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Sex role orientation, stressors and resources in male and female nurses

OLIVIA KADA

Given the demographic changes, it is important to counteract the nursing shortage by recruiting female and male nurses. Gender stereotypes in society and the low status of nursing are common barriers for men to enter nursing. The gender self-concept of nurses is related to the social valuation of this profession as well as to nurses' vocational stress. Therefore, the present study investigated sex role orientation (BSRI) and work stressors and resources (KZFA) in matched pairs of 30 female and 30 male nurses using standardized questionnaires (cross-sectional design). Female and male study subjects did not differ regarding femininity and masculinity. Male nurses reported significantly more stressors. Masculinity was positively correlated to work content in the male respondents and was negatively associated with resources in the female study subjects. It seems that masculinity is accepted and rewarded in male nurses whereas female nurses showing masculine traits and deviating from the traditional subservient role experience negative reactions. In order to counteract the nursing shortage it is crucial to reduce the societal gender stereotypes, work towards the acceptance of gender-role transgressors and enhance the image of nursing.

Key words: femininity, masculinity, work stress, occupational segregation, gender stereotypes

In order to cope with the demands of an aging society it is important to counteract the nursing shortage by recruiting female and male nurses (Hasselhorn, Müller, & Tackenberg, 2005; McLaughlin, Muldoon & Moutray, 2010). There are still plenty of stereotypes in society about typically male and typically female traits, behaviors and occupations (Arkkelin & O'Connor, 1992; Sieverding & Alfermann, 1992; White & White, 2006). This leads to a "continued sex-typing of careers" (Rochlen, Good, & Carver, 2009, p. 44). In the media the prototypical nurse is presented as female, subordinate, young and single (Brodie et al., 2004; Fletcher, 2007; Purnell, 2007). Films paint pictures of effeminate male nurses (Burton & Misener, 2007; Roberts & Vasquez, 2004). Nurses' right to academic education is challenged (Meerabeau, 2004). In Austria, nurses are still regularly educated on the secondary level, whereas most European countries offer nurse education on the tertiary level (Spitzer & Perrenoud, 2006). A self-responsible field of action for nurses was defined in Austria in 1997, but the healthcare system is still dominated by physicians (Porter-O'Grady, 2007). Given all these problems, who chooses nursing as a career?

Male nurses – feminine, masculine, androgynous? As gender-role transgressors, male nurses face a variety of difficulties, especially stigmatization in society and in the workplace (Evans & Frank, 2003; Kada & Brunner, 2009; Twomey & Meadus, 2008). Despite some advantages of their minority status (e.g. better career opportunities) "men undertake considerable 'gender work' to re-establish a masculinity that has been undermined by their female occupation" (Simpson, 2004, p. 366). One strategy is to leave bedside care and to enter more "manly" areas like elite specialties (Evans & Frank, 2003; Stott, 2007). Studies investigating the sex role orientation of male nurses (e.g. Fisher; 1999; Loughrey, 2008; McCutcheon, 1996) lead to inconsistent results. Male nurses are frequently confronted with stereotypes, e.g. being underachievers, being homosexual or doing dirty work (Burton & Misener, 2007; Kada & Brunner, 2009). The gender self-concept influences the social valuation of nursing (Fletcher, 2007) and correlates with coping in the workplace (Reime, 2000)

*Sex role orientation and work stress***.** Nursing is associated with high levels of stress and a high risk of burnout (Hasselhorn et al., 2005). Gianakos (2000, 2002) demonstrated that masculinity and femininity are better predictors of coping with work stress than biological sex. There are several models which provide a theoretical framework for explaining the role of nurses' gender self-concept in vocational stress (Kirchmeyer & Bullin, 1997; Whitley, 1983).

The *androgyny model* (Bem 1974, 1977; Kirchmeyer & Bullin, 1997; Taylor & Hall, 1982) assumes that a person who possesses a wide variety of masculine and feminine traits is more flexible in his/her roles than a sex-typed person; this leads to a higher degree of psychological well-

Olivia Kada, Carinthia University of Applied Sciences, School of Health and Care, Jägerweg 12/2, 9500 Villach, Austria.
E-mail: o.kada@fh-kaernten.at (the address for correspondence).

being and mental health (Lefkowitz & Zeldow, 2006). In line with this model, Brooks, Morgan and Scherer (1990) found that nontraditional females and males use a wider repertoire of coping strategies in work stress situations. Hence, androgynous nurses should cope effectively with their job demands (Kirchmeyer & Bullin, 1997). Accordingly, it can be assumed that femininity and masculinity are associated with nurses' work stress.

The *masculinity model* (Kirchmeyer & Bullin, 1997), in contrast, posits that only masculine traits are crucial for a person's well-being (Taylor & Hall, 1982) and self-esteem (Whitley, 1983). Masculine traits are rewarded in our society and are positively associated with success and appreciation (Kirchmeyer & Bullin, 1997; Sieverding & Alfermann, 1992). Accordingly, low masculinity and high femininity could be identified as significant predictors of sick-leaves in nurses (Evans & Steptoe, 2002). According to this model, only masculinity should be associated with nurses' work stress.

In pursuance of the *schema-matching model* (Arkkelin & O'Connor, 1992), there are specific stereotypes in society regarding the traits that are typical for sex-typed occupations. A person is evaluated positively if he or she matches these assumptions. Hence, feminine personality traits should be desirable in nursing (Arkkelin & O'Connor, 1992). High masculinity and low femininity is healthy for males whereas the opposite leads to well-being in females (*congruence model*, Whitley, 1983). People whose sex role orientation and occupation match experience less gender role conflict (Luhaorg & Zivian, 1995; Rustemeyer & Thrien, 2001). It seems that "environments that place a premium upon helping and cooperation, such as nursing settings, tend to facilitate a positive adjustment among those who possess the feminine/expressive traits that preserve interpersonal integrity" (Steenbarger & Greenberg, 1990, p. 66). According to these models, femininity should be the relevant factor in nurses' vocational stress.

The present study aims at highlighting the gender self-concept of nurses as well as the role of femininity and masculinity in male and female nurses' work experiences. The following research questions should be answered:

1. Do male and female nurses differ in their sex role orientation?
2. Do male and female nurses differ regarding the stressors and resources they experience at the work place?
3. Is sex role orientation correlated to the stressors and resources at the workplace?

METHODS

Sample

In the present study, matched pairs of 30 male and 30 female nurses are compared. The study subjects were matched according to the working area (ward) and age in order to check for these two potential confounders. Age and working area of the respondents are presented in table 1.

Table 1
Sample

	males (n = 30)	females (n = 30)
	N	n
working area:		
operating room	3	3
geriatric ward	8	8
intensive care unit	13	13
anesthesia	5	5
emergency room	1	1
age	M (SD)	M (SD)
	34.93 (8.39)	35.10 (8.13)

Instruments and scales

The Bem sex-role-inventory (BSRI; Bem, 1974, 1977) was used in the German version (Schneider-Düker & Kohler, 1988) to assess respondents' gender self-concept. The BSRI is the questionnaire most frequently used to measure sex-role orientation in nurses (Rochlen et al., 2009). It comprises 20 stereotypically feminine personality characteristics, 20 stereotypically masculine traits and 20 neutral filler-items. Study subjects rate the extent to which these traits apply to themselves on a 7-point scale (1= never or almost never true – 7 = always or almost always true). The masculinity-scale score is calculated as the mean value of all masculine items, the femininity-scale score equals the mean value of all feminine items. According to Bem (1974, 1977), respondents should be grouped using the t-ratio or median split method, which was widely criticized (Taylor & Hall, 1982). Hence, the masculinity scale and the femininity scale were used independently like in many other studies (e.g. Kirchmeyer & Bullin, 1997; Luhaorg & Zivian, 1995). Schneider-Düker and Kohler (1988) reported a Cronbach's α of .85 for the masculinity scale and .74 for the femininity scale; validity is assumed because of relations of femininity and masculinity to external criteria like biological sex or self-concept which conform with theory (Schneider-Düker & Kohler, 1988). Norms are not provided for the German version.

Resources and stressors at the workplace were measured using the "Kurz-Fragebogen zur Arbeitsanalyse [short questionnaire for work analysis]" (KFZA, Prümper, Hartmannsgruber, & Frese, 1995). The KFZA is based on the stress-strain concept (Oesterreich, 2001; Rohmert, 1984). The KFZA comprises 26 items which have to be answered on a 5-point scale (1 = very little – 5 = very much or 1 = does not apply at all – 5 = applies completely). Four domain scores can be calculated: Work contents, stressors, resources, and organizational climate. Figure 1 illustrates how these aspects fit into the stress-strain concept. The internal

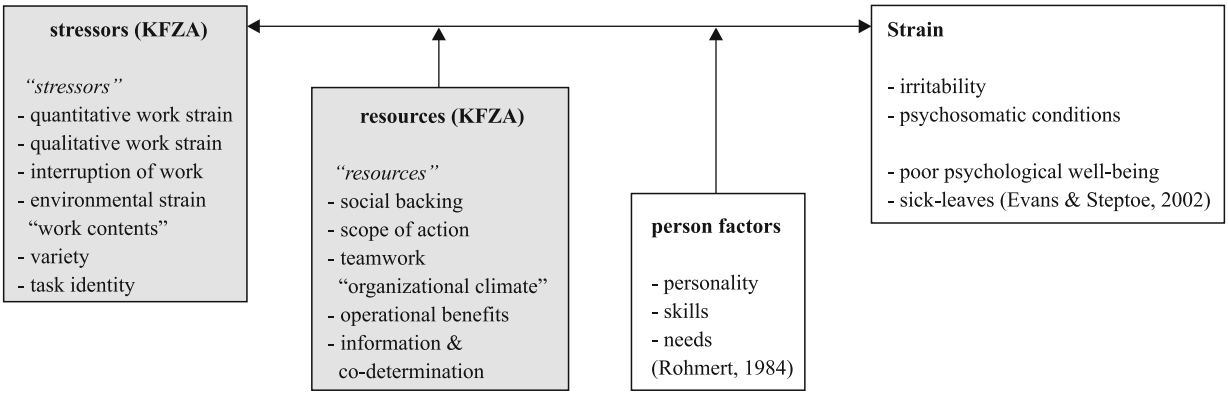

Figure 1. Theoretically expected effects of stressors and resources as measured by the KFZA on individual strain (modified from Ehlbeck, Lohmann, & Prümper, 2006, p. 38)

consistency of the KFZA is satisfactory, although numbers are not provided. Validity is assumed because the KFZA is a collection of prominent items from existing scales (Prümper et al., 1995); norms are not provided.

Additionally, age and working area were measured. The collection of further demographic information was abandoned in favor of anonymity in small wards and the motivation to participate in the study.

Data collection. After the approval of the nursing directory and the work council of the provincial hospital Klagenfurt, selected ward nurses distributed the questionnaires and a cover letter to all nurses who were present during the period of data collection (autumn 2009). All in all, 212 questionnaires were returned (47% response rate, not corrected for neutral attrition). Full data was available for 30 male respondents. Therefore it was decided to use matched pairs for analyzing gender differences in order to control for age and working areas as potential confounders.

RESULTS

Data was analyzed using PASW Statistics 17. Parametric tests (paired sample t-tests, Pearson correlations, and partial correlations) were calculated since Kolmogorov-Smirnov tests showed that the study variables are distributed normally (with p-values ranging from .19 to .99).

Table 2
Paired sample t-tests – items of the masculinity scale (BSRI)

	M male	*SD* male	*M* female	*SD* female	*t*	*df*	*p*
Has leadership abilities	4.57	1.76	4.47	1.50	0.26	29	ns
Assertive	5.00	1.53	5.37	1.19	-1.110	29	ns
Ambitious	4.80	1.71	5.57	1.04	-1.958	29	ns
Authoritative	4.33	1.65	4.23	1.43	0.27	29	ns
Able to criticize others without feeling uncomfortable	4.00	1.68	4.00	1.78	0.001	29	ns
Defends own beliefs	5.20	1.52	5.83	0.88	-1.71	29	ns
Determined	5.50	1.43	5.67	0.88	-0.56	29	ns
Factual	5.70	1.47	5.60	1.07	0.30	29	ns
Not easily influenced	4.67	1.71	4.93	1.39	-0.74	29	ns
Brave	5.30	1.73	5.20	0.93	0.27	29	ns
Intelligent	5.10	1.42	5.83	.913	-2.89	29	<.01
Persistent	5.10	1.45	5.53	1.07	-1.23	29	ns
Willing to take risks	4.57	1.65	4.90	1.45	-0.90	29	ns
Powerful	5.57	1.46	5.70	0.79	-0.47	29	ns
Fearless	4.77	1.55	4.40	1.38	0.88	29	ns
Astute	5.07	1.64	5.72	0.88	-1.45	28	ns
Competitive	3.00	1.51	3.43	1.61	-1.08	29	ns
Sure of himself/herself	5.87	1.36	5.80	0.85	0.22	29	ns
Behaves in a businesslike manner	5.13	1.57	4.90	1.27	0.71	29	ns
Consistent	5.37	1.50	6.00	1.05	-1.90	29	ns

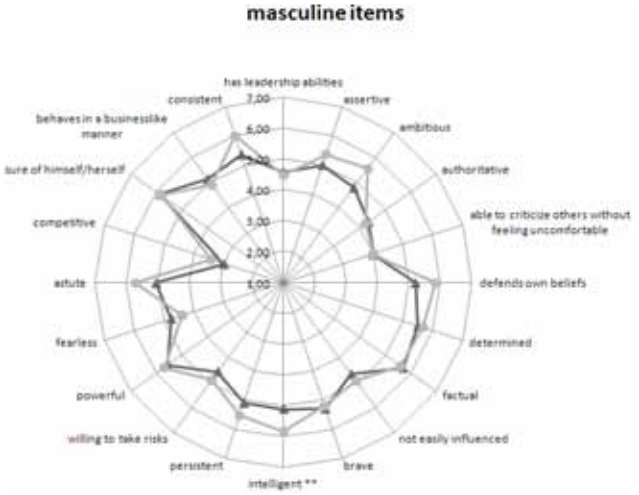

Figure 2. Sex differences regarding the masculine BSRI items
Note. *p<.05, **p<.01; 1 (center) = never or almost never true – 7 (outside margin) = always or almost always true

Figure 3. Sex differences regarding the feminine BSRI items
Note. *p<.05, **p<.01; 1 (center) = never or almost never true – 7 (outside margin) = always or almost always true

Do male and female nurses differ in their sex role orientation? Figure 2 illustrates how male and female respondents rated themselves on the items of the masculinity scale. The female respondents scored notably higher on the items "assertive", "ambitious", "defends own beliefs", "intelligent", "persistent", "astute", "consistent" and "intelligent". However, only the difference regarding "intelligent" reached statistical significance. Descriptive statistics and the results of the t-tests regarding the items of the masculinity scale are shown in table 2.

Figure 3 shows the self-descriptions of the male and female study subjects regarding the feminine items of the BSRI. Females described themselves as notably less "dependent" and less "amenable to flattery" but they reported to "pay more attention to their outward appearance". These three differences are statistically significant. No significant sex differences could be revealed regarding the remaining 17 items of the femininity scale. Descriptive statistics and the results of the t-tests regarding the items of the femininity scale are shown in table 3.

Table 3
Paired sample t-tests – items of the femininity scale (BSRI)

	M male	*SD* male	*M* female	*SD* female	*t*	*df*	*p*
Romantic	4.63	1.61	5.10	1.19	-1.32	29	ns
Dependent	2.97	1.90	1.93	1.14	2.51	29	<.05
Tender-hearted	4.80	1.67	5.00	1.15	-0.57	29	ns
Eager to soothe hurt feelings	5.30	1.34	5.07	1.11	0.75	29	ns
Happy	5.50	1.38	5.73	0.87	-0.78	29	ns
Sensitive	5.70	1.34	5.87	1.14	-0.50	29	ns
Sensual	4.90	1.61	5.40	0.97	-1.56	29	ns
Cheerful	5.37	1.45	5.83	0.89	-1.20	28	ns
Yielding	4.30	1.58	4.17	1.15	0.42	29	ns
Humble	5.03	1.59	4.53	1.31	1.29	29	ns
Amenable to flattery	4.93	1.60	3.90	1.32	2.98	29	<.01
Emotional	5.07	1.53	5.03	1.35	0.09	29	ns
Self-sacrificing	4.00	1.44	3.67	1.45	0.94	29	ns
Does not use harsh language	5.37	1.56	4.83	1.46	1.33	29	ns
Playful	3.80	1.83	3.40	1.43	0.99	29	ns
Seductive	4.20	1.75	4.47	1.38	-0.67	29	ns
Pays attention to his/ her outward appearance	5.47	1.43	6.37	0.96	-2.99	29	<.01
Passionate	5.30	1.54	5.23	1.14	0.19	29	ns
Affectionate	5.60	1.48	5.87	0.90	-0.82	29	ns
Loves security	5.70	1.39	5.47	1.41	0.58	29	ns

Males and females do not differ significantly regarding masculinity [M_{male} = 4.93, SD = 1.024, M_{female} = 5.15, SD = 0.677; $t(29)$ = -0.971, p>.05] and femininity [M_{male} = 4.89, SD = 0.909, M_{female} = 4.84, SD = 0.516; $t(29)$ = 0.309, p>.05]. Males' masculinity and femininity scores do not differ significantly [$t(29)$ = -.142, p>.05], whereas the females scored significantly higher on masculinity compared to femininity [$t(29)$= -2.487, p<.05].

Do male and female nurses differ regarding the stressors and resources at the work place? No significant sex differences could be detected regarding the KFZA domains "work content" [$t(29)$ = -1.30, p > .05], "resources" [t(29) = -1.69, p> .05] and "organizational climate" [t(29) = 0.20, p> .05]. Men reported significantly more stressors than females [$t(29)$ = 3.18, p<.01]. Figure 4 illustrates the sex differences.

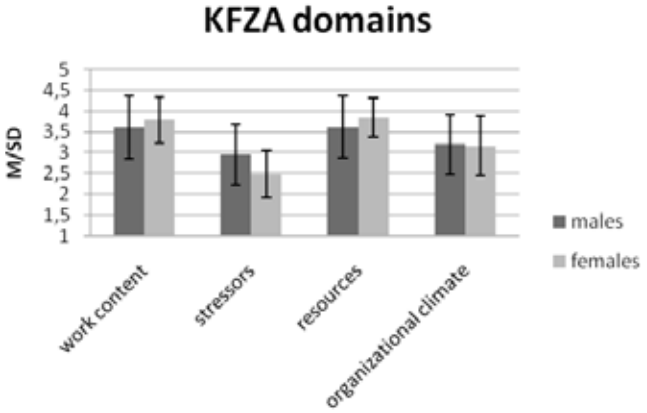

Figure 4. Stressors and resources at the workplace (KFZA domains) compared by sex

Is sex role orientation correlated to workplace stressors and resources? Table 4 illustrates the correlations between sex role orientation and the four KFZA domains in the male respondents. Femininity is not associated with any of the four domains. The higher a male nurse scored on masculinity, the more positively he described the work contents, the resources at the workplace and the organizational climate. Masculinity was not associated with the stressors experienced at the workplace. Additionally, partial correlations were calculated controlling for all other variables in the correlation matrix in each case. Again, no significant correlations could be detected between femininity and any of the KFZA-domains (r ranging from -.002 to .223). Regarding masculinity, a significant positive correlation with work contents could also be observed when controlling for femininity, stressors, resources and organizational climate (r = .437, p<.05). The correlations between masculinity and resources (controlling for femininity, work contents, stressors, and organizational climate: r= -.169, ns) and masculinity and organizational climate (controlling for femininity, work contents, stressors, and resources: r=.189, ns) were no longer significant. No significant correlation between masculinity and stressors could be revealed (r= -.208, ns).

Table 5 shows the correlations between sex role orientation and the four KFZA domains in the female respondents. Again, no statistically significant correlations between the femininity score and the KFZA domains could be revealed. Regarding masculinity, correlations in the opposite direction were found: The higher a female respondent scored on

Table 4
Correlation matrix - males

	femininity	masculinity	work contents	stressors	resources	organizational climate
Femininity	1	-	-	-	-	-
Masculinity	.125	1	-	-	-	-
Work contents	.037	.557**	1	-	-	-
Stressors	.211	-.246	-.210	1	-	-
Resources	-.051	.406*	.745**	-.490**	1	-
Organizational climate	.017	.410*	.491**	-.337	.592**	1

Note. *p<.05, **p<.01.

Table 5
Correlation matrix - females

	femininity	masculinity	work contents	stressors	resources	organizational climate
Femininity	1	-	-	-	-	-
Masculinity	.363*	1	-	-	-	-
Work contents	.058	.058	1	-	-	-
Stressors	.143	-.043	-.067	1	-	-
Resources	-.057	-.503**	.128	-.238	1	-
Organizational climate	-.010	-.473**	.090	.022	.545**	1

Note. * p<.05, **p<.01.

masculinity, the more negatively she described the resources at the workplace and the organizational climate. Masculinity was not associated with work content and stressors.

When calculating partial correlations again no significant correlations between femininity and the KFZA-domains could be revealed (r ranging from .006 to .214). Regarding masculinity, a significant negative correlation with resources could also be found when controlling for femininity, work contents, stressors and organizational climate (r=-.397, p<.05). On the other hand, the correlation between masculinity and organizational climate is no longer significant (controlling for femininity, work contents, stressors, and resources: r= -.280, ns). The correlations between masculinity and work contents (r= .120, ns) and stressors remain not significant (r= -.221, ns).

DISCUSSION

In the present study, no significant sex differences regarding femininity and masculinity could be detected; this is in line with findings in Austrian geriatric nurses (Kada & Brunner, 2009). In both sexes the mean values of the femininity-score and the masculinity-score exceeded the theoretical mean even if females scored significantly higher in masculinity compared to femininity. This indicates an androgynous self-concept (cf. Kirchmeyer & Bullin, 1997). This might be due to the fact that a nurse needs masculinity and femininity to meet the job demands: Masculinity helps to make one's career in the hospital setting (Sieverding, 2002; Kirchmeyer & Bullin, 1997) and is discussed as protective factor in this masculine-typed environment (Hofmeister, Rothe, Alfermann, & Brähler, 2010) whereas femininity is crucial for social relationships and hence for patient care (Sieverding, 2002; Sieverding & Alferman, 1992). Androgyny was found to be regarded as ideal in sex-typed professions (Arkkelin & O'Connor, 1992). The present findings contradict previous studies indicating a feminine self-concept of male nurses (Fisher, 1999; Loughrey, 2008) and a feminine sex role orientation of female nurses (McCutcheon, 1996). The present results also invalidate the common stereotypes that male nurses are "unmanly" (Burton & Misener, 2007; Evans & Frank, 2003; Kada & Brunner, 2009; Twomey & Meadus, 2008).

The male respondents reported significantly more stressors at the workplace than their female counterparts. One possible explanation for this finding might be the negative reactions to male gender-role transgressors (Evans & Frank, 2003; Kada & Brunner, 2009; Simpson, 2004; Twomey & Meadus, 2008). On the other hand, male nurses might experience more stressors because they are regarded as more careerist and authoritative and therefore have to take on difficult situations (Simpson, 2004). Evans and Steptoe (2002) argue that "men and women working in jobs in which they are in a minority, and where the culture is dominated by the opposite sex, may be especially vulnerable to stress-related problems (p. 490).

Which model is supported by the findings of the present study? Femininity was not correlated with any of the KFZA-domains in the female and male respondents. Hence, the androgyny model (Bem, 1974, 1977; Taylor & Hall, 1982) which posits that male and female traits are crucial to meet demands does not apply. Also, the schema-matching model (Arkkelin & O'Connor, 1992) and the congruence model (Kirchmeyer & Bullin, 1997; Whitley, 1983) assuming an influence of femininity on work stress in nurses cannot be supported. The masculinity model (Kirchmeyer & Bullin, 1997; Taylor & Hall, 1982; Whitley, 1983) could be supported partly. High masculinity was associated with a positive evaluation of work contents, resources at the workplace, and organizational climate in the male respondents, even if only the correlation between masculinity and work contents remained significant when calculating partial correlations. Masculinity was negatively correlated with resources at the workplace and the organizational climate in female respondents; only the former correlation remained significant when calculating partial correlations. Masculine attributes are obviously conceded to male nurses who have a minority status and are seen as authoritative and careerist (Simpson, 2004), whereas masculinity does not seem to fit the role expectations of the female and subservient nurse (Jinks & Bardley, 2004; Fletcher 2007). Research has shown that non-traditional females experience sanctions (Simpson, 2004), and in adopting masculine traits in order to be successful they risk losing social support (Gianakos, 2000). Against the background of the stress-strain concept (Oesterreicher, 2001; Rohmert, 1994) the results indicate that female nurses who score high on masculinity lack important stress-buffering resources which makes them vulnerable for work-related strain (Evans & Steptoe, 2002).

Along with Kirchmeyer and Bullin (1997) we argue that nursing needs masculinity and femininity: Feminine attributes such as being caring and empathetic are the core elements of patient care (Loughrey, 2008), and masculine attributes like power and strength are the basis for fruitful interdisciplinary cooperation and autonomy (Kada, Brunner, & Maier, in press). Therefore, it is important to counteract gender stereotypes, work towards acceptance of gender-role transgressors and enhance the image of nursing. Nursing associations, nurse educators, the media, policy, and the nurses themselves (Brodie et al., 2004; Burton & Misener, 2007; Fletcher, 2007; Kirchmeyer & Bullin, 1997, McLaughlin et al., 2010; Purnell, 2007; Stott, 2007) play a crucial role in this process.

The present study does not allow for causal interpretations because of its cross-sectional, correlational design. Due to the use of matched pairs, age and working area are examined for being potential confounders, but the influence of other potential confounders remains unclear. Also a self-selection bias has to be kept in mind as a potential limitation.

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