as social groups. However, in a few instances in this article, we had to use gender in lieu of sex to avoid shortcomings and awkwardness of the language (e.g., gender wage gap).

2Prior to analyses, one case with an extremely high value on actual salary was found to be a univariate outlier. This case was excluded together with four others that did not belong to the intended sample.

3Intercorrelations for female participants (n = 571) and male participants (n = 333) are available upon request.

4We repeated the regression analysis, this time excluding the 22 trained nurses with supervisory tasks and high salaries at the hospital. Results showed a significant difference between the female-dominated occupation (the hospital subsample) and the male-dominated occupations (approx. $110, \beta = -.16, p < .05).

5Repeating the regression analysis without values from the 22 trained nurses with supervisory tasks at the hospital indicated a significant difference between the female-dominated occupation (the hospital subsample) and the male-dominated occupations (B = -1022.24, \beta = -.18, p < .05), other results remained unchanged. However, this significant result does not change our conclusion that with regard to the salaries of the female employees at the hospital both aspects of the gender type of the job exert a negative effect.