

The influence of career roles and context on the relation between sex and performance of leaders

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Summary

This study investigates the relation between sex and performance of leaders. A mediating role of career roles and a moderator role of the percentage of men in the branch in which a leader works in this relation are hypothesized. Performance is subdivided in task, contextual and adaptive performance. The career roles that are studied are the role of director, guide, maker, inspirator, expert, and professional. A self-report questionnaire was completed by 403 highly educated leaders that are employed in different branches and job categories. The results of this study show a small difference between men and women in task and contextual performance in favor of women, which disappears when the career roles are added to the regression analysis. Next to that, the relation between sex and adaptive performance is slightly, but significantly stronger in favor of men in branches that are dominated by men. Implications of these findings for management selection and development practices, and possibilities and advantages of using the career role model as a selection or development instrument are discussed. Next to that, limitations of this study are shown and recommendations for organizations and researchers are made.

1. The influence of career roles and context on the relation between sex and performance of leaders

Nowadays, a theme in society as well as in social sciences that has been emphasized, regards equal opportunities for men and women. Women averagely lag behind men in for example the percentage that participates in the labor market (Merens, Hermans, & Cuijpers, 2006), their gross hourly wage (Commission of the European Communities, 2006; Plantenga & Remery, 2006), and the percentage of leaders (European Professional Women's Network, 2006). But the differences are decreasing (Commission of the European Communities, 2006, Merens, et al., 2006; Luxembourg Presidency of the Council of the European Union, 2006). Today, the problem for women emerges mainly in leadership positions (European Professional Women's Network, 2006). In the Netherlands for example, only 25% of leaders were women, whereas women accounted for 43% of the total labor force in 2006 (CBS, 2007). Only four other countries in the European Union had a lower percentage of women in leadership positions (Commission of the European Communities, 2006).

Research has shown several explanations for the difference in the number of men and women in leadership positions, such as (a) the presence of gender stereotyping (e.g. Duehr & Bono, 2006; Eagly & Karau, 2002, Heilman, 2001; Jackson, Engstrom, & Emmers-Sommer, 2007; Powell, Butterfield, & Parent, 2002; Schein, 2007; Sczesny, Bosak, Neff, & Schyns, 2004); (b) commitment to personal and family responsibilities of women (Catalyst, 2001, Hakim, 2006; Probert, 2005; Van Vianen & Fischer, 2002); (c) a lack of mentors and role models, and exclusion from informal networks of communication within the organization (Catalyst, 2001; De Janasz, Sullivan, & Whiting, 2003; Eddleston, Baldridge, & Vega, 2004; Lyness & Thompson, 2000); and (d) lower self esteem of women (Kling, Hyde, Showers, & Buswell, 1999). Despite all this, Eagly et al.'s (1995) meta-analysis shows that men and women are equally effective as a leader. In this study, the relation between sex and performance will be examined again, but leadership styles will be added as a possible mediator. Earlier meta-analyses have shown that men and women differ in leadership styles (Eagly, Johannesen-Schmidt & Van Engen, 2003), and that leadership styles differ in their relation to leadership effectiveness (Judge & Piccolo, 2004; Lowe, Kroeck & Sivasubramaniam, 1996). Together these findings show that the leadership styles that are used more by women relate positively to effectiveness, whereas men usually use styles that relate only weakly or even negatively to it (Eagly, 2007).

This study will also investigate the relation between sex, leadership styles, and performance of leaders, but instead of the classic leadership styles, a new categorization of the behavior that leaders show is used, which is called ‘the career role model of Hoekstra’ (Hoekstra, 2006). Hoekstra expects that the career role model can for instance be used in management selection and development. However, as the career role model is formulated only recently, few studies on the model have been done yet. Therefore the main goal of this research is finding out more about its applicability and added value in management selection and development practice. This is done by investigating the relations between sex, career roles, and performance of leaders. Furthermore, this study will focus on the influence of context on these relations, because previous research on leadership styles has shown that these relations are highly dependent on the context (e.g. Eagly, Makhijani, & Klonsky, 1992; Eagly, Karau, & Makhijani, 1995; Gardiner & Tiggemann, 1999). In the present study, the context is defined by the percentage of men in the branch in which a leader works.

To summarize, the research questions are:

- (1) Is the relation between sex and performance of leaders mediated by the degree in which someone fulfills certain career roles?*
- (2) Is the sex–career roles–performance relation for leaders moderated by the percentage of men in the branch in which a leader works?*

These relationships are investigated in a self-report questionnaire study with 403 leaders from a sample of members of the alumni association of Wageningen University and the Dutch professional associations of psychologists and biologists.

2 Theoretical elaboration

2.1 Career roles

Hoekstra's (2006) career role model has been based on the assumption that many jobs can be done in several ways (e.g. Murphy & Jackson, 1999; Van Vianen, 2006). Hoekstra has categorized these 'ways of doing one's job' in six so-called career roles that he believes can be fulfilled simultaneously: director, guide, maker, inspirator, expert, and presenter. Although the career role model is not exclusively designed for leaders, their jobs are a very good example of jobs that can be done in several ways. A leader in the maker role for example, is always active in realizing a project and gives the impression that he/she would preferably do everything by him-/herself. On the other hand, many leaders are able to delegate tasks and to gain authority by their way of directing people and processes in line with policies and strategies. They fulfill the role of director. Some leaders motivate and inspire people by spreading and strengthening certain values (inspirators), whereas others sell their ideas by presenting them attractively (presenters). Moreover, leaders that fulfill the role of guide gain trust by putting themselves in someone else's shoes and use that competence to help others and to reduce conflicts. Finally, fulfillers of the expert role base their activities on knowledge and professional analyses.

A difference between the classic leadership styles and the career roles of Hoekstra (2006) is the fact that Hoekstra did not specifically focus on how to categorize leaders' behavior, but he focused on behavior of workers in general. An advantage of the career role model is the fact that a variety of jobs with different task descriptions can be compared to each other. Next to that, the model somewhat fits into congruence theories such as Holland's (1985) model of vocational interests, with the difference that roles are not the same as (work) personalities, as they can be acquired or disposed independent of someone's personality (Hoekstra, 2006). Therefore, the career role model acknowledges the flexibility of people, whereas the traditional congruence theories do not take the changeability of persons and work environments into account (Savickas, 2005). This fits better in the current unpredictable society in which flexibility of both individuals and organizations is seen as one of the most important success factors (e.g. Erdogan & Bauer, 2005; Fugate, Kinicki, & Ashforth, 2004; Griffin & Hesketh, 2003; Heslin, 2005a, b; Judge, Thoresen, Bono, & Patton, 2001; Robson, Hansson, Abalos, & Booth, 2006; Van Dam, Van der Heijden, & Schyns, 2006).

In the past, leadership styles have been categorized in several ways. Classic research mainly focused on autocratic versus democratic leadership styles (Lewin & Lippitt, 1938; also known as participative versus directive leadership styles) and task-oriented versus interpersonally oriented leadership styles (first represented by Fleishman, 1953 and further developed in the Ohio state studies on leadership as cited by Eagly & Johnson, 1990). Democratic leaders allow subordinates to participate in decision making, whereas autocratic leaders discourage them from that. The latter shows some similarities with the role of director, because a director uses his own influence to direct people (Groen, 2007; Hoekstra, 2006). Democratic leadership is more similar to the guide role, as a guide leads by listening well to his subordinates and by putting himself in someone else's shoes (Groen, 2007; Hoekstra, 2006). Leaders that use a task-oriented style are mainly concerned with achieving the task. This behavior is typical for someone in the role of maker. Leaders that are interpersonally oriented are basically concerned with their followers' wellbeing and satisfaction, which is also the case for leaders in the role of guide, since in essence a guide wants to help others.

Burns (1978) introduced the concept of 'transformational leadership', because he believed that existing analyses of leadership styles left out some of the most important aspects of effective leadership (Eagly & Johannesen-Schmidt, 2001). This concept is still used in many studies and consists of three scales: transformational, transactional, and laissez-faire leadership (Antonakis, Avolio, & Sivasubramaniam, 2003).

Transformational leadership is further divided in five subscales: idealized influence (attributes), idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration. Leaders that demonstrate idealized influence attributes, show "attributes that motivate respect and pride by association with him or her" (Eagly & Johannesen-Schmidt, 2001, p. 792). Idealized influence behavior is defined as 'communicating values, purpose, and importance of mission' (Eagly & Johannesen-Schmidt, 2001). Both idealized influence components can be associated with the role of inspirator. Especially the definition of idealized influence behavior is almost exactly the same as the definition of the inspirator role (see Hoekstra, 2006).

The inspirator role also shows some similarities with the leadership style 'inspirational motivation', which is defined as 'exhibition of optimism and excitement about goals and future states' (Eagly & Johannesen-Schmidt, 2001). An inspirator indeed uses emotion in his communication, but those emotions do not always have to be positive (Hoekstra, 2006, personal communication). However, someone in the role of presenter

always tries to present things attractively (Groen, 2007), so positive emotions like optimism and excitement are more typical for a presenter.

A leader that uses intellectual stimulation “examines new perspectives on problem solving and task completion” (Eagly & Johannesen-Schmidt, 2001, p. 792). The word ‘examines’ means that someone analyzes a problem in a professional way (compare to the definition of an expert by Groen, 2007) and it may even imply that such a leader uses professional knowledge to do that (compare to the definition of an expert by Hoekstra, 2006). Thus, ‘intellectual stimulation’ is highly similar to the expert role.

The last transformational leadership style is ‘individualized consideration’. This style shows some great similarities with the guide role, since it “focuses on development and mentoring of followers and attends to individual needs” (Eagly & Johannesen-Schmidt, 2001, pp. 792), just as a guide does (Groen, 2007, Hoekstra, 2006).

Transactional leadership consists of three subscales: contingent reward, active management-by-exception, and passive management-by-exception. Leader’s that use ‘contingent rewards’ exchange rewards for satisfactory performance by followers. Active management-by-exception means that followers are helped by their leader when they make mistakes in order to meet standards, whereas passive management-by-exception means that followers are only helped if the problems become severe. Contingent reward and passive management-by-exception are part of the director role, and active management-by-exception suits more with the maker role.

The similarities between the career roles and the traditional leadership styles are summarized in Table 1. Note however that the given comparisons are only meant to give an idea about the contents of the career roles and their similarities with the traditional leadership styles, but they do not give an exact definition. In some cases the definitions of the career roles are broader than the definitions of the traditional leadership styles they are related to, and the other way around.

Table 1*Proposed similarities between Hoekstra's career roles and traditional leadership styles*

	Democratic / autocratic	Task / interpersonally oriented	Transactional leadership	Transformational leadership
Director	Autocratic	-	Passive management-by-exception Contingent rewards	-
Guide	Democratic	Interpersonally oriented	-	Individualized consideration
Maker	-	Task oriented	Active management-by-exception	-
Inspirator	-	-	-	Idealized influence
Expert	-	-	-	Intellectual stimulation
Presenter	-	-	-	Inspirational motivation

2.2 Performance

In this study, performance of leaders is investigated based on the classification of Pulakos, Arad, Donovan, and Plamondon (2000), who divide performance into task performance, contextual or citizenship performance, and adaptive performance. Not many other classifications include a scale comparable to 'adaptive performance', but adaptive performance may especially be important for leaders since leaders are expected to perform in many ways and to easily adapt to various situations (Karaevli & Hall, 2006).

Task performance is defined as 'supporting the core of the organization either by executing its processes or by maintaining and servicing its requirements' (Motowidlo & Van Scotter, 1994). Contrary to task performance, contextual performance behavior supports the broader environment in which the technical core must function (Motowidlo & Van Scotter, 1994). Van Scotter and Motowidlo (1996) divided contextual performance into two narrower constructs: interpersonal facilitation and job dedication. Their study showed that interpersonal facilitation can indeed be distinguished from task performance, but job dedication cannot. Therefore, in this paper, contextual performance is being measured by the scale for interpersonal facilitation.

In the beginning only task and contextual performance were seen as performance dimensions, but recently adaptive performance has been added, because of the increasingly dynamic nature of work environments (Johnson, 2001; Pulakos et al., 2000). Adaptive performance is about the extent in which someone is able to change his behavior when needed (Johnson, 2001).

2.3 The relation between sex and career roles

Women are often assumed to be leaders that are less hierarchical, more cooperative, and more oriented to enhancing others' self-worth than men (e.g. Book, 2000; Helgesen, 1990; Loden, 1985; Rosener, 1995; as cited by Eagly, et al., 2003). Even though many academic writers did not find many compelling evidence to support these statements (e.g. Bass, Avolio, & Atwater, 1996; Carless, 1998, Dobbins & Platz, 1986; Eagly & Johnson, 1990; Klenke, 1993; Komives, 1991a,b; Maher, 1997; Van Engen, Van der Leeden, & Willemsen, 2001), others *do* find significant relations between sex and leadership styles (e.g. Eagly & Johnson, 1990, Eagly et al., 2003). According to the meta-analysis of Eagly and Johnson (1990), women are more democratic leaders than men. Next to that, the later meta-analysis of Eagly et al. (2003) found that women score higher on the idealized influence, intellectual stimulation, and inspirational motivation subscale of transactional leadership, and lower on active management by exception than men. When these findings are translated to the career roles, women are expected to score higher on the roles of guide, inspirator, expert, and presenter, whereas men are expected to outrank women on the maker role. On the other hand, the only study on the relation between sex and Hoekstra's career roles found that women on average fulfill the roles of 'guide' and 'maker' more than men, whereas men fulfill the roles of 'director', 'inspirator' and 'expert' more than women (Giesen, 2008). As these findings are very much conflicting with the findings regarding the classic leadership styles, it is hard to formulate well-founded hypotheses. Only the relation between sex and the guide role is found in all those studies, and in addition, studies on related topics show differences in variables that are similar to that role too (again women outranked men on those variables in all studies; e.g. Anderson, Lievens, Van Dam, & Born, 2006; Anderson & Sleaf, 2004; Doorewaard, Hendrickx, & Verschuren, 2004; Lippa, 1998; Konrad, Ritchie, Lieb, & Corrigan, 2000). Therefore the first hypothesis is.

H1 Women score higher on the role of guide than men do

2.4 The relation between career roles and performance

The relation between leadership styles and performance has been studied thoroughly. Meta-analyses show that some leadership styles are more effective than others (Judge & Piccolo, 2004; Lowe et al., 1996). According to Judge and Piccolo, transformational leadership and contingent reward are related to leader performance. However, because they do not consider the subscales of transformational leadership separately, their meta-analysis cannot be related to the career roles. Lowe et al. do make

this subdivision at some point. They examined ‘charisma’, ‘individualized consideration’, and ‘intellectual stimulation’ as transformational leadership styles and ‘contingent reward’, and ‘management-by-exception’ as transactional leadership styles. They found the highest correlations for the relations between the transformational scales and effectiveness. Charisma is comparable to the inspirator role, intellectual stimulation to the expert role, and individualized consideration to the guide role. Thus, when the results of Lowe et al. are translated to the current research, the roles of inspirator, expert and guide are likely to be related to leader performance.

2.5 Career roles as a mediator between sex and performance

The literature reviewed in the previous sections shows relations between sex and career roles and between career roles and performance. Combining this with the often assumed mediating role of leadership styles – or in this case career roles – in the relation between sex and leadership performance (e.g. Eagly, 2007), leads to the following hypothesis.

H2 At least one of the career roles mediates the relationship between sex and leadership performance

2.6 Context as a moderator between sex and performance

The relationships that were reviewed in the previous section are probably highly dependent on the context in which they are studied. For example, sex differences in leadership styles are found to be related to the proportion of men in management layers. In management layers that are dominated by men, men and women differ significantly less from each other than in management layers that are dominated by women (Eagly & Johnson, 1990). Other studies show similar results for the proportion of men among subordinates. Both men and women show more stereotypically masculine influence styles when dealing with a majority of men (Carli, 1989; Gardiner & Tiggemann, 1999; Van Engen, Van Knippenburg, & Willemsen, 1996). In addition, women are more people-oriented in contexts that are dominated by women than men (Gardiner & Tiggemann, 1999). To summarize, women generally use stereotypically masculine leadership styles in contexts that are dominated by men. However, according to the token-theory of Kanter (1977), women are expected to behave in stereotypically feminine ways in these contexts. If women do not meet these expectations, their performance as a leader may be lower than that of men. The same theory applied to men shows that men should stereotypically use

masculine leadership styles in contexts that are dominated by women. According to Gardiner and Tiggemann (1999) they do, so they will probably be just as effective as women in those contexts (see also Eagly et al., 1995).

Eagly et al's (1992) meta-analysis indeed showed that women are averagely rated lower when they use stereotypically masculine leadership styles than men. Next to that Eagly et al. (1995) found in their meta-analysis that men were more effective as a leader than women in contexts that are dominated by men.

H3 The relation between sex and leadership performance is stronger in favor of men in contexts that are dominated by men

3 Method

3.1 Respondents

The respondents of this research are from a sample of members of the alumni association of Wageningen University and the professional associations of psychologists and biologists, stratified by sex. As a consequence, 99% of respondents have a master's and the rest has a bachelor's degree. Reasons for choosing this population are (a) the possibility to get a big response group with people that can be found in many different occupations and roles is high, and (b) these respondents are less likely to answer socially desirable than employees that are approached via their employer (Mabe & West, 1982). More information about the sampling procedure can be found in Groen (2007).

The specific questions of the Internet questionnaire on which the current analyses are based are completed by 1025 respondents, which corresponds to a response percentage of 11%. The response is representative for the sample (see Groen, 2007 for more detailed information). Respondents who work less than twelve hours a week are deleted from the data-file, because according to Statistics Netherlands they are not part of the active labor force and because working twelve hours a week is too short to get a good idea about the career roles one fulfills. 992 Respondents work more than twelve hours a week. For the current paper, only the 403 respondents that confirmed to be a leader are evaluated. Full-timers (36 hours or more per week) account for 71% percent of them. The mean age was 49 with a standard deviation of 9 years. Their mean age was 49 with a standard deviation of 9 years.

3.2 Instrument

In order to get an as high as possible response, an online self-report questionnaire was used. In order to reduce (partial) non-response, the questionnaire was developed following the principles of Dillman, Tortora and Bowker (1999). More details on the composition of the questionnaire can be found in Groen (2007).

In the introduction of the questionnaires, emphasis was put on the scientific goals of this research, and on the fact that data are treated confidentially in accordance with the professional code of the Dutch Institute of Psychologists, with the aim of reducing social desirability (see Mabe & West, 1982). The questionnaire consisted of many questions of which only a few of them are used for the current study. Variables that are used for this study are: sex, branch, currently fulfilled career roles, and performance. The way these variables are measured will be discussed in this section.

3.2.1 Sex

Sex of the respondents of the alumni association of Wageningen University and the professional association of psychologists was already registered in the associations' databases, so respondents were not asked to give their sex in the questionnaire. The database of the professional association of biologists did not contain data of sex of their members, so these respondents got a separate questionnaire that did ask for sex. Respondents had to choose between 'man' and 'woman'. The question was placed at the end of the questionnaire, so respondents that wanted to remain completely anonymous could end the questionnaire at that point. Sex is unknown of four respondents. Women account for 42% of the remaining respondents.

3.2.2 Branch

The branch variable is used for defining the context in which a leader works. The branch question of the questionnaire stated: "Among which branch do you count the organization you work for?" Respondents could choose 1 out of 13 branches or 'other, namely...'. The branch variable that is used in the analyses is the percentage of men that work in that branch according to Statistics Netherlands (CBS, 2008). In this sample, the average percentage of men in a branch is 53% (SD=22). The list of branches was based on the standard branch classification of Statistics Netherlands (Kamer van Koophandel, 2006). The list has been modified in consultation with experts from the alumni association of Wageningen University and the professional association of psychologists and biologists, because they know what branches are relevant for the sample.

3.2.3 Career roles

The roles someone currently fulfills are measured by six (career roles) times five items. Respondents had to indicate how often an item applied to them in the past year on a seven-point Likert scale. The scales have been constructed by optimizing the scales used at earlier studies into career roles (Mulders, 2007; Rutte, 2006; Stoel, 2006) on the basis of the findings of these researchers. When necessary, new or adjusted items have been written. This led to a first questionnaire with 30 items which was filled in by 101 higher educated persons who work in the area of career management. Analysis of the data led to an adjusted list of 30 items that was again tested among 37 higher educated people. After a reliability and principal component analysis the maker and inspirator scale were once again reconsidered. Example items of the career role scales are: 'directing a change process' (director), 'paying attention to someone's story' (guide), 'entirely giving myself in the

implementation of a plan' (maker), 'letting enthusiasm be heard in all my activities' (inspirator), 'applying specialist knowledge at new questions' (expert), and 'having an attractive way of promoting a product' (presenter).

Cronbach's alphas of the final questionnaire are between .81 and .88. Scores on the career role scales are the average of the item scores. Table 4 on page 15 shows Cronbach's alphas, average scores and standard deviations on the career role scales and the correlations between the scales. Table 2 contains the items on the scales that have been used for this research, together with the varimax rotated component matrix that is associated with the principal component analyses that distinguishes six components based on Kaiser's criterion. All items load highest on its own scale. However, some items do also load high on another scale. This can be explained by the fact that some actions can be part of more roles, because roles can be fulfilled simultaneously.

3.2.4 Performance

Performance has been measured by scales, as they are more reliable than overall performance measures (Jaramillo, Carrillat & Locander, 2005; Rich, Bommer, MacKenzie, Podsakoff, & Johnson, 1999). In order to further reduce social desirability, respondents were stimulated to take an objective perspective (Hofstee, 1994). Each respondent was instructed to imagine someone he/she worked with all the time last year. Then he/she was asked in what extent that person would find the following sentences characteristic of him/her. The sentences were written in third person singular and respondents could answer on a seven-point Likert scale. Scale scores are the average scores on the items.

To measure *task performance* four new items were formulated, because the existing scales did not meet the demands of a research with such a broad population. Existing scales were either domain-specific (e.g. Motowidlo & Van Scotter, 1994) or specifically designed for functions with clear task descriptions (e.g. Janssen & Van Yperen, 2004). An example task performance item is: 'has a regularly outstanding high quality of work'. *Contextual performance* is measured by six of the seven items of Van Scotter and Motowidlo's (1996) interpersonal facilitation scale, for example: 'helps someone without being asked'. The *adaptive performance* scale is based on seven dimensions of adaptive performance (Pulakos et al., 2000, 2002; see also Griffin & Hesketh, 2003). An example item is: 'easily adjusts to unpredictable situations'. Cronbach's alphas, means, and standard deviations are shown in Table 4, together with the correlations between the scales. Cronbach's alphas cannot be further increased by excluding one or more items from the scale.

Table 2

Varimax rotated component matrix of currently fulfilled career roles

		Director	Guide	Maker	Inspirator	Expert	Presenter
Director	Directing a change process.	.67					
	Cutting the knot concerning privileged policies.	.75					
	Formulating a decision after a discussion.	.72					
	Exercising influence on the strategy of the organization.	.76					
	Taking control in confusing situations.	.71					
Guide	Paying attention to someone's story.		.80				
	Gaining someone's trust in a difficult relation.		.78				
	Helping people realize their goals.		.68				
	Solving problems between people.		.78				
	Managing something by putting myself in someone else's shoes.		.74				
Maker	Entirely giving myself in the implementation of a plan.			.76			
	Putting my back into the concrete realisation of a project.			.71			
	Continuing to work well on the completion of a task.			.77			
	Organizing many things by myself in order to get good results.			.77			
	Putting my shoulder to the wheel when the real work has to be done.			.75			
Inspirator	Letting enthusiasm be heard in all my activities.		.41		.66		
	Stimulating others with creative ideas.				.72		
	Formulating essential values in our work in a new vision.	.36			.68		
	Letting my feelings speak during cooperation with others.		.44		.48		
	Inspiring my surroundings by a story from the heart.				.70		
Expert	Applying specialist knowledge at new questions.					.79	
	Putting a subject in a professional perspective.					.81	
	Analyzing a problem that is perceived as complex by others.					.65	
	Writing papers that depends on knowledge with respect to content.					.76	
	Explaining the exact functioning of a complicated system.					.79	
Presenter	Having an attractive way of promoting a product.						.70
	Presenting an idea in a way that everyone accepts it.						.78
	Taking care of the acceptation of a plan by presenting it attractively.						.79
	Selling solutions in a way that a diverse public identifies with.						.77
	Designing images and ideas in an appealing way.				.36		.68

values <.30 are not shown; the highest loading of an item is marked

When asked for a three components solution, a principal component analysis distinguishes three components that satisfactory meet the proposed scales (see Table 3). A few items load on other scales as well. The item 'treats others fairly' even loads higher on the task performance scale than on its own contextual performance scale. Because (a) this wasn't the case in a sample of both leaders and followers (Groen, 2007), (b) the loadings on both scales do not differ very much, and (c) the item-total correlation of this item with the contextual performance scale is higher than with the task performance scale, the item will stay in the contextual performance scale. A reason for the high side loading can be that

treating others fairly can be seen a part of the job description of leaders, and is therefore part of the task performance in a sample of leaders. The other items with high side loadings are well explainable as well. An example can be found in the contextual performance item ‘encourages others to overcome their differences and get along’. Since such a situation also requires adaptability, this item loads on the adaptive performance scale too.

Table 3

Varimax rotated component matrix of performance

	Task	Contextual	Adaptive
Task	gives all its activities the attention they need	.75	
	has a regularly outstanding high quality of work	.68	
	sets clear priorities when it comes to the crunch	.57	.35
	keeps appointments on time	.75	
Contextual	praises coworkers when they are succesful		.78
	supports a coworker with a personal problem		.81
	says things to make people feel good about themselves		.80
	encourages others to overcome their differences and get along		.54
	treats others fairly	.45	.42
	helps someone without being asked		.57
Adaptive	solves unknown or new problems well	.31	.58
	easily adjusts to unpredictable situations		.74
	informs itself as one of the first about changes		.54
	adjusts interpersonal style from person to person		.53
	stays calm under pressure		.73
	keeps track in crisis situations		.79
	easily accepts new habits		.52

values <.30 are not shown; the highest loading of an item is marked

3.3 Data analysis

Hypothesis 1 is confirmed if a significant negative correlation is found between sex and the guide role. Hypothesis 2 is tested by several regression analyses following the logic of Baron and Kenny (1986) that can be used to test for mediation. According to them, three conditions must hold to establish mediation: (1) the independent variable must be related to the mediator and (2) the dependent variable, and (3) the mediating variable must affect the dependent variable. The hypothesis is confirmed when all of these conditions hold, and the effect of the independent variable on the dependent variable disappears when the mediating variable is included in the analyses.

The third hypothesis is tested by regression analyses with standardized values of ‘sex’, ‘branch’, and the interaction of them as independent variables, and the performance dimensions as dependent variables (Aiken & West, 1991). The hypothesis is confirmed if a significant positive interaction effect is found.

Table 4

Scale characteristics and correlations between variables

		α	mean	SD	N	1	2	3	4	5	6	7	8	9	10	11	12
1	Sex		.58	.49	399												
2	Age		48.8	9.03	398	.16**											
3	Branch		53.3	21.8	400	.14**	-.10*										
4	Director	.82	5.09	1.19	403	.02	.12*	.01									
5	Guide	.85	5.36	.98	403	-.07	.12*	-.17**	.34**								
6	Maker	.86	5.73	.94	403	-.09	-.07	-.05	.19**	.21**							
7	Inspirator	.81	5.35	1.00	403	-.01	.18**	-.11*	.46**	.47**	.38**						
8	Expert	.84	5.07	1.18	403	-.01	.02	-.03	.14**	.15**	.44**	.23**					
9	Presenter	.88	4.83	1.21	403	.04	.11*	-.03	.52**	.37**	.37**	.57**	.27**				
10	Task	.69	5.56	.75	403	-.12*	.10*	-.06	.21**	.25**	.38**	.30**	.31**	.22**			
11	Contextual	.79	5.61	.71	403	-.11*	.08	-.08	.29**	.59**	.29**	.44**	.20**	.29**	.31**		
12	Adaptive	.78	5.45	.72	403	-.04	.05	-.03	.55**	.46**	.30**	.45**	.14**	.44**	.35**	.43**	

*.01<p<.05; **p<.01; Sex: 1=woman, 2=man; Branch: percentage of men in a branch

4 Results

Table 4 shows no significant correlations between sex and any of the career roles, so the first hypothesis that stated that women score higher on the guide role than men is not confirmed. Neither is the second hypothesis, because it means that the first condition of Baron and Kenny's logic to determine mediation of career roles in the relation between sex and performance of leaders is not met.

Table 5 shows significant relations between sex and both task ($\beta=-.12$, $p<.05$) and contextual performance ($\beta=-.11$, $p<.05$). Negative values mean that women score generally higher on that performance measure than men, so on average women report a higher task and contextual performance than men. The effect of sex on these performance dimensions disappears when career roles are added to the model. In that case, positive relations are found between the role of maker ($\beta=.24$; $p<.01$), expert ($\beta=.17$; $p<.01$), and guide ($\beta=.11$; $p<.05$) on the one hand, and task performance on the other hand ($R^2=.22$). Next to that, the role of guide ($\beta=.49$; $p<.01$), inspirator ($\beta=.17$; $p<.01$) and maker ($\beta=.11$; $p<.05$) are positively related to contextual performance ($R^2=.40$). Lastly, the roles of director ($\beta=.37$; $p<.01$), guide ($\beta=.24$; $p<.01$) en maker ($\beta=.14$; $p<.01$) show positive relations with adaptive performance ($R^2=.42$).

Table 5

Regression analyses testing unique effects of sex and current fulfillment of career roles

	Task performance		Contextual performance		Adaptive performance	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Sex	-.12*	-.08	-.11*	-.07	-.04	-.02
Director		.08		.04		.37**
Guide		.11*		.49**		.24**
Maker		.24**		.11*		.14**
Inspirator		.10		.17**		.08
Expert		.17**		.05		-.05
Presenter		-.05		-.07		.08
R ²	.01	.22	.01	.40	.00	.42
Change in R ²	.01*	.21**	.01*	.39**	.00	.42**

*.01< p <.05; ** p <.01; values are standardized (β); N=398

Table 6 shows that the interaction term of sex and branch only contributes significantly to the prediction of adaptive performance ($\beta=.10$; $p<.05$), so only for adaptive performance the percentage of men in a branch moderates the relationship between sex and performance, but the effect size is small ($R^2=.01$). This means that Hypothesis 3 is not confirmed for task and contextual performance.

Table 6

Regression analyses testing the moderator effect of the percentage of women in a branch in the relation between sex and performance of leaders

	Task performance		Contextual performance		Adaptive performance	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Sex	-.11*	-.11*	-.10*	-.10*	-.05	-.04
Branch	-.04	-.04	-.07	-.07	-.02	-.01
Sex*Branch		.02		-.01		.10*
R ²	.02	.02	.02	.02	.01	.01

*.01<p<.05; **p<.01; values are standardized (β); N=396

A graph of the significant interaction effect with regard to adaptive performance model 2 can be found in Figure 1. The figure shows that in accordance with the expectations, the difference between men and women on adaptive performance is higher and in favor of men in branches that are dominated by men.

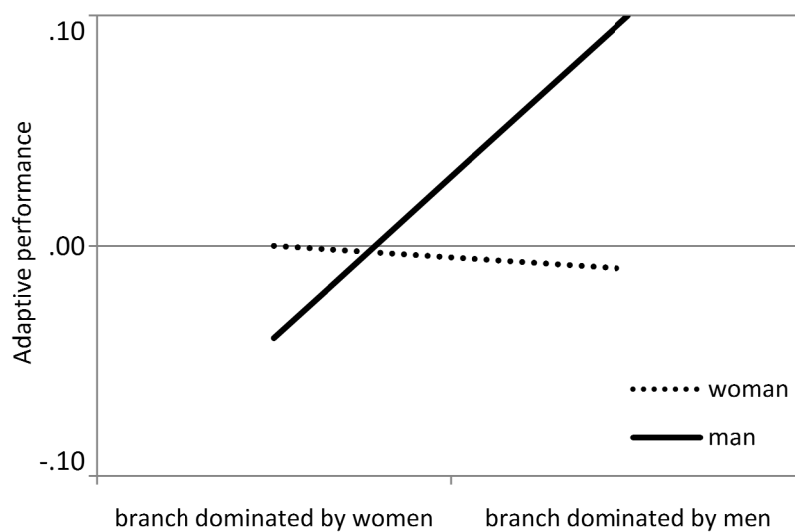


Figure 1 Adaptive performance of leaders as a function of the percentage of men in a branch and sex of the leader

5 Discussion

In this paper, relations between sex, career roles and performance of leaders were investigated, in order to find out more about the applicability of the career role model in management selection and development. Next to that, the influence of context on these relations was examined. The data were obtained on a self-report base from 403 highly educated leaders that are employed in different branches and job categories.

The results of this study once again point out that men and women should not be selected for managerial positions based on their sex, but on their personal qualities. In this study, women rated their task and contextual performance a bit higher than men, but when the career roles were added to the regression analysis, the relations between sex and performance were not significant anymore. On the contrary, men rated their adaptive performance higher than women if they work in branches that are dominated by men.

Hoekstra (2006) expected that career roles would have incremental validity in selection situations on top of predispositional factors such as cognitive ability and personality. Although this study has not been designed to determine *incremental* validity, the results of this research give some clues about the applicability of the model in management selection. This study shows that all career roles – with the exception of the presenter role – add significantly to the prediction of performance. The role of director contributes to prediction of adaptive performance, the role of inspirator to contextual performance, and the role of expert to task performance. Next to that, the guide and maker role are significant predictors for each performance dimension. Compared to other commonly used selection instruments such as cognitive ability tests, work sample tests and structured employment interviews, the effect size for the prediction of task performance by the career roles is somewhat lower (see Judge, Bono, Ilies, & Gerhardt, 2002; Schmidt & Hunter, 1998)¹. Nonetheless, prediction of the other performance dimensions by the career roles showed very large effect sizes. This means that – as Hoekstra already expected – the added value of the career role model lies in the prediction of contextual and adaptive performance. As most of the common selection instruments focus on the prediction of task performance, whereas the other performance dimensions are also very important factors of

¹ Note that these meta-analyses consider both leaders and followers. The meta-analysis of Judge, Colbert, and Ilies (2004) that considers the relation between cognitive ability tests and performance of only leaders finds lower effect sizes.

performance of leaders, using the career role model next to other instruments will probably lead to better selection decisions.

Next to the validity of the instrument, this study also gives clues for its fairness. Besides the obvious ethical and legal grounds, selection instruments should be perceived as fair by both employees and applicants, because fairness perceptions are related to organizationally important employee behaviors such as task and contextual performance (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). The results of this study show that the career role model is not biased towards one sex, because men and women do not score significantly different on the career roles, so the actual fairness of the instrument is high. The same counts for cognitive ability tests (Hunter & Schmidt, 2000), whereas using personality inventories (Feingold, 1994), interviews (Juadvalkis, 2003) and assessment centers (Anderson, et al., 2006) does on average lead to systematic differences in the selection ratio's of men and women. Next to actual fairness, perceived fairness is determined by the face validity of the instruments that are used (e.g. Gilliland, 1994; Hausknecht, Day, & Thomas, 2004; Rynes & Connerley, 1993; Smither, Reilly, Milsap, Pearlman, & Stoffey, 1993); the perceived predictive validity (Hausknecht, et al., 2004); and the perceived job-relatedness (Steiner & Gilliland, 2001). Expectations are that career role inventories will be valued higher than cognitive ability tests and personality inventories, because they are more related to the job, and have a higher face validity.

The previous paragraphs discussed the validity and the fairness of using the career role model in management selection. Another important factor for organizations in choosing a selection instrument regards its costs, which consist of development or purchasing costs, and utilization costs. The total costs usually differ from situation to situation, so companies have to see for their selves which instruments are best in their case. If a test is specifically made for a particular (part of an) organization, it is usually more expensive than if it is used in several departments or organizations. In general, utilization costs are highest for instruments that need attendance of one or more employees, such as interviews and assessment centers. The costs of purchasing and using a 'career role inventory' are similar to other paper-and-pencil or computerized tests such as cognitive ability tests or personality inventories. They have high development costs, but low utilization costs.

The high predictive validity and perceived fairness, and the low expected costs of a career role inventory make it attractive for organizations to use it in management selection. Moreover, the relation found between the career roles and performance of leaders makes it

plausible to think that it is possible to influence the performance of leaders by *developing* someone's career roles. That is, if it is actually possible to develop them. According to Hoekstra (2006) the career roles are comparable to competencies, because they describe behaviors that can be acquired or disposed independent of someone's personality (Boyatzis, 2008, Hoekstra, 2006). The advantage of using the career role model in management development instead of competencies is that it is probably cheaper in development and use, because the career role model is less fine-grained than existing competence-model, and it can therefore be used in the same way for different organizations, whereas needed competencies usually differ from organization to organization (Rees & Garnsey, 2003). However, this advantage is only relevant if Hoekstra is right about the possibility to acquire or dispose career roles independent of someone's personality. Therefore, researchers and practitioners are advised to investigate this further, before applying the career role model in management development situations.

Next to that, the way *how* career roles can be developed should be investigated. Hoekstra (2006) assumes that the roles someone fulfills depend on his/her own preferences and qualities on the one hand, and expectations of his/her surroundings on the other. In that case, changing ones expectations and/or training someone's qualities may influence the career roles someone fulfills. Which one of them will have the most effect, probably differs between the different roles, since literature about competencies shows that some competencies can be trained more than others (Boyatzis & Saatchioglou, 2008).

When it is indeed possible to develop career roles just as competencies, and when we know how to do that, only one question remains: Do the recently developed career roles also relate to performance, or is a certain kind of experience needed? Groen (2007) has investigated the relation between experience in career roles and job performance, and found no added value of experience in the roles compared to the roles someone currently fulfills. However, more research on this topic is needed, for example specifically focused on leaders.

A limitation of this study is the fact that both the dependent and the independent variables are measured at the same source by using self-reports. Therefore, chances are high that response tendencies will lead to significant relations (Podsakoff & Organ, 1986). Therefore, many studies on performance of leaders make use of 360-degree appraisals. On the other hand, many scholars argue that self-reports are just as or even more valid as 360-degree appraisals, among others because no-one knows a person better than the person itself (see Van der Heijden & Nijhof, 2004 for a review). Next to that, self ratings are much

easier to obtain than 360-degree appraisals, so using self-report questionnaires will probably render a higher response. These were reasons to use self-reports in this research. Another important reason for using self-reports in this particular case, is the fact that men and women are often evaluated differently by others, mainly based on sex-stereotypes. Two meta-analyses showed that men are rated higher by male evaluators than women, whereas female evaluators did not favor one sex over the other in their evaluations of leadership effectiveness (Eagly et al., 1992, 1995). This pleads against using male raters, so if 360-appraisals are used, half of the population will be lost.

In order to check for the presence of a same-source effect, a shorter version of the questionnaire was also completed by a maximum of 10 acquaintances of 89 respondents of the questionnaire. The number of leaders in this sample is too small to do a proper analysis, but Groen (2007) has analyzed whether the relations between the self-report role scores and scores on performance reported by acquaintances are similar to the found relations between the self-report role and performance scores for the whole sample of both leaders and non-leaders. Except for the relation between the maker role and task performance, she found the same relations by using the scores of acquaintance as by using the self-report scores. This makes it plausible to draw conclusions based on the self-report scores. Nevertheless, future researchers are advised to measure the constructs at different sources.

A second limitation of this study concerns the research context. The current study was done in a situation in which less social desirability is expected than in selection or even in development situations (see Mabe & West, 1982). The advantage is that the relations found in this exploratory study are probably more objective than in relations found in a study among applicants. On the other hand, this makes the current research not directly applicable in selection or development situations, because answers on the career roles may be different in that case, which may have consequences for the discriminability of the answers. Therefore, validation research should be done within organizations in management selection and development situations. In view of the promising results of this study it should not be hard to find an organization that is willing to cooperate on such a research.

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