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**LEADERSHIP STYLES AND ACCESS OF WOMEN TO TOP  
LEVEL BUSINESS POSITIONS**

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## **ANNOTATION**

The purpose of this research is to investigate the impact of leadership skills and styles on the access to top level business positions by women and derive corresponding suggestions. In this context the development of the conception of the changing role of females was reviewed and the Western approach versus the Eastern approach in the post-war area until today was compared. Special focus was given to the changing context of female leadership and the types of leadership styles. In this regard specific leadership style characteristics of men and women have been discussed and compared. Furthermore the question was evaluated if leadership skills in a broader sense like interpersonal skills or conceptual skills are accelerators for female career progression. In the theoretical part of the dissertation it was found out that the female role within society and family constitution has developed over years. Women constitute an important labour force potential which has not been fully capitalized up to now. Women invest in knowledge and skills, are strong in performing a transformational leadership style which is important to avoid critical situations. However women are still underrepresented in top level business positions. Prejudice, stereotyping and other factors like social norms or a masculine business environment are seen as hindering factors for female career progression. The context is set into reality by demonstrating and reflecting gender differences in Western and Eastern European countries. Gender differences are presented based on the educational level, computer, math skills, performance and earnings. Female labour force participation is discussed and the main focus is given to the number of women in management positions and management boards. Secondary data is used for the comparison of the situation in Western and Eastern European countries. It was found out that nowadays women have a higher educational level in nearly all Western and Eastern European countries. However women have still a lower income than men and occupy less management positions compared to men. Leadership advantages of women are often offset by hindering factors which create a negative impact on female career development. The leadership skills impact model has been newly created. Specifically, a novel conception has been developed to demonstrate how men and women can influence their access and occupation of top level business positions based on the development of certain knowledge and skills. For the first time the impact of the leadership skills and styles on the occupation of top level business positions by women has been shown in the particular context of German speaking

countries. In addition accelerating factors for leadership skill development as well as transactional, transformational and laissez-faire leadership styles have been related to the occupation of top level business positions. The model was statistically tested based on an empirical research including 342 leaders and top managers in German speaking countries. It was found out that a transformational leadership style as well as a high educational level, interpersonal skills, conceptual skills and practical training play an important role for men to reach a top business positions. Even though women tend to possess transformational leadership skills it doesn't aid them for career progression. However knowledge and skills play a role for women to occupy a top level business position but less significant compared to men. It can be concluded that men occupy a top job if they possess a transformational leadership style whereas for women this cannot be substantiated. The deduction can be drawn that women face constraining factors like prejudice and stereotyping, a masculine corporate culture, general norms and cultural practices, a lack of role models, a lack of flexible work solutions, raising children, personal values, social norms as well as less practical training skills which hinder female career progression. The geographical restriction of findings to Western and Eastern Europe, the inhomogeneous group size of male and female research participants, the self-assessment of skills by research participants and the restricted dimensions of the leadership skills impact model can be seen as limitations of the research result.

**Keywords:** leadership skills and styles, women, stereotyping, gender equality, top level business positions, constraints, Eastern and Western Europe.

## **INTRODUCTION**

### **Actuality of Topic**

Globalization of marketplaces, information availability in terms of speed and volume and increased competitiveness has changed the way of leadership requirements. During the last years of critical economic situations the leadership discussion in respect to gender has been extended. Leaders are expected to avoid critical economic situations and perform effectively during crises to overcome them in a short time period. The demand for highly qualified leaders is increasing and companies are starting initiatives to increase their attractiveness for the competition of potential highly talented employees.

Leadership requirements have changed over the past years. Bass (Bass, 1985) introduced new leadership styles namely transactional and transformational leadership. He suggested that leaders who succeed in affecting their followers to transcend self-interests for the benefit of the group or organization to achieve extraordinary goals would be characterized as transformational. Contrastingly, managers who solely induce the most basic exchanges with their followers embody transactional leadership. Over the last 25 years transformational and transactional leadership styles have dominated the study of leadership. It can be stated that the role of the leader is changing to meet the fast growing needs of the economy. Leaders become more coaches who are setting the stage for innovation and growth opportunities by enabling a diverse workforce to create business opportunities. The changing role of the leader opens opportunities for women to step up as a leader as women tend to perform a transformational leadership style.

In addition the educational level of women has increased tremendously over the last decades. Nowadays more than 50% of graduates across the European Union are women (Eurostat, 2015b). In view of this improvement in female education, it is all the more remarkable that women's presence in top management jobs is still small. Despite good skills and education of female population, women are underrepresented in top level business positions. This circumstance allows to state that women face various barriers for accessing top management positions. To counteract this reality, compulsory female quotes have been introduced for the board of director composition in some Western European countries.

There is a business case for having more women in top level business positions. Since both women and men are part of the worldwide population and possess certain talents it would be wasteful to ignore women when so many businesses struggle to fill high powered jobs. In addition women are nowadays generally better educated than men (Eurostat, 2015b). Especially in times of skilled employee shortage in Western European countries there is a high need to capitalize female potential. However, gender inequality still exists in Western and Eastern European countries. Women are underrepresented in the labour market in general as well as in top level business positions and earn less compared to men.

In the field of research there are missing and deficient research findings of researchers in previous studies discussing the impact of leadership styles on the access to top level business positions as well as exploring female leadership as an accelerator or constraint for women's access to top level business positions.

### **Purpose and Tasks**

The purpose of this research is to investigate the impact of leadership skills and styles on the access to top level business positions by women and derive corresponding suggestions.

It is expected to find out if the leadership style has a significant impact on the occupation of top level business positions by women. In this respect gender differences of leadership styles are discussed. Furthermore the question is evaluated if leadership skills in a broader sense like interpersonal skills or conceptual skills are accelerators for female career progression. Women are still underrepresented in top business positions and it will be discussed if leadership skill development and a certain leadership style support women to reach a top business position.

The major tasks related to the underlying research project can be stated as:

- to conduct an extensive literature review on the state of knowledge related to leadership styles and leadership skill development and its implication of the changing conception of the female role development in Western and Eastern European countries.
- to analyze different leadership styles, the possession of top business positions by men and women and barriers for career progression for women.

- to elaborate the importance of leadership skills and styles for female career progression in the context of Western and Eastern European countries.
- to newly create the leadership skills impact model.
- to conduct a quantitative research among German speaking male and female executives in order to reveal the underlying dimensionality of different leadership styles to prove its influence on top level business positions.
- to critically reflect findings from the literature review and the quantitative survey results in a way, which allows to draw holistic conclusions on the topic.
- to develop suggestions to governments, educational institutions and professionals in the private sector.

In order to operationalize the research topic, the underlying hypotheses for defense will be presented in the following section.

### **Research Questions and Hypothesis**

The research questions of the dissertation have been formulated as following:

1. What are the key characteristics of leadership style differences by gender?
2. What leadership skills and styles are core influencing factors for the occupation of top level business positions by women?
3. What kind of accelerating factors for leadership skills development promote women's access to top level business positions?

To answer these questions a research model has been developed based on the multi stage leadership educational model of Elmuti, Minnis and Abebe (Elmuti et al., 2005). The research model assumes that knowledge and skills help to develop leadership skills and positively influence the occupation of top level business positions by women. In the model five knowledge and skills dimensions for leadership skills development have been distinguished according to Elmuti et al.: fundamental academic knowledge and skills like mathematical skill, computer skills or project management skills, interpersonal skills like communication or team work skills, conceptual skills like change management or strategic planning skills and practical training like mentoring and coaching. The additional

component 'leadership skills' has been included to the model. The model helps to find out if leadership skills and style help to occupy a top business position. The main hypothesis based on the research questions and the model developed has been formulated as following: 'Leadership skills have a significant impact on the occupation of top level business positions by women'.

The leadership skills impact model evaluates the impact of fundamental knowledge and skills, interpersonal, conceptual, practical, and leadership skills on the occupation of top level business positions. Fundamental knowledge and skills, interpersonal, conceptual and practical skills are seen as accelerating factors for leadership skill development. The five dimensions have been operationalized into **five theses for defense**:

1. The development of fundamental knowledge and skills by women raises the number of women in top level business positions.
2. The development of interpersonal skills by women raises the number of women in top level business positions.
3. The development of conceptual skills by women raises the number of women in top level business positions.
4. The development of practical training by women raises the number of women in top level business positions.
5. The development of leadership skills by women raises the number of women in top level business positions.

By verifying the five theses it is tried to find out if accelerating factors for leadership skill development as well as certain leadership skills increase the number of women in top level business positions. The research model is the basic framework for further evaluation of the empirical data.

### **Methods and Sources Used**

The subject of this research comprises leadership skills and styles and the object of this research embraces women in top level business positions. Theoretical studies of previous research have been conducted and scientific publications have been analysed regarding the subject and the object of the research. The theoretical research focused on the changing role of women, leadership styles and the correlation to gender and stereotyping, barriers women are facing. After the literature review, secondary

data was analysed in respect of the object of the research to determine actual gender differences in education, earnings, performance and the occupation of top level business positions in businesses in Western and Eastern European countries.

Primary research has been conducted by using a quantitative method incorporating exogenous variables regarding the subject and endogenous variables regarding the object of the study. Empirical data has been collected through a survey. Potential survey participants have been identified via the four channels European Women's Management Development network, 'zukunft.frauen' network, LinkedIn and Xing. The European Women's Management Development network is a network with 600 female members, 'zukunft.frauen' is a network with 150 female members selected by a joint committee of the Chamber of Trade, Commerce and Industry and the Ministry of Economic Affairs. One personal email was sent to the 600 female members of the European Women's Management Development network and another personal email was sent to the 150 members of the 'zukunft.frauen' network with the request to fill the survey. After 7 days one thank you email was sent to the same email distribution lists as originally sent. It included a reminder to fill the survey in case this has not been done yet. In addition potential survey participants have been randomly selected by job title independent from industry or business in LinkedIn and Xing to reach out to male and female managers and executives in German speaking countries. It has randomly been clicked through the first 100 pages and 300 persons were selected in LinkedIn and 150 persons were selected in Xing. A personal email was sent to each of the randomly selected persons with the request to support a doctoral research project and fill the research survey. After 7 to 10 days a personal thank you email was sent which included a reminder in case the person has not filled the survey yet. In total 450 persons have been personally contacted via LinkedIn and Xing, thereof 250 men and 200 women. In total 1200 persons were approached via the European Women's Management Development network, 'zukunft.frauen', Xing and LinkedIn. Data was collected during a period of 12 weeks. Finally 342 persons answered the questionnaire which resulted in a response rate of 29%. The high response rate of 29% can be ascribed to the effort of sending single emails to potential survey participants instead of sending anonymous mass emails. Analysis has been performed using SPSS software for statistical data processing. Descriptive statistics have been used in order to characterize the sample. Correlation analyses by gender are displayed with crosstabs. With the help of crosstabs it can be found out if men and women possess different leadership skills and what skill is important for women to occupy top level business positions. Outlined hypotheses are tested with

the t-test and the u-test. The outcome of the statistical tests enables to verify what skill category has an influence for the occupation of top level business positions by women. With a logistic regression model the key influencing factors for occupying top level business positions by women are found out.

Within the primary research of the dissertation, a survey among executives and managers in German speaking countries was used. A total of 342 usable cases thereof 200 women and 142 men have been processed for data analysis in SPSS involving descriptive statistic of the sample demographics as well as correlation analysis and logistic regression analysis. Specifically, primary research data was displayed with histograms and frequency tables. The Fisher test as well as the Chi-Square test helped to perform and analyse crosstabs. Statistical reliability checks were done with the calculation of Cronbach's Alpha. The Welch test known as t-test and the Mann Whitney test known as u-test were utilized to verify the five sub-hypotheses. Finally, findings from secondary research as well as from the empirical research have been triangulated in order to formulate holistic conclusions and suggestions, answering the underlying research question.

### **Size and Structure of the Promotional Work**

This dissertation is structured into three chapters. The first chapter focuses on different theories of female constraints in a professional environment. It starts with the development of the conception of the changing role of females and compares the Western approach versus the Eastern approach in the post-war area until today. Special focus was given to the changing context of female leadership and the types of leadership styles. In this context specific leadership style characteristics of men and women have been discussed and compared. Leadership advantages by women are often offset by prejudice and stereotyping of female leader's which creates a negative impact on female career development. At the end of the first chapter, accelerating factors for leadership skill development have been introduced and examined in the frame of leadership development.

The second chapter places context in reality and reflects previous experience in the field. Gender differences were presented based on the educational level, computer, math skills, performance and earnings. Female labour force participation was discussed and a main focus was given to the number of women in management positions and management boards. Secondary data was used for the comparison of the situation in Western and Eastern European countries. At the end of chapter two,

constraints for female career progressions in corporate conceptions were described and a special focus was given to transformational, transactional and laissez-faire leadership skill characteristics which could be substantiated for women and for men. The demonstration of gender differences in Western and Eastern European countries lead to the third chapter where an empirical evaluation of the situation has been conducted in German speaking countries.

The third chapter presents results from primary research done in German speaking countries. The underlying research model is presented and its independent and dependent variables are clearly identified and operationalized. Furthermore, the research strategy is presented and the research instruments for the quantitative methods are explained. Additionally, data collection and analysis as well as research participants and the sample are introduced. Results from quantitative research are presented, including the outcome from statistical analysis relating to the verification of the five hypotheses which were formulated to find out if the leadership style and skills have an influence on the number of women in top level business positions. Finally, findings are interpreted and reflected from different points of view. Key findings are summarized, which lead to the formulated conclusions and suggestions.

### **Novelty**

The following aspects constitute the novelty of the dissertation:

- A leadership skills impact model has been newly created. Specifically, a novel conception has been developed to demonstrate how men and women can influence their access and occupation of top level business positions based on the development of certain knowledge and skills.
- Leadership style differences between men and women have been demonstrated and analyzed.
- For the first time the impact of the leadership skills and styles on the occupation of top level business positions by women has been shown in the particular context of German speaking countries.
- Accelerating factors for leadership skill development as well as transactional, transformational and laissez-faire leadership styles have been related to the occupation of top level business positions.

- Various aspects of the occupation of top business positions by women have been investigated, which draw a holistic picture regarding drivers and barriers for women's access and occupation of top level business positions.

### **Limitations**

Out of numerous possible theories which could be used as a foundation for this research, only selected theories are reviewed and further discussed as the scope of the study is limited in respect to resources and time. The specification is based on the evaluation and selection of a few theories out of numerous existing theories. The same is valid for influencing factors and female constraints themselves. Only selected influencing factors and constraints for female career development are taken into consideration for research investigation and the verification of the hypotheses.

The leadership skills impact model can be seen as a limitation itself as it is a simplified model focusing only on five dimensions influencing the number of women in top level business positions. There may be other dimensions having an influence on the occupation of top level business positions by women which are not outlined in this research.

In addition, the geographical dimension of the empirical study can be seen as a limitation for the research project. The empirical study was conducted within Western European German speaking countries. Only 5% of all 342 survey participants which represent 16 cases live outside of Western and Eastern European countries, all other survey participants are living in German speaking Western European countries. The investigations and results of the empirical research project are valid for German speaking Western European countries only. Results may differ very much when investigating in Asia, Africa or North America. This fact can be seen as a limitation of the quantitative research study and the research project.

Finally, primary research has been conducted using survey. The survey has been distributed to 1200 email addresses of managers and leaders and they were invited to fill in the survey. 342 cases could be used for statistical analysis, constituting a response rate of 29%. The achieved sample size can be considered as substantial and allowed data processing. Out of the 342 cases realized, only 142 men took part of the questionnaire. It could be seen as a limitation of the quantitative research

that men are underrepresented in the empirical study and that the sample size of men varies too much from the sample size of women. Moreover the empirical study is based on the self-assessment of skills by women and by men which can also be seen as a limitation too. Women may have a different self-perception of skills than men.

### **Approbation of Research Results in Publications and Scientific Conferences**

#### Publications in Scopus and Emerald

Šavriņa, B. and Sedlmayr, L. (2016) 'Leadership Styles and their Specific Correlation to Gender – Theoretical Standpoint', *International Journal of Economic Policy in Emerging Economies*, Vol. 9, No. 4, pp. 378-403.

Sedlmayr, L. (2016) 'The Human Capital Impact Model - Result of an Empirical Research by Gender', *Journal of Education, Psychology and Social Sciences*, Vol. 5, No. 2, pp. 31-38.

#### List of Scientific Conference Proceedings

Sedlmayr, L. (2015): 'The Human Capital Impact Model – Result of an Empirical Research by Gender', in Proceedings of the International Virtual Conference on advanced Scientific Results May 24<sup>th</sup> – 29<sup>th</sup>, 2015, University of Zilina, Slovak Republic, pp. 135-140, <http://www.scieconf.com/archive/>.

Sedlmayr, L. (2014): 'Leadership Styles and the Correlation to Gender', in Proceedings of the International Virtual Conference of Psychology, Sociology and Pedagogy Apr 7<sup>th</sup> – 11<sup>th</sup>, 2014, University of Zilina, Slovak Republic, pp. 337-341, <http://www.gv-conference.com/archive>.

Sedlmayr, L. (2013): 'Leadership Styles and the Correlation to Gender', in Proceedings of the Virtual Interdisciplinary Scientific International Conference Quaere May 20<sup>th</sup> – 24<sup>th</sup>, 2013, Hub Prague, Czech Republic, pp. 31-38, <http://www.quaere.econference.cz/>.

#### List of International Conferences

The author participated in six international conferences.

1. Sedlmayr, L. (2015): 'Discussion about female leadership in the Corporate Forum Session', International Women's Networking Conference Sep 30<sup>th</sup> – Oct 2<sup>nd</sup>, 2015, Rome, Italy.
2. Sedlmayr, L. (2015): 'The Human Capital Impact Model – Result of an Empirical Research by Gender', International Virtual Conference on advanced Scientific Results May 24<sup>th</sup> – 29<sup>th</sup>, 2015, University of Zilina, Slovak Republic.
3. Sedlmayr, L. (2013): 'Leadership Styles and their Specific Correlation to Gender – Theoretical Standpoint', International Business and Economics Conference 'Current Approaches of Modern Management and Strategy Research' Nov 29<sup>th</sup> – 30<sup>th</sup>, 2013, University of Applied Sciences Kufstein, Austria.
4. Sedlmayr, L. (2013): 'Leadership Styles and the Correlation to Gender', Virtual Interdisciplinary Scientific International Conference Quaere May 20<sup>th</sup> – 24<sup>th</sup>, 2013, Hub Prague, Czech Republic.
5. Sedlmayr, L. (2013): 'Leadership Styles and the Correlation to Gender', International Conference on New Challenges of Economic and Business Development May 9<sup>th</sup> – 11<sup>th</sup>, 2013, University of Latvia, Riga.
6. Sedlmayr, L. (2012): 'Major Constraints for Women's Access to Top Level Business Positions and Overcoming Strategy Approaches', International Conference for Business and Economics 'Innovative Approaches of Management Research for Regional and Global Business Development' August 3<sup>rd</sup> – 5<sup>th</sup>, 2012, University of Applied Sciences Kufstein, Austria.

## **1. THEORETICAL APPROACH OF FEMALE LEADERSHIP AND ACCESS TO A PROFESSIONAL ENVIRONMENT**

The 21st century is an era propagating equal rights for all, supported by an expanding body of anti-discrimination measures. And indeed, the results of the historic women's liberation and feminist movements are impressive. It is now nearly one hundred years since women were first permitted to study at universities in Western European countries. Over the last decades the educational level of women has increased tremendously so that now more than 50% of graduates across the European Union are women (Hanappy-Egger, 2011), (Eurostat, 2015b).

Despite good skills and education of female population, women are underrepresented in top level business positions. According to an International Labour Organization report, although women represent more than 40% of the world's labour force, their share of management positions remains unacceptably low, with only a small proportion obtaining top jobs (Schein, 2001), (Schein, 2007). In this research it will be discussed if women possess certain leadership style characteristics which may be less effective and therefore may be a reason for the underrepresentation of women in leadership positions.

The purpose of this research is to investigate the impact of leadership skills and styles on the access to top level business positions by women and derive corresponding suggestions.

It is expected to find out if the leadership style has a significant impact on the occupation of top level business positions by women. In this respect gender differences of leadership styles are discussed. Furthermore the question is evaluated if leadership skills in a broader sense like interpersonal skills or conceptual skills are accelerators for female career progression. Women are still underrepresented in top business positions and it will be evaluated if leadership skill development and leadership styles support women to reach top business positions.

In this first chapter leadership styles are reviewed and insights about specific female and male leadership style characteristics are received. Different leadership styles are described and leadership

style studies and analysis from the past to present are reflected. The following research questions are addressed and discussed:

1. What are the key characteristics of leadership style differences by gender?
2. What leadership skills and styles are core influencing factors for the occupation of top level business positions by women?
3. What kind of accelerating factors for leadership skills development promote women's access to top level business positions?

Before stepping into leadership style discussions, the development of the conception of the changing role of females is described and reviewed to better understand the history of female role development which partly explains and has an influence on female leadership style characteristics. Starting the review with the female role understanding based on Marxist theories in the 19th century, continuing with neo-classical and institutional theories, and ending with the female role conception in today's Europe. In this context the different female role conceptions of Western European and Eastern European countries are reflected. In Western European countries the 'male-breadwinner model – female career model' is prevalent. In Central and Eastern European countries the 'dual earner model' is seen as common use. In CEE countries female see it as an opportunity if they don't need to go to work and if they are able to raise their children themselves. With the collapse of the communist system in 1989 the 'dual earner model' is losing its advantages as well as its disadvantages by adapting to the Western system.

After achieving a general understanding of the female role development, several leadership styles will be reflected. The first leadership discussions about task-oriented, interpersonally oriented, and autocratic –democratic styles will be described and reflected in respect to sex differences and similarities in these styles. In the following transformational, transactional and laissez-faire styles are described and reviewed. In contrast to Vecchio (Vecchio, 2002) who argues that there is no existence of significant gender differences of transformational and transactional leadership, Eagly, Johannesen-Schmidt and van Engen (Eagly, Johannesen-Schmidt, & Van Engen, 2003) found out differences in these leadership styles. They base their argumentation on a meta-analysis of 45 studies that compared male and female managers on measures of transformational, transactional and laissez-faire leadership styles.

Afterwards the research is moving more in direction of actual discussions around current critical economic situations. The change in effective leadership style and female leadership are important aspects to meet nowadays economic challenges. In this context effective leadership characteristics and the specific correlation to gender will be discussed. It has been empirically proven by a study of Mano-Negrin and Sheaffer (Sheaffer & Mano-Negrin, 2003) that a participative leadership style is advantageous before crisis whereas a directive leadership style is advantageous during crisis as quick and decisive actions are necessary during crisis. This statement has been emphasized by several researchers e.g. (Eagly, 2007), (Hunter, Bedell-Avers, & Mumford, 2009), (Kirschenbaum, 2002), (Snaebjornsson & Edvardsson, 2013).

Thereafter prejudice and stereotyping of female leaders is taken into account. Female advantages stated in prior studies and analyses might be offset by disadvantages that come from prejudice and discrimination against women as leaders. Prejudice and discrimination against female leaders may be one reason for underrepresentation of female leaders in organizations.

### **1.1 Development of the Conception of the Changing Role of Females**

We can see some periods in the development of the female role conception. Gender problems were first considered in the context of Marxist economic theory in the nineteenth century. The Marxism attitude was set forth most fully in the work of Friedrich Engels (1820 – 1895), origin of the family, private property and the state. Engels treats female productive labour and participation in industrial production as the starting point and primary condition for the liberation of women. Considering the evolution of the family in various historical eras, Engels stressed that conditions for the household subjugation of women arise only with the development of the division of labour outside the home. Criticizing the bourgeois family, Marx and Engels noted that, despite all of its outward propriety, it is founded on the one hand, on the supremacy of the man, filling the role of the sole breadwinner, and on the other hand by the overt or concealed household subjugation of the woman, economically dependent on the man. Obviously, when the issue is framed this way, household slavery can be eliminated only by including the woman in social production. Proceeding from this logic, Engels concludes that under his contemporary conditions, women were not in a subordinate position only in the proletarian setting where the chief factor in the liberation of women ‘the return to social production’ is made real. In the transition to socialism, that task is accomplished through the removal of housekeeping and the raising

of children outside the family and the turning of that sphere into a social sector of labour. In this way, the objective basis for female inequality will be eliminated (Engels, 1884).

Marxism seeks to answer the question of the causes and forms of the oppression of women in classical society in the economic foundation of the subordinate position of women and links their liberation with the elimination of the class society, in particular the capitalist society. However, Marxist theory has not provided convincing answers to an entire series of questions. One of these questions is if activity of women in the household is counted as labour or if it is a means of spending leisure time. The next question is if the time spent at home is counted as work time or rest time. Assuming that the activity is counted as work time the next question is about the estimate on the value of that activity. The most important questions out of the Marxist thoughts is if and what value is created out of the household work. Is a women who keeps house and raises children be considered as a lazy do-nothing living off the means of a man and creating nothing in exchange, or as a worker whose labour is affected in the sphere of the household. The gender aspect thus occupies a clearly subordinate position in the Marxist paradigm. Marxism actually provides a purely ideological, rather than an academic, answer to the female question. He says that there would not be oppression and exploitation of women if there were no capitalism. The woman and female labour thus effectively remain invisible to Marxist economic theory (Mezentseva, 2000).

Further development of Marxist's theory is seen in feminist researchers. One of the most prominent representatives of radical feminism, Christine Delphy, explains the exploitation of women proceeding from her own concept of the 'family method of production' (Delphy, C., & Leonard, 1984). In her opinion, the exploitation of women is not connected precisely to what labour they perform in the household but rather this exploitation is a condition of the fact that women's work is performed at home. The main point of Delphy's logical constructs is the thesis that it is exclusively men who go outside the bounds of the household world, while women, left within the confines of the home, effectively become unpaid employees of their husbands. Access of women to the labour market is thus possible only at the direction of the men: if men cannot fully support the family in a financial aspect and if men cannot realize their own aims by exploiting women at home. Furthermore, women are the objects of sexual exploitation by men, insofar as it is precisely men who have control of the women's reproductive functions. Thus, from the standpoint of this theory, the principal source of exploitation of women is

rooted in the family. In this regard all women represent a uniform exploited and oppressed class in the context of the family method of production, where all men are the dominant class (Delphy, C., & Leonard, 1984).

The tradition of studying the gender problems of the economy was laid down by one of the founders of institutionalism, Thorstein Veblen, in the book 'Theory of the Leisure Class' (Veblen, 1899). When considering the evolution of the economic role of women in history, Veblen delineates three successive stages: (1) woman as the goods of a usurper, (2) woman as the producer of consumer goods for her master and (3) woman as an object to demonstrate male success and wealth. Veblen emphasized that, in his contemporary society, the most effective demonstration of the social status of men was the degree of liberation of their wives from productive activity. For the institutional family, this is not simply the husband, wife and children, having some set of preferences and possessing household production technologies, but a special institution forming the motivation and controlling the behaviour of its members. Being a managed structure, marriage performs two principal functions, first it provides the necessary flexibility for the family in decision making and thereby facilitates its adaptation to changes in external conditions and second it provides sufficient rigidity to protect each spouse against egotistical exploitation by the other.

The representatives of the socialist wing of feminism are also trying to provide their own answers to the question of the causes and mechanisms of the oppression of women. The best known approach is the one called the 'two systems theory' which is united by one common idea: capitalism and patriarchy are considered independent structures of the oppression described by the Marxist theory of capitalism and the feminist theory of patriarchy. The most well-known representative of this direction is Heidi Hartmann. In her opinion, capitalist society values only labour that creates wealth with market value and does not value labour whose worth cannot be established by market means, for example raising children (H. I. Hartmann, 1979). As a result, the labour of women under the conditions of capitalist society is considered to be secondary and socially insignificant. All men and all capitalists gain from the exploitation of women insofar as the exploitation of women is built on a unique agreement between men and capitalists. This leads to the thesis that the system of patriarchy and the capitalist system are closely linked where the leading role however belongs to capitalism. The basic assertion of this theory is that the contemporary relations of patriarchy are reproduced continuously by the capitalist system

with the aid of a definite social mechanism. The logic is as follows: Society pays women less for labour than men, so women are forced to get married, having no other means of enhancing their well-being. In marrying men, women become materially dependent on their husband which leads to the reproduction of patriarchal relations at the family level. They assume the principal portion of the unpaid housework, becoming the objects of exploitation on the part of men, who appropriate their unpaid labour. Because women put much effort into housework, they simply do not have enough time left for 'luxuries' such as enhancing their skills, self-education, or working a full work day, which puts them in the status of second-class workers in the labour market (H. Hartmann, 1976).

Neoclassical theory effectively ignored gender aspects of economics until the middle of the 1960s. The breakthrough in this area was associated with the pioneering works of the American economist Gary Becker (Becker, 1985). The most important concepts of his work were postulated for the first time on the scientific basis of neoliberal theory. The discussion concerns conceptual developments such as the division of labour within the family, and decision making with regard to access to the labour market, the productive function of the household, the distribution of income in the family, and marital and reproductive behaviour, among others. Neo-classicists tried to resolve one of the main theoretical problems of estimating the value of household labour. Within the 'new theory of the household' (Becker, 2009) a family could produce one and the same benefit using various technologies, for example, buying a washing machine, washing by hand, bringing in a laundress, sending linens out to the laundry, and so forth. Consequently, the choice of a woman to work in house or outside of the house is determined by a simple correlation: how much could she earn for N hours outside the household, and what expenditures will the family bear if female household labour in the amount of those same N hours is performed by another person whose labour is paid at the market rate. Clearly, the higher the education and qualifications of those employed in the household, the higher their level of employment in the market, and the greater their wages, the more expensive their household labour is.

Within the framework of the neoclassical approach, the gender distribution of roles within the family takes on a new interpretation thanks to the use of the concept of 'human capital' (Becker, 1985). In the broad sense it encompasses virtually the entire life experience accumulated by a person throughout his or her lifetime. In the narrow sense human capital is understood to mean the formal education and professional qualifications of a person. The two areas of human capital distinguished are general, which

corresponds to the general education received, and specific, which corresponds to professional education and specialization. For women, these differences exist, biological, associated with the birth and raising of children and social, discrimination in the labour market. Obviously, it is advantageous for the family as a whole if both spouses specialize in the activity in which they have the comparative advantages of more human capital. If we take into account that the average wage for women is lower than for men, while their household human capital is higher on average, then the economically rational strategy for the family will be the variant in which the husband works in the market sector and the wife works in the household (Becker, 1985). Researchers of feminist orientation working within the framework of the neoclassical paradigm stress that women accumulating marital-specific capital end up in a vicious circle, where discrimination in the labour market leads to specialization in the household, which, in turn, narrows even further their chances in the labour market, consequently reinforcing their subordinate position in the family and limiting opportunities for divorce (Mezentseva, 2000).

Weitzman proposes a different approach, emphasizing that private marriage contracts should be considered not according to particular rules, but rather precisely the same way as any other legally codified agreement (Weitzman, 1981). She describes marriage as a tacit contract, the terms of which are determined by the state to a greater extent through family law than by the private agreement of the parties. Private marriage contracts, in opposition to this, compensate for the gender inequality present in family law, and create clarity, confidence, and certainty in marital relations. Weitzman analyses marriage contracts by analogy with commercial ones, asserting that, insofar as legislation recognizes the advantages of private business agreements between individuals and firms, individuals should possess the same freedom to enter into contracts in the sphere of personal relations as well. Today, in her opinion, family relations, especially entry into marriage, are not the subject of free entry into a contract; they are something more, a definite status or relation, and thereby the necessity of regulating them on the part of the state is founded. It is precisely the state that imposes limitations on the terms of entry into marriage as well as divorce. Therefore, marriage and family can be considered economic institutions that place the woman in a subordinate position (Weitzman, 1981).

During the years after World War II until today we see a completely different female role development in Western European countries compared to Central and Eastern European countries. CEE countries are embossed by the socialist system with the inclusion of the female workforce in the production

process. Women work full time and children are raised in state owned child care service centres. Western European countries are characterized by the understanding that males are the main breadwinner of the family especially after the birth of a child. With the birth of a child the labour market participation of women ends or will be reduced because of low availability of child care service centres or other personal reasons. In the following the different female role conception between the Western and Central and Eastern European approach will be discussed.

### **1.2 Western Approach versus Eastern Approach in the Post-War Area until Today**

The 'male breadwinner - female career model', supporting welfare policies of most Western European countries in the post-war era has been characterized by women's increasing labour market participation, political reworking of welfare and work relations, and family transformations, especially increasing divorces. Women's, especially mothers' labour market participation has been rising across most of Western Europe (Pascall, G., & Lewis, 2004). The decline of marriage and increase of births outside marriage undermine a male breadwinner system, which depended on low rates of divorce and of illegitimacy (Creighton, 1999). The male breadwinner ideal has widely declined (Crompton, 1999). In the UK, the male breadwinner model supported policy from the 1940s to the 1970s, and the Thatcher era still saw motherhood as women's first social obligation. New Labour has assumed that social obligation means paid work but despite expansion of child care services this great transition from 'careforce' to workforce has modest social support and fragmented arrangements for childcare (Lewis, 2001; 2002). No Western European country has put women on equal terms with men. Even Scandinavian countries have labour market divisions which put women at a disadvantage in paid work and pensions, and discourage men's participation in child care work (Pascall, G., & Lewis, 2004).

In contrary to the Western male breadwinner model, the Central and Eastern European countries under socialism are characterized by the 'dual earner model'. Soviet policy challenged the male breadwinner model and identified women's exclusion from paid employment as a key to their oppression and encouraging women to work outside the home as well as in it (Molyneux, 1990). Women's labour was crucial to economic development, and enabled through education, workplace social provision and state guaranteed parental leave and benefits, kindergartens and nurseries, and laws about marriage and the family that framed women as equal individuals (Fajth, 1996). The gender regimes of the communist era appeared on the surface like Scandinavian ones, with women's high labour market participation and low gender pay gaps. Women's labour market participation in Central and Eastern Europe has been

the highest among any economy in the world and women's representation in professional managerial levels has been high when compared to European equivalents (Standing, 1994). Women's labour market participation was supported by extensive childcare incorporating generous maternity and leave allowances and flexible working arrangements. At the point of transition in 1989, women's labour market participation rates were around 80 per cent in Czechoslovakia, Estonia, Latvia and Lithuania, and around 70 per cent in Poland, Hungary and Romania. The gender pay gap was 11 per cent in Hungary and 13 per cent in Poland (UNICEF, 1999). But the experience of gender equality as an imposition of authoritarian governments, rather than as an objective of social movements, made communist dual earner regimes feel very different from the inside. Because of the impossibility of free public discourse gender relations never became a public issue. In public life, work, studies, culture, and politics, women had become almost equal, and they may have felt almost equal. But in the private sphere, in partner relations, within the family and the interpersonal arena, traditional ways of constructing men and women's roles remained, by and large, untouched (Ferge, 1998). No civil society, and no pressures to bring men into household and child care work in former soviet countries, brought distinctive regimes: these combined social and legal provisions supporting women's labour market participation, and legal equalities in marriage and divorce, with extreme domestic inequality, evidenced quantitatively by time use data (Gershuny, 2000). Have the transformations since 1989 brought a reversion to the male breadwinner model? In Poland, in particular, this case can be argued, as a consequence of the strength of the Catholic Church and Solidarity, and the reaction against soviet domination. Abortion has been much debated, and is now restricted except in exceptional cases. Maternity leave and leave benefits were cut (Pascall, G., & Lewis, 2004). Education has not protected women's jobs, and there is an increase in the proportion describing themselves as keeping house (Glass, C. & Kawachi, 2001). Current figures show women's employment rates mainly below the European Union average: women's 'relatively favourable position in the labour market, which had made the region comparable to Sweden, the leader in the West in this regard, is now a phenomenon of the past in most transition countries' (UNICEF, 2001). Men have lost jobs too, and a return to male breadwinner households cannot be read off from these data, but men's employment rates across CEE accession countries are now above women's (EUROSTAT, 2001). The gender regimes of the soviet era were built on very high levels of public expenditure. The comparable figures now lead to reduced spending on child care, education, health, pensions and child benefits, and pluralisation of welfare instruments (Ferge, Z., & Tausz, 2002). But several CEE accession countries have retained their strong tradition of

state involvement in childcare. Transition to market-based democracy brings transition to a new gender order, and poses critical practical dilemmas over parenthood and care. But the new arrangements emerging may not just be a return to traditional models. Most discussion has focused on paid work and on politics. From inside households, there begins to emerge evidence for a more equal distribution of child care work, in radical transformation from the strongly gender stereotypical roles of the communist era. These changes appear particularly associated with younger men. The combination of continued state provision for young children, with changing gender practices within younger households, suggests that CEE countries are not going back to the past, but are developing something new, which could bring more gender equality, with deeper social roots than under communism (Pascall, G., & Lewis, 2004).

Today gender regimes at the national level are increasingly influenced by the European Union legislation, where the politics of reconciling work and family have gained increasing purchase (Williams, 2001). Concern with the domestic gender relations that support work inequalities appears in directives on part-time work, working time and parental leave and on research on reconciling work and family (Neilson, 1998). The Social Policy Agenda asks the social partners to strengthen their dialogue with particular attention to reconciliation between family and working life and aims to prepare the enlargement of the Union under conditions of balanced economic and social development (Commission, 2000). Balanced gender development is a major challenge. Former communist countries risk being absorbed within western paradigms, which will not support child care work or household incomes. The level of integration involved in merging the former East and West Germany is not to be expected from EU enlargement. But some convergence will occur and will have implications for CEE gender regimes. While Malta retains a traditional male breadwinner regime, CEE countries from the former soviet region for example Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia have had legislation supporting women as paid employees and mothers, pre-dating Scandinavia (Pascall, G., & Lewis, 2004), (Kovačević, J., & Šehić, 2015).

It can be summarized that over the last years the female role has developed in Western as well as Eastern European countries. Moving from a male breadwinner model to a female care model in Western European countries. Central and Eastern European countries are embossed by the dual earner model. However the role of the women has changed in the sense that men are beginning to support women in household work and taking responsibility in raising children together.

### 1.3 The Changing Context of Female Leadership

During the 1970s and 1980s, the concept of equal opportunities was developed, both as a concept and in relation to the policy fields covered (Meehan, 1992). At the same time, the attempt to develop and harmonise the ‘social dimension’ of EU policy during the 1980s failed (Lewis, 2006). Social policy remained by and large the prerogative of member states, while economic policy and competition law were developed at EU level to facilitate market integration. By the 1990s, dramatic labour market and family change had resulted in a series of demographic, economic and fiscal challenges to the welfare state systems built up by member states (Pierson, 2001). The growing willingness to address family care issues insofar as they impinged on labour market participation, especially of women, was as much a part of the considerations as the equal opportunities agenda (Lewis, 2001b; 2002). By the end of the 1990s substantial changes marked the three related fields of work/family reconciliation, equal opportunities and social policy. The effort to achieve equal opportunities became marked by the new commitment to mainstream the consideration of gender equality across all policy fields (Rees, 1998), while the concept of equality was dramatically broadened in the Treaty of Amsterdam to include ‘discrimination based on racial or ethnic origin, religion or belief, disability, age or sexual orientation’. The Treaty also gave ‘employment’ a separate Title and equal status for the first time with ‘economic and monetary policy’ and with ‘social policy’. This opened the way for commitment to work/family reconciliation to be much more firmly integrated into employment policies with the elaboration of the European Employment Strategy shortly after the signing of the Treaty (Lewis, 2006).

The effort to increase equal opportunities within the European Union also aims to increase a diverse workforce within economic activities. A diverse workforce can better manage the diverse economic challenges we face today. Some researchers also argue that women manage critical situations before economic crisis more effectively than men. Based on this argument it is important to include female leaders in economic activities and understand that female leaders can contribute to avoid critical economic situations.

The increase in female leaders has been accompanied by changes in theories and practices of leadership. Whereas in the past, leaders based their authority mainly on their access to political, economic, or military power, in post-industrial societies leaders share power far more and establish many collaborative relationships (Lipman-Blumen, 1996). Therefore, contemporary views of good

leadership encourage teamwork and collaboration and emphasize the ability to empower, support, and engage workers (Senge, 1994). Trade books urge managers to put people first by using ‘resonance-building styles that support commitment, involvement, active pursuit of the vision, and healthy, productive work relationships’ (Goleman, Boyatzis, & McKee, 2002).

Contemporary approaches to leadership not only recommend a reduction in hierarchy but also place the leader more in the role of coach or teacher than previous models of leadership. Although the specifics of these views vary, most such discussions emphasize that leaders roles are changing to meet the demand of greatly accelerated technological growth increasing workforce diversity, intense competitive pressures on corporations and other organizations, and a weakening of geopolitical boundaries. As Kanter (Kanter, 1997) wrote: ‘Managerial work is undergoing such enormous and rapid change that many managers are reinventing their profession as they go. With little precedent to guide them, they are watching hierarchy fade away and the clear distinctions of title, task, department, even corporation, blur. Faced with extraordinary levels of complexity and interdependency, they watch traditional sources of power erode and the old motivational tools lose their magic’ (Kanter, 1997).

The idea that women are effective leaders has jumped from the writers of feminist trade books on management (Helgesen, 1990) to the mainstream press and is steadily making its way into the popular culture. Articles in newspapers and business magazines reveal a cultural realignment in the United States that proclaims a new era for female leaders (Eagly & Carli, 2003).

The role of the leader is changing to meet the fast growing needs of the economy. Leaders become more coaches who are setting the stage for innovation and growth opportunities by enabling a diverse workforce to create business opportunities. The changing role of the leader opens opportunities for women to step up as a leader as women tend to perform a democratic, participative leadership style which will be discussed and reflected in the following section.

#### **1.4 Types of Leadership Styles and the Indicator to Gender**

##### *1.4.1 Task-oriented, interpersonally oriented, and autocratic-democratic styles*

In the fifties a distinction between two approaches to leadership styles were introduced by Borgatta, Bales and Couch (Borgatta, Bales & Couch, 1954). The task oriented style with the accomplishment

of assigned tasks by organizing task-relevant activities, and interpersonally oriented style with the maintenance of interpersonal relationship by tending to others' morale and welfare. This distinction was developed further in the Ohio State studies on leadership (Hemphill & Coons, 1957). In this research, task-oriented style included behaviour such as encouraging subordinates to follow rules and procedures, maintaining high standards for performance, and making leader and subordinate roles explicit. Interpersonally oriented style included behaviour such as helping and doing favours for subordinates, looking out for their welfare, explaining procedures, and being friendly and available (Eagly et al., 2003). Another aspect of leadership style that has been popular in research is the extent to which leaders behave democratically and allow subordinates to participate in decision making or behave autocratically and discourage subordinates from participating in decision making. This dimension of democratic versus autocratic leadership or the similar dimension of participative versus directive leadership from early experimental studies of leadership style has been developed by a number of researchers. Although democratic versus autocratic style is a narrower aspect of leader behaviour than task-oriented and interpersonally oriented style, the democratic-autocratic dimension also relates to gender roles because one component of the agentic norms associated with these roles is that men are relatively more dominant and controlling, in other words, more autocratic and directive than women are (Bass, 1990). Participative leadership style will be discussed in detail in a later stage of the research in the context of the management of critical economic situations.

To examine sex differences and similarities in these styles, Eagly and Johnson (Eagly & Johnson, 1990) reviewed 162 studies that yielded comparisons of women and men on relevant measures. Eagly and Johnson began their meta-analysis by discussing both reasons to expect the absence of sex differences and reasons to expect their presence. This synthesis found that leadership styles were somewhat gender-stereotypic in laboratory studies generally conducted as experiments on group processes with student participants, and assessment studies using participants not selected for occupancy of leadership roles (e.g. samples of employees or students in university business programs). Specifically, in such research, women, more than men, manifested relatively interpersonally oriented and democratic styles, and men, more than women, manifested relatively task-oriented and autocratic styles. In contrast, sex differences were more limited in organizational studies, which examined managers' styles. Male and female managers did not differ in their tendencies to manifest interpersonally oriented and task-oriented styles.

However, in these studies of managers, as in the laboratory and assessment studies, women manifested a somewhat more democratic or participative style and less autocratic or directive style than men did. Based on analysis of their large database, Eagly and Johnson concluded that gender-stereotypic sex differences in leadership behaviour were less common in organizational studies than in other types of studies because male and female managers were selected by similar criteria and subjected to similar organizational socialization (Eagly & Johnson, 1990). The meta-analysis of Eagly and Johnson included some possible interpretations of the autocratic-democratic sex difference, specifically, the greater social skills of women versus men may have facilitated collaborative, democratic leadership behaviour and such behaviour may have been especially advantageous for women because it placated subordinates and peers who might otherwise have been resistant to female leadership (Eagly & Johnson, 1990). Despite evidence that men are typically perceived as more appropriate and effective than women in leadership positions, a recent debate has emerged in the popular press and academic literature over the potential existence of a female leadership advantage. The meta-analysis of Paustian-Underdahl et al. addresses this debate by quantitatively summarizing gender differences in perceptions of leadership effectiveness across 99 independent samples from 95 studies. Results show that when all leadership contexts are considered, men and women do not differ in perceived leadership effectiveness. Yet, when other-ratings only are examined, women are rated as significantly more effective than men. In contrast, when self-ratings only are examined, men rate themselves as significantly more effective than women rate themselves (Paustian-Underdahl et al., 2014)

#### *1.4.2 Transformational, transactional and laissez-faire styles*

Debates about the leadership styles of women and men gained momentum in the 1990s because of new research attempting to identify the styles that are especially attuned to contemporary conditions. In the 1980s and 1990s, many researchers turned their attention to other types of leadership styles by distinguishing between leaders who are transformational and those who are transactional.

Transformational leaders set especially high standards for behaviour and establish themselves as role models by gaining the trust and confidence of their followers. They state future goals and develop plans to achieve them. By mentoring and empowering followers, such leaders encourage them to develop their full potential and thereby contribute more capably to their organization. Transaction leaders on the opposite establish exchange relationships with their subordinates. They manage by clarifying subordinate responsibilities, monitoring their work and rewarding them for meeting objectives and

correcting them for failing to meet objectives. Researchers also distinguished a laissez-faire or passive leadership style that is characterized by a general failure of taking responsibility for managing (Eagly et al., 2003).

Based on the research of several authors it can be summarized that in the early stages of leadership discussion male tend to have an autocratic, task oriented leadership style whereas women tend to present an interpersonally-oriented, democratic-participative leadership style. In the later stage of leadership discussions it was found out that male tend to be transactional or laissez-faire leaders and female are characterized as transformational leaders. The distinction of transactional, laissez-faire and transformational leaders and the correlation to gender will be discussed in the following.

Over the past 25 years, the transformational and transactional leadership styles have dominated the study of leadership. Bass (Bass, 1985) suggested that leaders who succeed in affecting their followers to transcend self-interests for the benefit of the group or organization to achieve extraordinary goals would be characterized as transformational. Contrastingly, managers who solely induce the most basic exchanges with their followers embody transactional leadership (Bass, B M; Riggio, 2005). Bass (Bass, 1985) described four transformational and two transactional leadership factors.

Transformational leadership is comprised of:

- Inspirational leadership or leaders' motivational skills that enhance performance by portraying an optimistic future through an idealized vision and by inspiring a sense of attainability of that vision (Antonakis, Avolio, & Sivasubramaniam, 2003).
- Charismatic leadership leaders' socialized charisma and their ensuing actions based on values, beliefs, and a mission to induce followers to pursue their vision (Waldman & Javidan, 2009).
- Intellectual stimulation, leaders' ability to challenge followers to think of innovative solutions (Keller, 2006).
- Individualized consideration, leaders' awareness of followers' needs and interests aimed at facilitating self-actualization (Rafferty & Griffin, 2006).

Transformational leaders can be summarized as leaders who demonstrate a vision and encourage followers to follow this vision by challenging them in thinking of innovative solutions.

Transactional leadership is comprised of:

- A contingent reward or leadership behaviour centred on transparent role and task requirements for which the followers gain rewards contingent on the fulfilment of contractual obligations (Walumbwa, Wu, & Orwa, 2008).
- Management by exception, the leadership's active and passive behaviours aimed at ensuring that standards are met and intervention occurs whenever things go awry (Antonakis et al., 2003).

According to the definition above, transactional leaders can be summarized as leaders who reward the followers when the goals and requirements are fulfilled. Transactional leaders only intervene when goals and requirements are not fulfilled or something goes wrong.

Contingent reward has been found to be related more to the transformational leadership style by Judge and Piccol (Judge & Piccol, 2004) but Hinkin and Schriesheim (Hinkin & Schriesheim, 2008) argue that the contingent reward subscale should be used separately. Management-by-exception is only referred to represent transactional leadership. Inspirational leadership entails a vision that refers to charisma that appeals to organizational constituents primarily during downturns, intellectual stimulation of underlings that necessarily induce innovative solutions, and individualized consideration that empowers underlings' self-actualization.

Laissez-faire or passive leadership is a form of management-by-exception leadership. Passive leaders fail to respond to situations and problems systematically (Bass, Avolio, & Atwater, 1996). They respond to problems only if they surface in an unavoidable way (Eid, Johnsen, Bartone, & Nissestad, 2008). Passive leadership is akin to a laissez-faire style. Both have negative impacts on followers. Consequently, these styles are jointly grouped as passive-avoidant leadership (Avolio, Bass, & Jung, 1999). The extant leadership and organizational crisis literatures only implicitly refer to a potential linkage between passive leadership and crisis proneness. Passive leadership appears to be crisis prone rather than prepared because inaction necessarily involves inattention that precludes managerial

activities geared towards crisis prevention. Passive management-by-exception is a key type of transactional leadership (Howell & Avolio, 1993) that motivates through extrinsic rewards or discipline (Fry, 2003). Necessarily then, transactional leaders would be more likely to wait passively for subordinates to err prior to initiating corrective action (Peters, G.A. and Peters, 2007).

Although Vecchio (Vecchio, 2002) discounted the possibility that significant gender effects might emerge in research on transformational and transactional leadership, researchers, in this area have reasoned that transformational leadership might be particularly advantageous to women because of its androgynous qualities and indeed, the substantial research literature comparing women and men on these styles has yielded interesting outcomes. Researches in this area have reasoned that transformational leadership might be particularly advantageous to women because of its androgynous qualities and indeed, the substantial research literature comparing women and men on these styles has yielded interesting outcomes. Eagly, Johannesen-Schmidt, and van Engen (Eagly et al., 2003) carried out a meta-analysis of 45 studies that compared male and female managers on measures of transformational, transactional, and laissez-faire leadership styles. The meta-analysis revealed that compared with male leaders, female leaders were more transformational and engaged in more of the contingent reward behaviours. Also male leaders were more likely than female leaders to manifest two other aspects of transactional leadership: active management-by-exception which means to attend to followers' mistakes and failures to meet standards and passive management-by-exception which means to wait for problems to become severe before intervening. Men were also higher on laissez-faire leadership which means to exhibit widespread absence and lack of involvement (Eagly et al., 2003).

Even though transformational and transactional styles are not as obviously related to gender roles as the leadership styles investigated by earlier researchers, transformation leadership has aspects to where leaders focus on the mentoring and development of their subordinates and pay attention to their individual needs. Consistent with the possibility that transformational leadership may be somewhat more aligned with the female than the male gender role are studies showing that subordinates perceive greater correspondence between leaders' feminine personality attributes and their transformational style than their transactional style (Hackman, Furniss, Hills & Paterson, 1992).

In summary, female behaviour may be more interpersonally oriented, democratic and transformational. In contrast, the behaviour of male leaders, compared with that of female leaders, may be more task-

oriented and autocratic. The greater incongruence of the female roles with the typical leader roles may make it more difficult for women to manifest the more agentic leadership styles (Eagly et al., 2003).

In view of the findings, the tendency of women to exceed men on the components of leadership style that relate positively to effectiveness (i.e., transformational leadership and the contingent reward aspect of transactional leadership) and the tendency of men to exceed women on the ineffective styles (i.e., passive management by exception and laissez-faire leadership) attest to women's abilities. Thus, research on transformational, transactional, and laissez-faire leadership styles does suggest female advantage, although a small advantage (Eagly & Carli, 2003). Assumptions about gender differences in leadership styles and effectiveness are widespread, although as Alice Eagly's path-breaking work notes, the evidence for such assumptions is weaker than commonly supposed. Reviews of more than forty studies on gender in leadership find many more similarities than differences between male and female leaders. The only gender differences that are consistently supported by evidence on performance are that female leaders are more participatory, democratic, and interpersonally sensitive than male leaders. Eagly notes that women attend more to the individuals they work with by mentoring them and taking their particular situations into account. In effect, women are more likely than men to engage in transformational leadership, which stresses inspiring and enabling followers to contribute to their organization. Women tend to use a transformational style because it relies on skills associated with women and because more autocratic approaches are viewed as less attractive in women than in men. As to leadership effectiveness, most research reveals no significant gender differences. Success in leadership generally requires a combination of traditionally masculine and feminine traits, including vision, ethics, interpersonal skills, technical competence, and personal capabilities such as self-awareness and self-control. Some evidence also suggests that women are less subject than men to the arrogance and overconfidence that contributes to leadership failures, and are better decision makers under stress. However, women cannot be effective unless others accept their leadership. One meta-analysis found that men's effectiveness as leaders surpassed women's in roles that were male dominated but that women's effectiveness surpassed men's in roles that were less masculine (Rhode, 2016).

Different leadership styles have been described and gender differences discussed. It can be summarized that women tend to possess transformational leadership skills whereas men are strong

in transactional leadership skills. In the following section it will be analysed which leadership style is effective during critical business situations and which style helps to avoid critical business situations.

### **1.5 Effective Leadership during Critical Situations**

Critical situations in a company can become a crisis which arise suddenly and unexpected. Crisis are events that threatens to disrupt an organization's operations and poses both a financial and a reputational threat. A wide array of stakeholders are adversely affected by a crisis including community members, employees, customers, suppliers and stockholders (Coombs, 2007).

Globalization of marketplaces, information availability in terms of speed and volume and increased competitiveness has changed the way organizations function and respond. The need for increased flexibility and responsiveness, and the urgent and frenzied pace of product and service development has yielded tasks that prove too complex and time-consuming for individual attention and completion (Katzenbach, 1998).

A critical situation for a company can be defined as a decline of business sales, new competition arising, changes in the Management team, the leaving of a key employee and so on. There are a lot of possibilities of critical situations within a company which can translate into a crisis. Effective leadership is already very important before the crisis arises. It is important to act already when critical situations become obvious.

Besides positive and negative impacts of different leadership styles on the micro or individual level, leadership can also have a high impact on a macro or organizational level. Effective leadership can lead to positive results for a company. Especially during critical situations which are part of the daily business, effective leadership may have a high influence in avoiding an upcoming crisis.

Insufficient research is found of effective leadership and the impact on organisation. More theories are found of effective leadership and the impact on group performance. As group performance also impacts the organizations performance a few theories of effective leadership and the positive impact on group performance will be discussed.

Prior research on transformational leadership has consistently argued that transformational leaders also increase group performance by empowering their followers to perform their job independently from their leader's direct supervision and control. Although transformational leaders may sometimes be directive with their followers, they often seek followers' participation in group work by highlighting the importance of cooperation in performing collective tasks, providing the opportunity to learn from shared experience, and delegating authority for them to execute any necessary action for effective performance (Bass, 1985). As a result, transformational leaders create a group environment where followers feel empowered to seek an innovative approach to perform their job without a fear of being penalized. It was argued that transformational leaders emphasize followers' development and thus help obtain autonomy for empowered followers in groups. Moreover, prior research has found that creativity among followers tends to be higher when group members work with a transformational rather than transactional leader (Jung, D. I., & Sosik, 2002). Even if prior research did not directly test the role of empowerment on creativity among followers in groups, (Jung, D. I., & Sosik, 2002), for example, argued that transformational leaders' encouragement for innovative ideas and a participative decision making process through empowerment is an important reason for creativity among followers in groups. Another important characteristic of transformational leaders is their ability to help group members realign their personal values according to their transformational leader's vision and goals, which creates strong values of internalization, cooperation, and congruence among followers (Jung, D., & Avolio, 2000). As a result, there tends to be a strongly shared vision developed in the group, and the group vision in turn helps increase group cohesiveness. Shared vision and strong group identity also help transformational leaders further empower group members to accomplish their goals without closely monitoring group members' work process. This high degree of collective identification may enhance group cohesiveness among team members. (House, R. J., & Shamir, 1993) argued that transformational leaders arouse the affiliation motive among followers, which drives their followers to become more cohesive and perform effectively. Strong group cohesiveness could give group members a sense of where they need to direct their efforts to materialize their common goals. As such, a positive association between transformational leadership and group members' cohesion was found out (Jung, D. I., & Sosik, 2002).

It can be summarized that positive results can be expected on a macro level within an organization if a transformational leadership style is applied.

During the last years of critical economic situations the leadership discussion in respect to gender has been extended. Leaders are expected to perform effectively during crises when external stakeholders expect transparency, resoluteness and purposefulness (Wang, Hutchins & Garavan, 2009), while internal ones seek empathy, a sense of direction and personal example (Ulmer & Sellnow, 2000).

The question remains as to the ability of women executives to perceive crises differently than their male counterparts. It is asked if owing to an inherent and a different array of leadership qualities, feminine leadership traits would be more conducive to crisis. It needs to be explored what feminine traits would be more advantageous in reinforcing crisis preparedness. The distinction between people- (supposedly women) versus task-oriented (supposedly men) leadership styles has generated extensive literature (Kaiser, Hogan, & Craig, 2008), and it largely corresponds with transformational and transactional leadership (Purvanova & Bono, 2009). Accordingly, women tend to endorse the people-oriented style (Avolio, Mhatre, Norman, & Lester, 2009). Generally, a transformative-oriented managerial style is typified by empowerment, participatory teamwork and a decentralized structure. This managerial pattern facilitates decision making based on consensus, and diversity of ideas that often enhance cooperation during crises (Bartunek, Walsh, & Lacey, 2000), and it primarily nurtures a culture that facilitates crisis readiness. Richardson (Richardson, 1995) alluded to crisis-prepared versus crisis-prone leaders suggesting that such leadership traits as care and empathy characterize crisis preparedness. While not indicating specifically that these characteristics are necessarily feminine, these have been identified as typifying feminine leadership (Johanson, 2008). James and Wooten (James & Wooten, 2005) highlight trust-building as a leadership competence critical for crisis readiness. Contrastingly, Richardson (Richardson, 1995) suggests that crisis proneness is often accompanied by such masculine traits as narcissism and selfishness. Convergence of the literature addressing compatibility between feminine traits and transformational leadership (Powell, Butterfield, & Bartol, 2008) with crisis preparedness seems plausible, notably given that empathy, holism, harmonic relationships or equity principles facilitate crisis preparedness. Contrary, however, to this partly supported conjecture, Rosenthal and Kouzmin (Rosenthal & Kouzmin, 1997) argue that crisis management would, in fact, require temporary concentration of powers, hence centralized decision making. Consequently, it may be concluded that feminine traits normally facilitate crisis preparedness while masculine traits would be conducive in actual crisis management.

Aspects of organizational crisis and particularly crisis management are seen as critically important in turbulent business environments. The current global recession and consequent business failures exemplify the acute need in improved crisis management capabilities that highlight earlier scholarly exhortations regarding managerial awareness to crisis proneness and preparedness. Concurrently, the ascendance of women to higher managerial echelons raises the advantages of feminine traits in management and the adoption of these attributes by male executives. Viewing both aspects simultaneously raises such questions as to which gender-based traits would be advantageous in coping with crisis. Notably, what attributes would be conducive to crisis preparedness or otherwise would aggravate crisis proneness.

Leadership crisis preparedness and proneness with the view of linking with transformational and transactional leadership has been investigated. Essentially, transformational leadership motivates followers to go beyond their self-interests to achieve higher order goals for the good of the organization. Thus, during crises, managers endorsing transformational attributes are more likely to motivate underlings to be engaged in crisis management collective efforts. Transformational leaders succeed in arousing subordinates' aspirations to achieving goals considered to be beyond their original expectations. Hence, these leaders can rely on their subordinates' cooperation in addressing collective and individual tasks deemed critical during crises. Shaeffers et al. (Sheaffer, Bogler, & Sarfaty, 2011) analyses support the hypotheses regarding transformational and passive leadership styles. Accordingly, male and female managers typified by transformational leadership attributes are more likely to be associated with perceptions of crisis preparedness as opposed to passive leaders who are predisposed to be crisis prone. Shaeffers et al. (Sheaffer et al., 2011) have corroborated the hypothesis postulating that managers who articulate inspirational vision heed the needs and interests of followers. Transformational managers are conscious and likewise proactive in terms of their overall perception of and attitude towards crises (Sheaffer & Mano-Negrin, 2003). Transformational leadership has been found to be more proactive, hence more effective (Rubin, Munz, & Bommer, 2005), reflecting attributes seen as critical in addressing uncertainties and intricacies associated with crises. Indeed, the literature points to the positive relationship between visionary leaders and crisis preparedness (Antonakis et al., 2003). Leaders concerned with careful and meticulous delineation of corporate vision will more likely be prepared for crises, and hence they demonstrate personal example deemed crucial

in leading subordinates when havoc and ambiguity prevail. Outstanding leaders are compelled to offer some form of sense-making to their underlings, to interpret the situation and offer direction and comfort in stressful and ambiguous circumstances (Hunter et al., 2009). Specifically during crises, underlings are inclined to seek and follow directions. Thus, leaders' articulation of a vision that reflects attention to and care of subordinates as well as their ability to tackle problem-solving creatively (Reiter-Palmon & Illies, 2004) is crucial during crises. In this vein, charisma would be noticeably conducive during crises when inspiring and leading by example seems indispensable. Passive leadership, on the other hand, has been theorized to be associated with the transactional leadership style (Hinkin & Schriesheim, 2008). It was found that this sub-type of transactional leadership is positively associated with crisis proneness. This is because passive leaders intervene reactively. These managers by exception wait until problems have escalated although early warning signals have been observed (Judge & Piccol, 2004). Specifically, while active leaders act proactive in terms of detecting latent but potentially dangerous organizational deficiencies, passive leaders take corrective action only after problems have surfaced (Bass, 1999). In the same vein, similar circumstances were reported following the current global recession when executives were blamed for being passive, ignoring a host of early warning signals and acting belatedly and ineffectively on symptoms rather than on the root causes (Mintzberg, 2010). Hence, to be prepared for crises, leaders need to be active and initiating as well as stress that crises are inseparable from the organizational life cycle. Passive leaders, males and females alike, lack this capability. Importantly, passive leadership was the most salient predictor of crisis proneness among our predictors. This finding complements the line of research that considers transformational leadership to be more effective, notably since it provides direction and reassurance (Nemanich & Vera, 2009).

Literature on decision making is inconclusive as to the relationship between decision-making styles and crisis preparedness proneness. Decision making is argued to be centralized during crises because of the need to take fast and decisive action (Eagly, 2007). However, participative decision making is encouraged during harsh times (Mishra, 1996) primarily because this enhances the flow of additional and creative insights emanating from underlings. It may be conjectured that decisions made during crises are subject to a host of exigencies. Consequently, these decisions emerge from a state of flux and volatility. A positive relationship between participative decision making and crisis proneness has been found out. However, organizations beset by a crisis, facing a high level of uncertainty coupled with an imminent threat, would benefit from strong-minded and decisive, if temporarily autocratic managers,

rather than passive or sociable ones who rely on joint decision making. During a crisis, therefore, participative decision making could prove counterproductive owing to the need to make swift, calculated while well-informed decisions. Clearly, participative decision making precludes these fundamental requirements, essentially because involvement of additional parties in the decision-making process is evidently time consuming, hence subject to vacillations and delays. Indeed, it was found that participative decision making is positively associated with crisis proneness, implying that it is likely to raise perceived crisis proneness rather than diminish it. This finding is also in congruence with the few sources in the literature addressing transformational leadership and crisis proneness, which assert that during crises, followers prefer to docilely follow directions (Hunter et al., 2009) rather than actively partake in decision-making processes. It was found out that masculine traits are positively and significantly associated with perceived crisis proneness. It may be concluded that other things being equal, noticeable masculinity is more likely to be deleterious to crisis preparedness. This finding may seem to be paradoxical, as theoreticians (Kirschenbaum, 2002) have long since postulated that, owing to severe time constraints and incessant pressures by worried stakeholders, temporary dictatorial measures are called for. In other words, temporary concentration of powers aimed at conveying a message of control and calmness to key stakeholders in the midst of chaos would best serve a firm's image (Clair & Dufresne, 2007). However, while authoritativeness and resoluteness would seemingly be beneficial at the height of crises, they would not be advantageous in inculcating a corporate culture that fosters crisis preparedness. Rather, quintessential feminine traits (Richardson, 1995) would be more appropriate in terms of stimulating a sense of mutual understanding and primarily readiness to engage in unlearning. These managerial virtues, whether espoused by male or female executives, necessarily facilitate willingness to engage in preventive measures. Dearth of empathy, conspicuous authoritativeness and selfishness are more likely to obstruct rather than advance crisis preparedness. It may be concluded that the application of masculine managerial traits is contingent on the circumstances.

It can be summarized that female leaders are very effective in executing a transformational leadership style which is seen to avoid critical business situations. In the following it will be analysed if other factors exist which might aid women to occupy top level business positions. In this sense accelerating factors for leadership skills development are introduced.

## 1.6 Accelerating Factors for Leadership Skills Development

In this section it will be discussed if the investment in certain knowledge and skills are accelerators for leadership skill development. In this context the question is if women can become better leaders by getting educated and by developing skills and if this may be a leadership advantage for women. In this frame it will be discussed if leadership is born or can be learned. Respectively it will be evaluated if the development of knowledge and skills have an influence on effective leadership.

### 1.6.1 *Different approaches for leadership skill assessment*

In the following knowledge and skills are brought into relationship with leadership. One of the most debated questions in the field of leadership studies and education is if leaders are born or made (educated). Most scholars active in the field believe that leaders are both ‘born’ and ‘made’. Many leaders are born with qualities and attributes that assist them in leadership effectiveness. While at the same time early childhood development, education, and on the job experiences encourage and nurture leadership abilities (Marques, 2010). If some basic characteristics of leaders are made, then the second critical question becomes ‘how does one learn to lead?’ Although leadership development, education, and training have been with us since the time of Plato, only since the 1990ies scholars and educators began to ask the questions of how a leader is developed. Researchers questioned if leadership can be learned, how it can be learned, if it can be taught and how it can be taught (Brungardt, 1997).

Despite the existing agreement among most management educators that leadership is both a skill and a behavior, such dual definition has created a continuous debate on whether leadership can be taught (Doh, 2003), (Connaughton, Lawrence, & Ruben, 2003). Many scholars in this field agree that although there are some natural talents beneficial in leadership effectiveness, other significant aspects of knowledge, skills and abilities that make up an effective leader can be taught (Rosenbach, 2003), (Doh, 2003), (Connaughton, Lawrence, & Ruben, 2003). In contrast, other researchers do not agree with the notion that leadership can be taught (Gunn, 2000). According to Rosenbach, individuals should strive to focus on improving their skills as speakers, debaters, negotiators, problem clarifiers and advocates (Rosenbach, 2003).

Although most management educators have similar perspectives on the idea that leadership can be taught, they differ significantly on the issue that leadership education is the comprehensive solution for developing a well-rounded leader. In fact, several of them argue that some aspects of leadership

are part of innate qualities and hence cannot be effectively acquired through formal teaching (Doh, 2003). For instance, there are some tacit dimensions of leadership that involve different processes required to gain commitment to a strategy and vision. There are also other components of empowering employees like building relationships and demonstrating confidence with humility that can never be effectively addressed by formal classroom training. Such components of leadership education can be acquired only through practical experiences like case studies and on the job learning (Doh, 2003), (Gosling & Mintzberg, 2004).

Studies show that early experiences in life impact adult leadership potential. Child psychologists found that personal traits like the ability to understand and deal with others, the need for achievement, and confidence and assertiveness are influenced substantially by childhood and adolescent experiences and parental support (Gardner, 1990). Various studies credit family influences on such characteristics as intelligence, self-confidence, assertiveness, achievement orientation, and reliability. Other studies showed that treatment by parents and parental standards influenced the development of leaders. Anderson (1937), Bishop (1951), and (Daly et al., 2015) found that children who were raised with positive, rather than negative parental interaction, were more active, socially outgoing, constructive, and attempted more leadership (Anderson, 1937), (Bishop, 1951), (Daly et al., 2015). Family life that emphasized a strong work ethic, high educational standards, and responsibility related directly to young people who sought leadership roles and social success (Daly et al., 2015). Opportunities in childhood and adolescence allow young people to practice leadership activities.

As the child grows older, the school setting (teachers, coaches and peer groups) begins to replace the influence of family life. Different interests and preferences impact these stages of development. For many young people this is the first time they have the opportunity to 'try' leadership. Social and school clubs, athletic teams, and other group situations allow individuals to plan, organize, make decisions, take responsibility, delegate, and perform other basic leadership functions. Also, at this time they begin to observe, recognize, and distinguish between effective and ineffective adult leaders. These mentoring relationships also impact the young person, and thus influence potential leadership behavior (Clark & Clark, 1994).

At this time, very little research has been conducted to study the role formal education might play in leadership development. The research that is available shows that formal education does positively correlate with achievement of recognized leadership positions. Generally, the higher the level of education directly relates to higher levels of managerial positions (Daly et al., 2015). However, it is important to recognize that this positive relationship between education and leadership does not reflect or support causation. The central question of how formal education influences and contributes to leadership performance remains unanswered (Brungardt, 1997).

As we move into adulthood, on the job experiences provide valuable learning for leadership. Studies talk about the importance of challenging jobs and opportunities as a source for learning leadership skills. Gardner (1990) expresses that most leadership is not developed by specifically design training sessions, but rather obtained through the context of the normal work day. Learning on the job is enhanced by the fact that any workplace generates a certain amount of pressure, and ambitious people generate inner pressures of their own. Seeking recognition, fearing failure, working against deadlines, experiencing the urgencies of life in the real world, they learn lessons they do not soon forget (Gardner, 1990). Learning from experience occurs through two developmental environments that allow almost any work situation to serve as an opportunity for growth. Learning from the people you work with and the task itself provide the situations for leaders to enhance their potential (Kouzes & Posner, 1987), (Lombardo & Eichinger, 1989), (Posner & Kouzes, 2013).

Besides to human relations, task-oriented functions also contribute to the development of leadership. Tasks that are complex and ambiguous serve to enhance development. Work assignments that are constantly changing and are unpredictable provide challenging opportunities for new and innovative solutions. Research showed that the best opportunity for professional growth in leadership occurred when individuals stretched themselves in difficult and challenging tasks (Lombardo & Eichinger, 1989), (Kouzes & Posner, 1987), (Posner & Kouzes, 2013).

While most researchers in the field of leadership studies agree that experience plays a critical role in leadership development, many also recognize the importance specialized leadership education and training can play in that process. Leadership educators believe in the basic assumption that

much of what makes a leader successful is teachable. Skills and abilities utilized by leaders such as communicating, problem solving, visioning, decision making and so on, are learnable behaviors (Brungardt, 1997).

Traditional business education is primarily focused on theoretical preparation of students that often entails rigorous conceptual and analytical training. In fact, most business schools have centered their curriculum on specific knowledge development than its practical applications (Nirenberg, 2003). Researchers from Ohio University argue that the traditional business curricula in business schools emphasized more on equipping students with functional knowledge like accounting, finance, marketing, human resource etc. instead of providing an integrated and cross-functional approach. They also note that behavioral and communication skills are critically absent in the traditional education system. The practice of addressing the need for such skills by incorporating one or two communication courses instead of presenting these skills in the context in which they may be used in the market place is often ineffective (Milter & Stinson, 1995).

Most management educators have similar perspectives on what they think are major ingredients of an effective leadership education. They suggest particular skills that can be well taught in order to prepare future leaders. A program that is highly practical and uses techniques such as coaching, training and mentoring is likely to be effective leadership education (Gosling & Mintzberg, 2004). Others believe that skills such as analytical, oral and written communication and problem solving can be successfully developed with leadership training. Some authors for instance, argue that leadership skills do not develop overnight as a consequence of having particular cognitive abilities or expertise (Connaughton, Lawrence, & Ruben, 2003).

Elmuti, Minnis and Abebe have developed a multi stage leadership education model which classifies education and the importance for leadership skills development into four dimensions: fundamental knowledge and skills, conceptual and interpersonal skills and practical business skills (Elmuti et al., 2005).

#### *1.6.2 The dimensions of the multi stage leadership education model*

Fundamental knowledge and skills can be considered as the base for further leadership skills development. In essence, this first stage includes basic mathematics, financial, computer and

similar 'hard' skills that often are given in almost all business and other disciplines. It also incorporates other basic multi-disciplinary knowledge. It should be noted that this stage does not necessarily represent leadership skills but rather serves as a stepping stone for further leadership skills development (Elmuti et al., 2005).

The second stage in the model highlights the important conceptual and interpersonal skills that need to be developed for effective leadership education. This stage can often be referred as the principal element of leadership education. It focuses on developing the major conceptual skills such as strategic planning, quality issues and change management across the organization. It also stresses on global orientation in leadership. The twenty-first century poses a great challenge and unprecedented opportunity for many businesses. Due to the rapid economic globalization and very advanced telecommunication infrastructure, multinational companies now operate on a global scale and in an increasingly diverse environment. This global expansion demands globally literate managers and leaders (Elmuti, 2004). If leaders have to be effective nowadays, they have to be thoroughly trained in the areas of cross-cultural analysis and language requirement, global economic landscape and political/legal environments of different markets. Managers need to focus on and integrate international management training and leadership development topics in their curricula in order to be seen a globally literate leader. Effective leaders often exhibit such attributes as inquisitiveness, emotional connection with employees and stakeholders, integrity, capacity for managing uncertainty, business and organization savvy (Gosling & Mintzberg, 2004).

Along with the conceptual skills discussed above, tomorrow's leaders need to develop strong interpersonal skills. Such skills range from written and oral communication and team work to conflict management and cultural sensitivity. The leader's ability to communicate the vision and overall strategies of the organization to followers is of paramount importance. Moreover, the rapidly changing nature of global business creates the necessity of working effectively in cross cultural teams. Similarly, successful conflict management skills are emerging as important leadership qualities (Rosen, 2000).

The last and perhaps most important stage of the model relates to the development of practical skills which provide experience for leadership skills development. As outlined in the preceding

discussion, this stage determines the effectiveness of leaders in the market place since it indicates the level of integration of conceptual and theoretical knowledge with real world application. Leadership programs need to embrace practical aspects of learning that tend to involve practical training and coaching from industry practitioners. Such a leadership curriculum enables the subjects to practice what they have already learned in the real world environment with the necessary and constructive feedback. Often, students in business schools are exposed to the foundational theoretical work in formal lectures and books fairly well. However, many training programs fall short of realistic experiential exercises like case studies and action learning that develops conceptual, technical, interpersonal and strategic thinking (Doh, 2003), (Remidez & Fodness, 2015).

Gosling and Mintzberg (2004) have similar positions. They strongly criticize the idea of leadership education that is solely confined to the classroom setting. In fact, their major argument is that managers cannot simply be created in a class room. The authors emphasize that providing education in the context of deep-rooted practical experience turns the class room into a rich arena of learning (Gosling & Mintzberg, 2004). The other important tool to improve practical business skills is mentoring which can be realized within organizations. A mentor would meet with the mentee regularly on a one to one or group basis to explore and advocate practical issues and positions. Last but not least, on the job training can provide invaluable practical experience for leadership skills development (Elmuti et al., 2005), (Remidez & Fodness, 2015).

The development of knowledge and skills plays an important role to become an effective leader. Especially the investment in practical training skills like taking on a challenging job are accelerating factors for career development. Based on this conclusion women face barriers for their career progression as they have less years in practical training compared to men due to less professional working time as a consequence of raising children. In the following further constraints for female career progression are discussed.

### **1.7 Prejudice and Stereotyping of Female Leaders**

Stereotypes are perceptions about the qualities that distinguish groups or categories of people (Schneider, 2004). They are typically thought of as over-generalizations, sometimes with negative connotations such as ‘thinking ill of others without warrant’ (Allport, 1954). Stereotypes can apply to

any category that a society considers important, from gender to caste to religious affiliation, and have been acknowledged in the literature since the start of the twentieth century. Lippmann's (Lippmann, 1922) original work on public opinion applied the word 'stereotype' to the pictures in our heads that shape our beliefs and 'stereotype' was also used in the seminal Princeton studies first carried out in the late 1920s (Katz & Braley, 1933). People use stereotypes as cognitive short-cuts in anticipating the motives, abilities and behaviours of others. Rather than having to figure out each person they meet, people routinely use stereotypes for the sake of expediency (Schneider, 2004) and as energy-saving devices (Allport, 1954). This convenience factor increases under time pressure and contributes to the enduring human phenomenon of stereotypes (Fiske, 2012). Stereotypes are further reinforced by various social mechanisms, such as the spill-over effect, which suggests societal gender roles may contaminate organizational roles and result in different expectations for female and male managers. In short, our gender belief systems include stereotypes and gender-role attitudes (Fiske, 2012). For women in leadership roles, the matter is complicated as the reference frames for potentially evaluating women are limited (Lee & James, 2007) and stereotyping is seen as the best bet we have. Stereotyping is based on familiar women's roles (mothers, wives, nurses, etc.) and the characteristics they embody, which are currently inconsistent with those that traditionally define a good business leader. Stereotypic views specifically on gender and leadership have been studied for the last 50 years. Studies in the 1960s and 1970s confirmed the notion that women were thought to be unfit for management positions (Nieva & Gutek, 1981) and the attitude, 'Think manager – Think male' (Schein, 1973) prevailed. While researchers considered the actual leadership behaviour of men and women to be similar in practice, it was perceived to be widely different by both genders (Day & Stogdill, 1972). Later, it seems as if women have changed their perceptions to some extent, but men less (Duehr & Bono, 2006).

Any female advantage in leadership style which has been discussed previously might be offset by disadvantages that come from prejudice and discrimination against women as leaders. Prejudice consists most of the time of unfair and negative evaluation of a group of people based on stereotypical judgments of the group rather than the behaviour or qualifications of its individual members. When people hold stereotypes about a group, they expect members of that group to possess characteristics and exhibit behaviour consistent with those stereotypes (Werth & Mayer, 2008). Individual women are very often perceived as selfless, warm and communal whereas men are perceived as assertive, instrumental and agentic which people perceive as characteristics of successful leaders. This perception

or prejudice hinders women to be assigned for top Management positions where assertiveness and instrumentality is needed to succeed (Eagly & Carli, 2003), (Rhode, 2016).

### *1.7.1 The negative impact of stereotyping on female career development*

Women have identified stereotypes as an important barrier to the most senior positions in business (Catalyst, 2002), and scholars have echoed this view consistently for years (Antal & Izraeli, 1993), (Heilman, 2001), (Schein, 2001), (Rhode, 2016). This is consistent with the commonly-held notion that perceptions of appropriate leadership are influenced by gender (Campbell, Bommer, & Yeo, 1993). Women who do assume leadership roles are often judged negatively by both men and women alike. If they adhere to traditional female characteristics e.g. nurturing or communal they are considered too nice and therefore not capable or competent. If they assume more male characteristics (agentic) they are considered to be too harsh. Thus women who attain leadership positions have to make a trade-off between being liked versus respected, or ‘damned if you do, doomed if you don’t’ (Catalyst, 2007). Also, as is often said, women have to work harder than men in order to prove themselves (Bielby & Bielby, 1988). The concern regarding the evaluation of their performance rather than focusing on opportunities for learning can result in, for example, not taking on challenging assignments which are necessary for career progression (Ely et al., 2011).

Despite doubts about women’s competence as leaders, one might expect that highly agentic female leaders would be able to overcome these difficulties. However people may perceive women who demonstrate clear-cut leadership ability as insufficiently feminine. That means that a female leader may be rejected because people perceive her to lack the agentic qualities associated with effective leadership or because she possesses too many of them. This rejection as ‘too masculine’ results from prescriptive gender role norms which are consensual expectations about what men and women should do and how they should act. Women should show communal behaviour and not too much agentic behaviour (Fiske & Stevens, 1993). These results have not changed substantially over time. Male leaders are portrayed as being assertive, self-reliant, competitive, objective, forceful, ambitious, emotionally stable and self-confident (Paris, Howell, Dorfman, & Hanges, 2009). Presumably the most important obstacle for women in management is the persistent stereotype that associates management with maleness. Furthermore, the perceived association between management and maleness seems to be robust and universally accepted (Ryan & Haslam, 2007). This predilection stems from people’s embedded theories of gender and management that are not merely descriptive but essentially prescriptive. Consequently,

if managerial positions are perceived to be inherently masculine, then males would necessarily be more qualified than women (Schein, 2007). Evidence suggests that a male executive with the above traits is perceived as behaving properly and exhibiting leadership whereas a female who behaves likewise is regarded as inappropriately forceful (Ryan & Haslam, 2007). Consequently, if women executives' behaviour concurs with the masculine gender stereotype (Powell et al., 2008), they are not regarded as performing accepted as performing in an appropriate manner (Carbonell & Castro, 2008). However, should their behaviour concur with the leader stereotype, they are not thought to be behaving appropriately as women.

As a result of these injunctive demands, female leaders often receive less favourable reactions than male leaders do for male-stereotypic form of leadership. This generalization was confirmed in a meta-analysis of Goldberg paradigm experiments on the evaluation of male and female leaders (Eagly, Makhijani, & Klonsky, 1992). Women received lower evaluations than equivalent men for autocratic leadership but comparable evaluations for democratic leadership. Also, women encounter more dislike and rejection than men do for showing dominance, expressing disagreement, or being highly assertive or self-promoting. In addition, dominance lowers women's but not men's ability to influence others. The resistance to female leadership demonstrated by these findings is problematic for female leaders, especially because it appears that men who currently hold most positions of power and authority generally find female leadership more objectionable than women do. Male evaluators rate female leaders less favourably than equivalent male leaders (Eagly & Carli, 2003), (Rhode, 2016).

Stereotyping can produce its own reality through the confirmation of the expectation, the so called 'self-fulfilling prophecy' which may constraint women's performance in the stereotypic domain (Watzlawick & Kreuzer, 1988). When a negative or positive stereotype exists about a certain group, members of the group perform in a way that confirms this stereotype. This phenomenon is called the 'stereotype threat' (Steele, 1997). For women in management, this may result in the internalization of the idea that women are less capable of assuming leadership roles. As such, they do not identify themselves with potential leadership positions, considered male territory, thus undermining their motivation and potentially leading to lower performance. Stereotype threat has been proven to impact women negatively in academic fields such as lower performance on math tests, and, importantly, in women's professional aspirations (Roberson & Kulik, 2007).

To summarize, women face discriminatory barriers mainly in male-dominated and masculine environments and with male evaluators. The relative success of women and men in leadership roles depends on context. In masculine contexts, prejudicial reactions not only restrict women's access to leadership roles but also can reduce the effectiveness of women who occupy these roles. These perceptions must be framed by the well-known glass ceilings that have restricted women from positions that carry substantial responsibility and authority (A H Eagly & Carli, 2003), (Rhode, 2016).

### *1.7.2 The impact of different cultures on the perception of female leadership*

Apparently the views of what constitutes effective leadership especially during economic crisis and the perceived characteristics of men and women as leaders are consistent across cultures, even the ones that are considered to promote gender egalitarianism. Thus the problem is fundamentally the same insofar that most managers, regardless of cultural background, consider stereotypical male behaviours as closer to good leadership than stereotypical female behaviour (Prime, Jonsen, Carter, & Maznevski, 2008), (Schein, 2001), (Williams, John & Best, 1990). Nevertheless, beliefs regarding gender and leadership do vary among cultures and approaches. Managing these beliefs or stereotypes may vary from country to country and from organization to organization.

Leadership and related behavioural values must be understood within a given cultural context, or as Geertz (Geertz, 1973) stated, 'There is no such thing as human nature independent of culture.' Leadership research shows that cultures often have very different notions and perceptions about what behaviours contribute to outstanding leadership (Ardichvili & Kuchinke, 2002), different leadership prototypes (Paris et al., 2009), and differences in leadership style as perceived by male and female subordinates (Stoeberl, Kwon, Han & Bae, 1998). Other studies, such as Globe, find universal characteristics of leaders (House, Hanges, Javidan, Dorfman & Gupta, 2004). As such, differences in leadership styles have even been reported to be based more on national culture than on gender (Stoeberl, Kwon, Han & Bae, 1998). It is known from cross-cultural research that a number of cultural dimensions including values and practices relating to gender equality differ from country to country. One approach uses labels such as masculine and feminine societies. Hofstede, (Hofstede, 1980) argued that masculine societies expect men to be assertive and tough and women to be modest and tender. Thus cultures seem to vary in the degree to which they associate feminine and masculine stereotypic traits with women and men, respectively. This means that, in some cultures, people are more likely to

describe women with feminine stereotypic traits and men with masculine stereotypic traits than in other cultures. Several studies have shown how acceptance of certain leadership behaviours such as being assertive or affective varies between cultures (Trompenaars & Hampden-Turner, 1998). For example, collective cultures tend to stress traditional authority (Hofstede, 1980), (Triandis, 2001), which would predict perceived typical male leadership attributes as more appropriate than perceived typical female leadership styles. The Globe study (House, Hanges, Javidan, Dorfman & Gupta, 2004), overall, found effective leadership to be universal which means to endorse leaders as team players, charismatic, value based, participative, humane and to reject leaders who are autonomous (individualistic, independent) and self-protective (competitive, status conscious, self-centred). The former are considered to be more likely female traits (female advantage) and the latter more likely to be male.

Research by Paris (Paris et al., 2009) found neither men nor women endorsed leadership that was humane, and both men and women rejected leaders that were autonomous. Nevertheless, men and women did have different prototypes of leadership as a function of culture (gender egalitarianism), for example, while there was no gender difference found with regard to endorsing participation, gender egalitarianism moderated the degree to which men and women's prototypes of leadership as participative differed. One line of thought supporting the importance of culture follows Eagly and Johannesen-Schmidt's (Eagly & Johannesen-Schmidt, 2001) perspective of social role theory in which gender differences in leadership behaviour appear and disappear with shifts in social context. According to social role theory, leadership styles and what is appropriate behaviour for men and women may be influenced by different cultures.

Findings show that stereotypes concerning the communion and agency of women and men are products of the social roles that women and men have been observed to occupy. Eagly and Steffen (Eagly & Steffen, 1986) demonstrated that people in domestic positions are regarded as more communal and less agentic than people in paid occupations. Because women are still primarily perceived as homemakers and men as employees, each are assigned the characteristics corresponding to these traditional roles, even when they have assumed new and different occupations in society. This is also culturally relevant because the proportion of domestic work completed by men or women varies greatly between nations. Gratton (Gratton, 2007) have demonstrated how team leaders often experience spill-over between work and home and how this is different for men and women as women team leaders are six times more

likely to carry the domestic burden than male team leaders. This domestic burden of women contributes to maintaining gender inequalities in organizations (Acker, 2006). Still, the impact of the cultural context on gender stereotyping and how it relates to what is considered to be effective management behaviours has remained relatively unexplored (Prime et al., 2008). Stoeberl et al. (Stoeberl, Kwon, Han & Bae, 1998) reported that no comprehensive empirical study was available at that time to assess the degree and directional relationship between culture and gender and the style of leadership. As most cultures have gender-role stereotypes (Matusak, 2001), the lack of research in this field is surprising.

It can be summarized that women tend to possess transformational leadership skills which are very helpful in avoiding critical business situations. Despite this insight, women are still underrepresented in leadership positions. One reason for this phenomenon can be stated as prejudice and stereotyping about the perception of lower leadership abilities of women. In the last section of this chapter major constraints for female career progressions are summarized and reflected.

#### **1.8 Major Constraints for Female Career Progression**

Research on leadership styles in respect to gender has been conducted since 1950 and with the fast growing economy, technology and worldwide competition, the importance of effective leadership in organizations increases. Different leadership styles have been introduced and their specific correlation to gender has been compared and discussed. Theoretical approaches and discussions of the female role development play an important role to understand female leadership style characteristics and prejudice and discrimination against female leaders. The different standpoints of various researchers in respect to the female role development have been summarized in table 1-1.

Main conclusions:

- Early gender discussions indicate that women are oppressed by men and that they can only be liberated from men and become equal to men if they are included in the industrial production process.
- Labour which does not create wealth with market value is considered to be secondary and socially insignificant.
- Female investment in knowledge and skills is an important factor to decrease discrimination of women on the labour market.

**Table 1-1: Theoretical standpoints in respect to the female role development**

Researcher	Research Field	Year	Outcome of Research with special focus on gender
Marx	Gender problems in the context of Marxist economic theory	19th Century	<ul style="list-style-type: none"> <li>o first who considered gender problems</li> <li>o seeks answers to the oppression of women</li> <li>o links female liberation with the elimination of the capitalist society</li> </ul>
Engels	Origin of the family, private property and the state	1896	<ul style="list-style-type: none"> <li>o liberation of the women through participation in industrial production</li> <li>o household slavery stopped by including women in industrial production</li> <li>o housekeeping and raising of children was outsourced from the family</li> </ul>
Veblen	Founder of institutionalism with the theory of leisure class	1899	<ul style="list-style-type: none"> <li>o women as the goods of the usurper</li> <li>o women as the producer of consumer goods for her master</li> <li>o women as an object to demonstrate male success and wealth</li> </ul>
Hartmann	Two systems theory	1979	<ul style="list-style-type: none"> <li>o capitalist society values only labour that creates wealth with market value</li> <li>o doesn't value labour without market value like raising children</li> <li>o labor of women is considered secondary and socially insignificant</li> <li>o women put time in household and have low time to self-educate or engage full-time</li> <li>o women are seen as second class workers on the labour market</li> </ul>
Weizman	Family law versus privately agreed marriage contracts	1981	<ul style="list-style-type: none"> <li>o state imposes limitations on the terms of entry into marriage as well as divorce</li> <li>o gender inequality present in family laws</li> <li>o private marriage contracts compensate for gender inequality</li> </ul>
Delphy	Feminist research; family method of production	1984	<ul style="list-style-type: none"> <li>o exploitation of women is rooted in the family as women's work is performed at home</li> <li>o women are unpaid employees of their husbands</li> <li>o access to labour market only possible if men cannot fully support the family</li> <li>o sexual exploitation of women by controlling women's reproductive functions</li> </ul>
Becker	Neoclassical and neoliberal theory; new theory of the household; Human capital	1985	<ul style="list-style-type: none"> <li>o household is seen as productive function and value of household labour is estimated</li> <li>o labour division and distribution of income within the family</li> <li>o common decision making within the family for accessing the labour market</li> <li>o choice of a women to work in or outside the house is determined by where it is possible to earn</li> <li>o women are discriminated on the labour market by losing time on raising children</li> <li>o women can build less human capital than men because of less labour experience</li> </ul>

Source: created by the author

Reflection on the conclusions:

There can be seen some similarities of the male breadwinner model with early gender discussion. In the male breadwinner system women are discriminated in many respects by staying at home and taking care about the children instead of participating to the economic processes, gaining work experience and know-how. With the development of the female career model the equality between men and women increases as women became part of the labour market, become financially independent and strengthen their purchasing power. The investment into knowledge and skills is a required prerequisite to enter and develop on the labour market. By increasing knowledge and skills of women, the chances rise to create a higher value on the labour market compared to the household partner.

Leadership style discussions started in the fifties when different researchers developed task oriented, interpersonally oriented, autocratic and democratic leadership style characteristics. Based on empirical

**Table 1-2: Leadership style discussion from 1950 onwards**

Researcher	Research Field	Year	Outcome of Research with special focus on gender
Borgatta, Bales & Couch	Task oriented leadership style	1954	<ul style="list-style-type: none"> <li>o maintain high standards for performance</li> <li>o more men related leadership style characteristics</li> </ul>
Richardson	People vs. tasks oriented leadership styles	1993	<ul style="list-style-type: none"> <li>o crisis proneness is often accompanied by masculine traits</li> <li>o narcissism and selfishness is seen as masculine traits</li> </ul>
Bass	Democratic vs. autocratic or participative vs. directive leadership styles	1990	<ul style="list-style-type: none"> <li>o democratic-autocratic dimensions are related to gender roles</li> <li>o men tend to be more agentic, autocratic and directive than women</li> </ul>
Eagly & Johnson	Compare sex differences in respect to democratic and autocratic leadership styles	1990	<ul style="list-style-type: none"> <li>o meta analysis to compare gender differences</li> <li>o women tend to democratic styles</li> <li>o men tend to task-oriented and autocratic styles</li> </ul>
Eagly, Johannesen-Schmidt & van Engen	Interpersonally oriented leadership style	2003	<ul style="list-style-type: none"> <li>o women tend to interpersonally oriented styles</li> <li>o helping, doing favors, being friendly and available is more a related characteristic</li> </ul>
Kaiser, Hogan & Bartholomew	People vs. tasks oriented leadership styles	2008	<ul style="list-style-type: none"> <li>o women tend to have a people oriented leadership style</li> <li>o men tend to have a task-oriented leadership style</li> </ul>
Johanson	People vs. tasks oriented leadership styles	2008	<ul style="list-style-type: none"> <li>o care and empathy characterize crisis preparedness</li> <li>o care and empathy have been identified as female leadership style</li> <li>o feminine traits facilitate crisis preparedness</li> </ul>
Avolio, Mhatre, Norman & Lester	People vs. tasks oriented leadership styles	2009	<ul style="list-style-type: none"> <li>o women tend to endorse the people-oriented style</li> <li>o men tend to endorse the task oriented style</li> </ul>

Source: created by the author

research outcome of some authors summarized in table 1-2, it can be stated that task oriented and autocratic leadership styles are more related to men leadership style characteristics which are relatively more dominant and controlling or more autocratic and directive than women's. Interpersonal and democratic leadership styles are more associated with female leadership characteristics of helping and doing favours for others.

Debates about the leadership styles of women and men gained momentum in the 1990s because of new research attempting to identify the styles that are especially matching with today's conditions and economic requirements. In this respect transformational, transactional and laissez-faire leadership styles have been introduced.

**Table 1-3: Leadership style discussions from the 1990ies**

Researcher	Research Field	Year	Outcome of Research with special focus on gender
Bass	Transformational, transactional leadership style characteristics	1985	<ul style="list-style-type: none"> <li>o described four transformational and two transactional leadership factors</li> <li>o transformational: inspirational leadership, charismatic leadership, intellectual stimulation, facilitation of self-actualization</li> <li>o transactional factors: reward on the fulfilment of obligations, management by exception</li> </ul>
Rosenthal, Hart & Kouzmin	Crisis management and male leadership	1991	<ul style="list-style-type: none"> <li>o crisis management required temporary concentration of power and decision</li> <li>o these characteristics are typified as masculine leadership</li> </ul>
Hackmann, Furniss, Hills & Paterson	Transformational, transactional and laissez-faire styles	1992	<ul style="list-style-type: none"> <li>o subordinates perceive greater correspondence between leaders' feminine attributes and their transformational style</li> </ul>
Bass, Avolio & Atwater	Laissez-faire	1996	<ul style="list-style-type: none"> <li>o laissez-faire is a form of management by exception leadership</li> <li>o laissez-faire leaders fail to respond to situations and problems systematically</li> </ul>
Vecchio	Transformational, transactional and laissez-faire styles	2002	<ul style="list-style-type: none"> <li>o transformational leadership is advantageous to women</li> </ul>
Eagly, Johannesen-Schmidt & van Engen	Transformational, transactional and laissez-faire styles	2003	<ul style="list-style-type: none"> <li>o meta analysis of 45 studies conducted</li> <li>o female leaders are more transformational and engaged in contingent reward</li> <li>o male leaders were more characterized by active management by exception and passive management by exception and laissez-faire leadership</li> </ul>
House, Hanges, Javidan, Dorfman & Gupta	Effective leadership in context to transformational and transactional leadership style characteristics	2004	<ul style="list-style-type: none"> <li>o effective leadership is universal which means to endorse leaders as team players, charismatic, value based, participative, humane and to reject leaders who are autonomous and self-protective</li> <li>o universal leadership is considered to be more likely female</li> <li>o autonomous leadership is considered more likely to be male</li> </ul>
Peters, G.A. & Peters	Transactional leadership style	2007	<ul style="list-style-type: none"> <li>o transactional leaders wait passively for subordinates to err before initiating actions</li> </ul>
Powell, Butterfield & Bartol	Transformational leadership style	2008	<ul style="list-style-type: none"> <li>o addresses compatibility between feminine traits and transformational leadership</li> </ul>

Source: created by the author

**Main conclusions:**

- Until the 1990ies women are not perceived as good leaders as outlined by several researchers. Women are perceived as too soft and not agentic and directive enough to lead effectively.
- The situation has changed during the last 20 years and women became effective leaders. It has been found out that women possess leadership characteristics which are very effective to avoid critical economic situations. Female leaders set high standards, act as a role model, empower followers to develop full potential and stimulate for thinking of innovative solutions. All these characteristics are very important in nowadays unstable and fast changing economy.

- Men are perceived as effective leaders during critical economic situations due to their directive decision making strength. However men tend to wait passively before initiating corrective actions or fail to respond to situations and problems systematically.

The building of knowledge and skills play an important role for leadership skills development for men as well as for women. However the question comes up why women are still underrepresented in top level business positions. There is the common understanding of various researchers that females are confronted with prejudice and stereotyping. Female stereotyping and prejudice may result from the historical perception of the female role. With the female role development, prejudice and discrimination could not be eliminated to an extent to accelerate women in their career progression.

**Table 1-4: Research about prejudice and stereotyping against women**

Researcher	Research Field	Year	Outcome of Research with special focus on gender
Schein	Stereotyping of female leadership	1973	<ul style="list-style-type: none"> <li>o think manager, think male</li> <li>o studies in the 1960s and 1970 confirmed the notion that women are thought to be unfit for management positions</li> </ul>
Nieva & Gutek	Stereotype threat	1981	<ul style="list-style-type: none"> <li>o women were thought to be unfit for management positions</li> </ul>
Steele	Stereotype threat	1997	<ul style="list-style-type: none"> <li>o women don't identify themselves with potential leadership positions</li> <li>o undermining of female motivation potentially leads to lower performance</li> </ul>
Schein	Stereotyping of female leadership	2001	<ul style="list-style-type: none"> <li>o women have identified stereotypes as an important barrier for career development</li> </ul>
Eagly & Clarli	Stereotyping of female leadership	2003	<ul style="list-style-type: none"> <li>o women are perceived as selfless, warm and communal</li> <li>o men are perceived as assertive, instrumental and agentic</li> <li>o assertive, instrumental and agentic is perceived as characteristics of successful leaders</li> </ul>
Roberson & Kulik	Stereotype threat	2007	<ul style="list-style-type: none"> <li>o stereotype threat has been proven in women's professional aspirations</li> </ul>
Paris, Howell, Dorfman & Hanges	Male leadership style	2009	<ul style="list-style-type: none"> <li>o male leaders are portrayed as being assertive, self-reliant, competitive, objective, forceful, ambitious, emotionally stable and self-confident</li> <li>o the biggest obstacle for women in management is the stereotype that associates management with maleness</li> </ul>
Ely & Rhode	Stereotyping of female leadership	2010	<ul style="list-style-type: none"> <li>o focus on women's performance rather than on opportunities</li> <li>o lost opportunities could be challenging assignments which are necessary for career development</li> </ul>

Source: created by the author

Female leadership advantages based on transformational and participative leadership styles are often offset by stereotyping. Women face discriminatory barriers mainly in male dominated and masculine environments. Female leaders are rejected because people perceive a lack of agentic qualities which are associated with effective leadership.

In the situation of crisis it was found out that women are effective leaders especially with the performance of the transformational leadership style for crisis preparedness. During crisis transactional leadership behaviours and fast decision making is important to overcome crisis and is seen as effective leadership. Especially during crisis male leadership which tend to autocratic and task-oriented leadership is evaluated as effective.

Summary of theoretical findings on leadership theories and leadership skill development:

- Leaders are not only born, some leadership abilities can be taught like written and oral communication, strategic thinking or change management. This statement enables women as well as men the same opportunities to develop their leadership skills. Based on this finding there is no advantage or disadvantage for women or men as both have the same chances to receive training in leadership skills irrespectively of gender.
- Early experiences in life impact leadership potential. The family and the treatment by parents have an influence of the development of future leaders. This statement indicates that a female leadership advantage or disadvantage may rise already from childhood and the treatment by the parents. In this respect the changing of the female role plays an important role. There is a difference of raising girls assuming they will take care of the household without participating to the labour market. Mainly in Western European countries society and social norms are still seen as hindering factors for female career development.
- Research shows that formal education does positively correlate with the achievement of recognized leadership positions. It was mentioned before that the educational level of women is very high and more than 50% of university graduates in Europe are female. As a consequence it could be expected that women are highly present in top level business positions. This is not the case and the conclusion can be drawn that there are other factors which decelerate women in achieving top level business positions.
- Leadership education is not enough to develop leadership, the development of practical skills and job experience provide valuable leadership development. Challenging job opportunities are a source for learning leadership skills. Women are in disadvantage to develop conceptual and practical business skills in Western Europe as they are not as many

years in professional life as men due to family reasons. Women are often not promoted because of a low perception of their future potential by men even though they have proven a high professional work performance in the past. Women have less global experience as a consequence of inflexible family situations. Women don't go for challenging opportunities due to their lower perception of their personal self-confidence. These are examples which penalize women to develop their practical leadership skills.

In this chapter it was found out that the female role within society and family constitution has developed over years. Women assert an important labour force potential which has not been fully capitalized up to now. Women invest in knowledge and skills, are strong in performing a transformational leadership style which is important to avoid critical situations. However women are still underrepresented in top level business positions. Prejudice, stereotyping and other factors like social norms or a masculine business environment are seen as hindering factors for female career progressions. In the following chapter the context will be set into reality by demonstrating and reflecting gender differences in Western and Eastern European countries.

## **2. THE CONTEXT OF THE PROBLEM IN WESTERN VERSUS EASTERN EUROPEAN COUNTRIES**

This chapter provides an insight into gender inequalities within Western and Eastern European countries, in concrete the educational level of male and female, gender differences in performance, differences in earnings and the actual number of women in top level business positions. Finally the description of women's developments within the European labor market as well as the description of constraints for female career progression and reasons for underrepresentation of women in top level business positions is analyzed and discussed.

Selected countries of the European Union representing the Western and Eastern European approach will be taken into consideration for analysis of the actual situation. The European Union consists of the following countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherland, Poland, Portugal, Romania, Slovak Republic, Slovenia, Sweden and the United Kingdom. The smallest member states in respect of habitants and square meters of the European Union namely Malta, Luxemburg and Cyprus are not taken into consideration for discussion in this chapter due to low percentage of representation. The focus is on countries with a high number of habitants and considerable extent of the country. Economic power, political influence or other factors have not been taken into account for the selection of the countries. Based on statistical peculiarities, selected countries are discussed within diverse sub-chapters. Even though Norway is not part of the European Union, Norway was included in the discussion for comparison reasons as Norway is a role model in respect of gender quota laws within Europe.

In 2006, gender quota became mandatory in Norway so that publicly listed companies had to implement 40% female board membership by 2008. Even though all publicly listed firms now in operation comply with the quotas for board membership, the number of female CEOs in Norway remains fairly stable. This result has come about because many of the most qualified women now sit on several boards, leading to a smaller than predicted increase in the overall number of women on corporate boards nationwide. The gender quotas in Norway have made only marginal improvements to the bottom line of corporations, a disappointing finding for supporters of the

quotas. A University of Michigan study found that the increased presence of women on boards in Norway led to slight losses in companies' bottom lines to date. This may be because women on boards tended to have less upper management experience, which has been linked to increased firm performance (Ahern and Dittmar, 2012). Despite these findings, there has been some advancement in firms' human capital as a result of the quotas, which may result in increased profits in the future. The presence of more women on Norwegian boards has corresponded with a higher overall education level on boards. Furthermore, Norwegian scholars have found that the presence of more women on boards has led to more focused and strategic decision-making, increased communication, and decreased conflict (Sweigart, 2012).

Gender inequalities have been shaped through history as a result of ideological, historical, cultural, social, religious, political and economic factors. Today policymakers are increasingly aware of the importance of integrating and mainstreaming gender issues and many organizations work to promote equal opportunities for women and men, at a regional, national and international level. Within labor markets, the European Union seeks to increase female labor market participation and to lift women out of poverty or social exclusion. Earning one's own living is one of the principal ways to achieve economic independence and this is likely to contribute to women's empowerment. However, there are a range of constraints that may prevent or hold back progress, these often center on the ability of women and men to reconcile their professional and private lives. For this reason, policy developments include the promotion of accessible and affordable childcare facilities and the removal of fiscal disincentives for second earners (European Union, 2015).

Recent trends include the increased number of women on the labor market and their progress in securing better education and training. Gender roles continue to influence crucial individual decisions on education, on career paths, on working arrangements, on family and on fertility. These decisions have an impact on the economy and society. It is therefore in everyone's interest to offer genuine choices equally for women and men throughout the different stages of their lives. However, gender gaps remain in many areas and in the labor market women are still overrepresented in lower paid sectors and underrepresented in decision-making positions. Parenthood keeps female employment rates down, and women continue to work more unpaid hours than men at home. Inequalities between women and men violate fundamental rights. They also

impose a heavy toll on the economy and result in underutilization of talent. On the other hand, economic and business benefits can be gained from enhancing gender equality by more extensively and more efficiently using female potential and talent pool (COM 491, 2010).

As a first step the development of gender equality within the European Union and its supporting legislative evolution will be analyzed and discussed.

## **2.1 Gender Equality within the European Union**

Equality between women and men is one of the common values on which the European Union is founded. Economic and social cohesion, sustainable growth and competitiveness, and tackling the demographic challenge depend on real equality between women and men. Europe has made remarkable progress towards equality between men and women during the past decades. It has taken commitment to combine its resources and instruments, legal, political as well as financial, to stimulate change. Today, more girls than boys graduate from universities. Today, more women than ever before participate in Europe's labor force. Today, Europe fulfils more of its talents and uses more of its skills. Obstacles to real equality, however, remain (COM 78, 2010).

Gender equality is one of the fundamental values of the European Union, enshrined in its treaties and a wide ranging legislative framework which promotes gender equality, including employment opportunities, working conditions, equal pay and social security benefits. In 2006, the European Commission adopted a 'Roadmap for Equality' (COM 92, 2006). This was followed in 2010 by the adoption of a 'Women's Charter' (COM 78, 2010). At the same year, the Commission adopted its 'Strategy for Equality between Women and Men 2010-15'. The latter is composed of five key areas which are equal economic independence for women and men, equal pay for work of equal value, equality in decision-making, dignity, integrity and ending gender violence, and promoting gender equality beyond the EU (COM 491, 2010). In the following the five key areas of the European Union's strategy for gender equality will be displayed more in detail.

### Equal economic independence

Discrimination, educational stereotypes, labor market segregation, precarious employment conditions, involuntary part-time work and the unbalanced sharing of care responsibilities between men and women affect the life choices and the economic independence of many women. The

European Union displayed its commitment to ensure the full realization of women's potential and the full use of their skills, to facilitate a better gender distribution on the labor market and more quality jobs for women by setting quantitative targets where appropriate. This should enable a healthy work-life balance for men as well as for women (COM 78, 2010).

Economic independence is a prerequisite for enabling women and men to exercise control over their lives and to make genuine choices. Earning one's own living is the main way to achieve this and there has been progress in the participation of women on the labor market during the last decade, with the female employment rate rising to 63% within the European Union. Women accounted for 9.8 million out of 12.5 million additional employment between 2000 and 2009. This increased participation has contributed to economic growth in the European Union. Getting more women on to the labor market helps counterbalance the effects of a shrinking working-age population, thereby reducing the strain on public finances and social protection systems, widening the human capital base and raising competitiveness (COM 491, 2010).

The impact of parenthood on labor market participation is still very different for women and men in the EU today because women continue to shoulder a disproportionate part of the responsibilities involved in running a family. Many women feel that they still have to choose between a career and their children. Member States which have put reconciliation policies in place are seeing high numbers of both women and men in work and relatively sustainable birth rates. The European Commission is paying particular attention to the availability of affordable high-quality care. The proportion of female entrepreneurs which is at 33% overall and 30% in start-ups, is short of optimum and most women still do not consider entrepreneurship as a relevant career option (COM 491, 2010).

#### Equal pay for equal work and work of equal value

Women in the European Union still earn on average 18% less than men for every hour worked. They have fewer resources during their working life and in retirement, face more difficulties in accessing finance and therefore are more affected than men by all forms of poverty. The European Union reaffirms its legislative and non-legislative commitment to close the gender pay gap (COM 78, 2010).

The principle of equal pay for men and women for work of equal value is enshrined in the European Union treaties. Despite that, the gender pay gap in the European Union remains on average at 18%, with Estonia at 31%, the Czech Republic at 26%, Austria at 26%, and Germany at 23% against Italy at 5%, Slovenia at 9%, and Belgium and Romania at 9%. The root causes of the gender pay gap extend well beyond the question of equal pay for equal work. There is a gap between women's educational attainment and professional development, thus special attention should be paid to the transition between education and the labor market. The causes of the pay gap also derive from segregation in the labor market as women and men still tend to work in different sectors and jobs. On the one hand women are often over-represented in certain sectors like health care, education and public administration which are generally less valued than typically male professions. On the other hand, within the same sector or company the jobs done by women tend to be of lower value and less well paid. The pay gap also reflects other inequalities on the labor market mainly affecting women, in particular their disproportionate share in family responsibilities and the difficulties in reconciling work with private life. Many women work part-time or under atypical contracts. Although this permits them to remain in the labor market while managing family responsibilities, it can have a negative impact on their pay, career development, promotion prospects and pensions (COM 491, 2010).

#### Equality in decision making

Women still do not have full access to the sharing of power and decision-making. Gender balance in decision-making, in political and economic life and in the public and private sectors, will help Europe shape more effective policies, develop a gender aware knowledge based society, and create a stronger and more prosperous democracy. The European Union displays its commitment to pursue the fairer representation of women and men in positions of power in public life and the economy. The European Union promotes a greater share of women in positions of responsibility in order to improve gender balance within the Commission (COM 78, 2010).

Despite progress towards a gender balance in political decision-making, much remains to be done. On average, only one in four members of national parliaments and ministers of national governments is a woman. In economic decision-making, the proportion of women is lower than

that of men at all levels of management and decision-making. Women represent only one in ten board members of the largest publicly listed companies in the European Union and 3% among the presidents of the board. Research shows that gender diversity pays off and that there is a positive correlation between women in leadership positions and business performance. Despite the internal goal set in 2005, of having 25% of leading positions in the public research sector filled by women, the target is still some way off as only 19% of full professors in the European Union universities are women. The prevailing gender imbalance in science and research is still a major obstacle to the European objective of increasing competitiveness and maximizing innovation potential. The Commission applies the same standards it encourages others to set by making the necessary efforts to improve its internal gender balance, especially in decision making positions (COM 491, 2010).

#### Dignity, integrity and an end to gender based violence

The full enjoyment of fundamental rights by women and girls is an inalienable, integral and indivisible part of universal human rights and is essential for the advancement of women and girls, peace, security and development. Gender based violence, including harmful customary or traditional practices, constitutes a violation of fundamental rights, in particular human dignity, the right to life, and the right to the integrity of the person. Such violation prevents the exercise of a self-determined life. The European Union does not tolerate gender-based violence and steps up efforts to eradicate all forms of violence and to provide support for those affected (COM 78, 2010). There are many forms of violence that women experience. These include domestic violence, sexual harassment, rape, sexual violence during conflict and harmful customary or traditional practices such as female genital mutilation, forced marriages and honor crimes. It is estimated that in Europe, 20% to 25% of women have suffered physical violence at least once during their lives (COM 491, 2010).

#### Gender equality beyond the European Union

The European Union is committed to promote gender equality in all contexts, including conflict and post-conflict countries. Reducing gender inequalities, tackling gender-based violence, and promoting women's rights are essential for developing sustainable and democratic societies. The commitment is to promote and strengthen cooperation with international and regional organizations on advancing gender equality, making full use of the whole range of available instruments and

tools. It also means to work on gender equality in partnership with all stakeholders, including civil society, at national, European, and international levels (COM 78, 2010).

Through all relevant policies under its external action, the European Union can exercise significant influence in fostering gender equality and women's empowerment worldwide. Candidate countries must embrace the fundamental principle of equality between women and men. Monitoring the transposition, implementation and enforcement of the European Union legislation in this area remains a priority of the enlargement process. In the context of the European Neighbourhood Policy abbreviated by ENP, the European Union supports partner countries' efforts to promote gender equality. The European Neighbourhood Policy sets out a jointly agreed agenda of reform priorities and contain commitments of partner countries to engage in dialogue on related issues and to carry out policy and legislative reforms (Kelley, 2006).

The European Union is actively cooperating with international organizations working on gender equality such as the International Labor Organization, the Organization for Economic Co-operation and Development abbreviated by OECD, the United Nations and the African Union to produce synergies and foster women's empowerment, as well as with the new United Nation's Entity for Gender Equality, United Nations Women, and will support civil society participation, capacity building and advocacy on gender equality and women's empowerment. The European Union also integrates gender equality into its trade policy as part of a wider framework of sustainable development and encourages the effective application of the International Labor Organization's core labor standards and its Decent Work Agenda, including in relation to non-discrimination, in its preferential trade agreements. The issue of gender equality is also addressed in the Sustainability Impact Assessments which are prepared to help guide negotiators in trade discussions (COM 491, 2010).

It can be summarized that one core element of the European Union is gender equality and that it is taking effort to support gender equality within its member states and with the rest of the world. Even though gender equality is one of the common values of the European Union it is not found in the extent expected. The situation has improved but is far away from gender equality. Especially when we look at decision making. Women are still underrepresented in management positions. In

chapter three it will be evaluated what other factors might be accelerators for women career progression in order to reach gender equality in decision making. In the following it will be analyzed if gender equality can be found in the educational level of male and female in selected Western and Eastern European countries. Moreover other socio-demographic indicators like different earnings of women and men or the number of women in management boards will be compared and discussed.

## **2.2 Educational Level of Male and Female in Selected European Countries**

Over the past half century, Western and Eastern European countries have made significant investment in human capital, achieving significant increases in the educational attainment of both men and women. Progress in educational attainment among women and men has brought along improvements in labor productivity, labor force participation, as well as child mortality, fertility and health. The more equal gender distribution of education has furthered these positive effects. Thévenon et al. (Thévenon et al., 2012) find that increases in educational attainment have accounted for about 50% of GDP growth in OECD countries between 1960 and 2008, and about half of this increase was due to improvements in women's educational attainment compared to men's.

Nevertheless, educational outcomes still vary widely across and within countries. This variation exists for many reasons, ranging from the resources given to the educational system, the educational practices followed by countries, differences in educational opportunities for students from disadvantaged socio-economic background, and differences in learning resources outside of the formal educational system. Educational outcomes also vary by gender, with some stylized facts common to all countries. Compared to girls, boys have become more likely to underperform in secondary education and less likely to complete higher education degrees. At the same time, women remain significantly underrepresented among graduates in fields such as engineering or technology while men are underrepresented in fields such as education and health and welfare. Women predominate among graduates in the field of education and health and welfare. They represent 70% or more of tertiary students in this field in all Western and Eastern European countries discussed in this chapter. In contrast, in all countries except Denmark, Estonia, France, Italy, Poland, the Slovak Republic, Slovenia and Spain, 30% or fewer of all graduates in the fields of engineering, manufacturing and construction are women. Moreover, this situation has changed

only slightly since 2000, despite many initiatives to promote gender equality in Western and Eastern European countries. For example, in 2000, the European Union established a goal to increase the number of female tertiary graduates in mathematics, science and technology by at least 15% by 2010, and to reduce the gender imbalance in these subjects. However, progress towards this goal has been marginal. The Czech Republic, Germany and the Slovak Republic are the only three Western and Eastern European countries in which the proportion of women in science grew by at least 10 percentage points between 2000 and 2010. The proportion of women in engineering, manufacturing and construction is also low and only increased in low percentages during the last 10 years except in Austria and the Netherlands with an increase of 7% (OECD, 2012a.).

The observed gender gaps are the result of social constructs both inside and outside the education systems and not the result of intrinsic differences in preferences and ability between men and women they imply an underutilization and misallocation of talent, which limits economic growth. In addition, there are costs at the individual level. Underperformance in education hinders employment opportunities and increases the risk of poverty and social exclusion. Horizontal segregation in the field of study contributes to occupational segregation, which hinders employment opportunities and significantly contributes to gender gaps in earnings (Del Pero & Bytchkova, 2013).

A rich set of indicators describes the improvement of educational attainment among women over the past decades, and various dimensions of male underperformance in education in OECD countries (Del Pero & Bytchkova, 2013).

Over the past decades, in the European Union, educational attainment among women has increased significantly and more rapidly than among men. As a result in most of these countries gender gaps in educational attainment have closed or even reversed and women nowadays often have higher educational attainment than men. Table 2-1 shows a selection of Western and European countries indicating the development of average years of completed education for men and women aged 25 to 64. The selection of the countries represents Western as well as Eastern European countries. The OECD average has also been included in the table to allow a broader comparison.

**Table 2-1: Average years of completed education, men and women aged 25-64**

Geographic Area	Country	1950		1970		1990		2010	
		Men	Women	Men	Women	Men	Women	Men	Women
Western European Countries	Austria	4.1	3.4	7.6	5.3	9.4	7.6	10.9	9.7
	Belgium	6.7	6.1	7.7	7.0	9.9	9.6	11.1	11.3
	Denmark	8.0	6.9	9.1	7.9	10.5	9.8	10.6	10.5
	Finland	5.4	5.4	7.0	6.9	9.3	9.1	10.8	11.4
	France	4.8	4.0	5.5	4.9	8.2	7.7	11.2	11.0
	Germany	5.4	4.7	5.8	5.2	9.0	8.0	12.8	12.4
	Greece	5.2	3.1	7.2	5.7	9.2	8.1	11.3	11.3
	Ireland	7.6	7.8	8.7	8.7	11.0	11.1	11.8	12.2
	Italy	4.7	3.9	5.9	5.1	8.4	7.7	10.6	10.6
	Netherlands	6.5	6.2	8.6	8.0	10.9	10.2	11.6	11.3
	Norway	7.8	7.6	9.1	8.3	11.7	11.4	12.6	12.9
	Portugal	2.7	2.2	4.7	2.9	7.4	6.6	8.4	8.8
	Spain	2.9	2.2	4.2	3.3	7.3	6.6	10.9	11.1
	Sweden	6.8	6.5	8.1	7.7	10.7	10.9	11.9	12.4
	United Kingdom	5.6	5.9	7.3	7.2	8.1	8.4	9.4	10.3
Central & Eastern European Countries	Czech Republic	8.7	7.7	10.9	9.0	11.8	11.2	12.7	12.5
	Estonia	6.8	6.3	7.9	7.6	9.7	10.2	12.0	12.8
	Hungary	7.3	6.8	8.3	7.8	9.9	9.1	12.0	12.0
	Poland	5.5	4.8	7.5	6.8	9.0	8.9	10.0	10.5
	Slovak Republic	8.8	7.7	10.7	9.1	11.3	10.7	11.5	11.8
	Slovenia	6.9	5.2	8.6	7.1	11.3	10.9	11.9	12.1
OECD	OECD average	6.3	5.6	7.8	6.9	9.9	9.3	11.3	11.3

Source: created by the author from Del Pero, A. S., & Bytchkova, A. (2013). A bird's eye view of gender differences in education in OECD countries. OECD Social, Employment and Migration Working Papers, No 149, OECD Publishing.

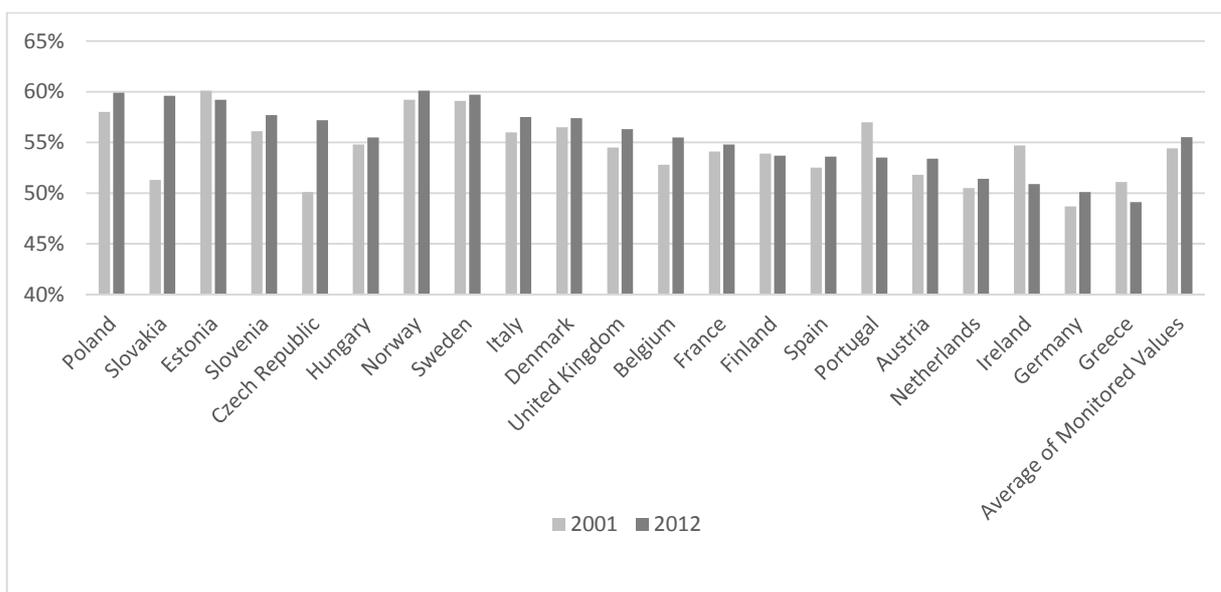
When analyzing table 2-1 it can be seen that women completed less years of education in the 1950ies and 1970ies. In 1950 only Finland and the United Kingdom out of all European countries show more years of education for women than for men. In the 1990ies the situation improved a little bit and Estonia and Sweden were added. The big change comes in the years between 1990 and 2010. In 2010 the picture has completely changed and reversed. In many Western and Eastern European countries for example in Estonia, Norway, Poland, Slovak Republic, Slovenia, Spain, Sweden and United Kingdom average years of completed education for women are higher than for men. In Austria and Germany the ratio improved over the years but the average years of completed education for men is still higher than for women. Compared to the OECD average of 11.3 years for men and for women, all Central and Eastern European countries have higher average years of

completed education for women except of Czech Republic with 0.2 more years for men and Hungary with equal years for men and women.

Gender gaps are larger at the highest levels of educational attainment, as young women are more likely than young men to transition to and complete tertiary education. Figure 2-1 shows the development of the proportion of women who have attained tertiary education from 2001 to 2012. In 2001 53.9% of the population with tertiary education within the European Union, were women. The number increased over the years and until 2012 the number increased by 1% to 54.9% on average within the European Union. In all countries of the European Union shown in figure 2-1 it is indicated that more than 50% of university graduates are women with exception of Germany and Greece. In all countries except Germany and Greece, Women occupied more than 50% of university graduates in 2001 as well as in 2012. The tendency is increasing within the European Union. Sweden, Norway and Estonia have had a high number of women with tertiary education of around 60% in 2001 as well as in 2012. It is also remarkable that Eastern European countries like Slovakia and the Czech Republic show a significant increase of women with tertiary education from 2001 to 2012. In Slovakia the proportion of women with tertiary education increased from 51.3% in 2001 to 59.6% in 2012. In the Czech Republic the proportion of women with tertiary education increased from 50.1% in 2001 to 57.2% in 2012.

It can be summarized that the situation has changed over the years and nowadays women are better educated than men in all Eastern and Western European countries shown in figure 2-1 and in the average European Union countries. It can be summarized that in den European countries demonstrated in figure 2-1, in 2012, 55.5% of the population who has attained tertiary education are women. In 2012 only Greece shows a number below 50% with 49.1% of women with tertiary education, all other Western and Eastern European countries shown indicate that women have a higher tertiary education than men. It is apparent that the Eastern and Nordic countries shown below are the main drivers for the high average as all of these countries indicate a proportion of women who have attained tertiary education higher than 55% in 2012. Poland, Norway and Sweden though show a number of about 60% in 2012.

The situation has changed over the years. 30 years ago women were very much underrepresented



**Figure 2-1: Proportion of women who have attained tertiary education in 2001 and 2012**

Source: created by the author from Eurostat available at

<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&pcode=tps00063&language=en>.

in tertiary education whereas today far more women graduate from universities than men (OECD, 2012a). The tendency will continue as in all European countries the entry rates in tertiary education is higher for women than for men (OECD, 2012a). In 2013, the gender gap of university graduates was 8.4% in the 28 European Union member states, meaning that the proportion of women aged 30-34 that had attained tertiary education exceeded that for men by 8.4%. All member states recorded a gender gap in tertiary education. In 2013, that gap ranged from the smallest gender gap of 1.2% in Austria, 1.8% in Germany and 3.4% in Romania to the largest gender gap of 21.8% in Estonia and 24.8% in Latvia. This means that in Latvia 25% more women graduated from university in 2013 compared to men (Eurostat, 2015b).

Main conclusions on the educational level of male and female within Western and Eastern European countries:

- The tertiary educational level of women increased enormously during the last years and passed male level within all major Western and Eastern European countries. In 2001 54.4%

of the population with tertiary education within the European countries monitored in this study, were women. The number increased over the years and until 2012 the number increased by nearly 1% to 55.5% on average within the monitored European countries.

- Tertiary education of women is higher in Eastern and Nordic countries than in Western European countries. In Eastern and Nordic countries women account for more than 55% of the population with tertiary education. Poland, Norway and Sweden even show an extraordinary high number of about 60% in 2012.
- Women predominate among graduates in the field of education and health and welfare. Men predominate among graduates in the fields of engineering, manufacturing and construction.
- The graduation rate as well as the entry rate in tertiary education is significantly higher for women than for men within all Western and Eastern European countries. This fact enables to say that women will continue to achieve a higher educational level than men.
- The female educational level is higher for women than for men in most of the European Union countries. The more surprising it is that women are underrepresented in management positions as further outlined in the next sub-chapters. The conclusion is derived that the educational level doesn't help women to occupy a top job. This conclusion will be validated in the empirical study of this research in chapter three.

### **2.3 Gender Differences in Performance Significant in Problem Solving, Mathematics, Reading and Science**

In the third chapter of this research study it will be evaluated if fundamental academic knowledge and skills like math and financial analysis skills or conceptual skills like problem solving skills are key drivers for the occupation of top level business position. This question is part of the research model outlined in chapter three and formulates the hypothesis of the research work. In the following, gender differences in problem solving, mathematics, reading and science will be outlined to understand possible weaknesses and strength based on historical empirical research of women and men in respect of fundamental knowledge and skills and conceptual skills.

Changes in society, the environment and in technology mean that knowledge evolves rapidly. Adapting, learning, daring to try out new things and always being ready to learn from mistakes are among the keys to resilience and succeed in an unpredictable world. Few workers today, whether

in manual or knowledge based occupation, use repetitive actions to perform their job tasks and one in ten is confronted every day with more complex problems that require at least 30 minutes to solve. Complex problem solving skills are particularly in demand in fast-growing, highly skilled managerial, professional and technical occupations (OECD, 2014).

A top performing student in problem solving can devise multi-step solutions to complete complex problems efficiently. Students in Finland, United Kingdom and Estonia obtain the highest scores in problem solving within European countries. Many of the best performing countries and economies in problem solving perform well on tasks related to acquiring knowledge such as ‘exploring and understanding’ and ‘representing and formulating’ tasks, and relatively low on tasks involving only the use of knowledge and that do not require substantial understanding or representation of the problem situation. Meanwhile, students in Ireland perform strongest on interactive problems within European countries, those that require the student to uncover some of the information needed to solve the problem, compared to static problems, those that have all information disclosed at the outset. Boys outperform girls in problem solving except in Norway, Sweden, Slovenia and Finland. (OECD, 2014).

In each country of the European Union, and indeed in each country and economy that participates in PISA, 15 year old girls perform better in reading than boys. Across the OECD the average reading performance of girls is 40 score points higher than for boys. This gender gap of 40 score points is roughly equivalent to one year of schooling. In many countries differences are even greater. Within Western and Eastern European countries, Finland and Slovenia show the highest gender gap of 61 and 65 score point differences which is equivalent to about 1.5 years of schooling. Boys have significant disadvantages in reading performance in other Nordic countries as well, with the exception of Denmark. Gender gaps in reading are narrowest in the United Kingdom within the European countries, but at around 25 score points they are still significantly (OECD, 2012b).

Figure 2-2 shows the average differences of boys and girls in reading based on the PISA scores of 2003, 2006, 2009 and 2012 in the selected twenty-one Western and Eastern European countries. All gender differences in reading performance are statistically significant and the relation between boys and girls did not significantly change over the years. Finland girls score highest with 556

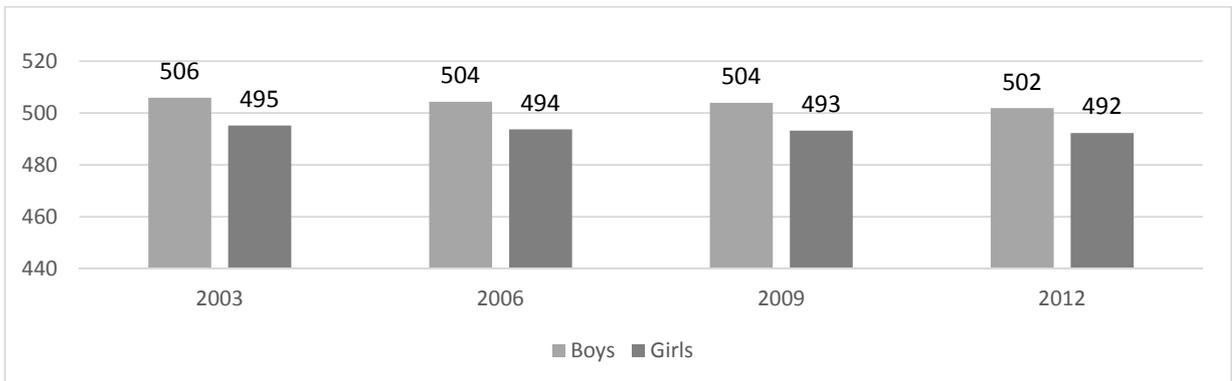


**Figure 2-2: Average gender differences of PISA scores in reading**

Source: created by the author from OECD available at <http://stats.oecd.org/>.

score points followed by Poland with 539 score points and Estonia and Ireland with 538 score points. Contrary to what was observed for reading, the gender gap is not significant in mathematics between boys and girls. All gender differences in mathematics performance have a low statistical significance and the relation between boys and girls did not significantly change over the years. Austria shows the biggest difference between boys and girls with a difference of 23 score points in 2012.

Performance in mathematics at age 15 is also characterized by gender differences, but these differences are less systematic and smaller in size compared to gender differences in reading. Boys perform better in mathematics than girls in all countries shown in Figure 2-3 except of Sweden and Finland where girls perform better in mathematics than boys in 2012 (Del Pero & Bytchkova, 2013).



**Figure 2-3: Average gender differences of PISA scores in mathematics**

Source: created by the author from OECD available at <http://stats.oecd.org/>.

Gender differences in science performance show no consistent pattern. They are much narrower than in mathematics and reading for all countries, and in most countries they are not statistically significant. Therefore the statistics are not outlined separately.

For most of today's workers, information and communication technologies skills are essential to get a job or a better salary and for economies they are crucial for remaining competitive in the global market. OECD countries anticipate that technology will continue to be a key driver of job creation and have placed the development of information and communication technology skills as the most important policy strategy for economic recovery. Within the European countries reach a computer skill level which varies from 62% in Finland and Sweden to 38% in Poland. In all the countries surveyed men are better at using computers than women with 4 percentage points separating the proportion of highly skilled men and women. On average, 36% of men are computer savvy compared with 32% of women. However the gender gap in computer use has narrowed particularly among younger people with almost no difference in use between men and women aged 16-24 (OECD, 2014).

The results of the Pisa test 2000 show that in average performance of male are more likely than female to be among the lowest performers in reading literacy in all European countries while male tend to perform better than females overall in mathematics. In scientific literacy there are fewer differences between males and females. Concretely this means that in reading literacy gender differences range from 26 score points or less in Spain, Portugal, Denmark, United Kingdom and Austria to 51 points or more in Finland, Latvia and the Netherlands. In mathematical literacy men in Austria are favoring with 27 score points more than women. Spain, Portugal, Germany and Denmark score between 15 and 19 points higher for men (OECD & UNESCO Institute for Statistics, 2003). It can be summarized that gender differences in mathematics and reading still existed with a slight adjustment between genders.

Main conclusions on gender differences in performance:

- The reading, mathematical and science outcomes of the Pisa tests over the years have not changed between boys and girls. Girls perform significantly better in reading than boys in all

Western and Eastern European countries. Boys perform better in mathematics than girls in the majority of the European countries but the differences are less systematic and smaller in size compared to gender differences in reading.

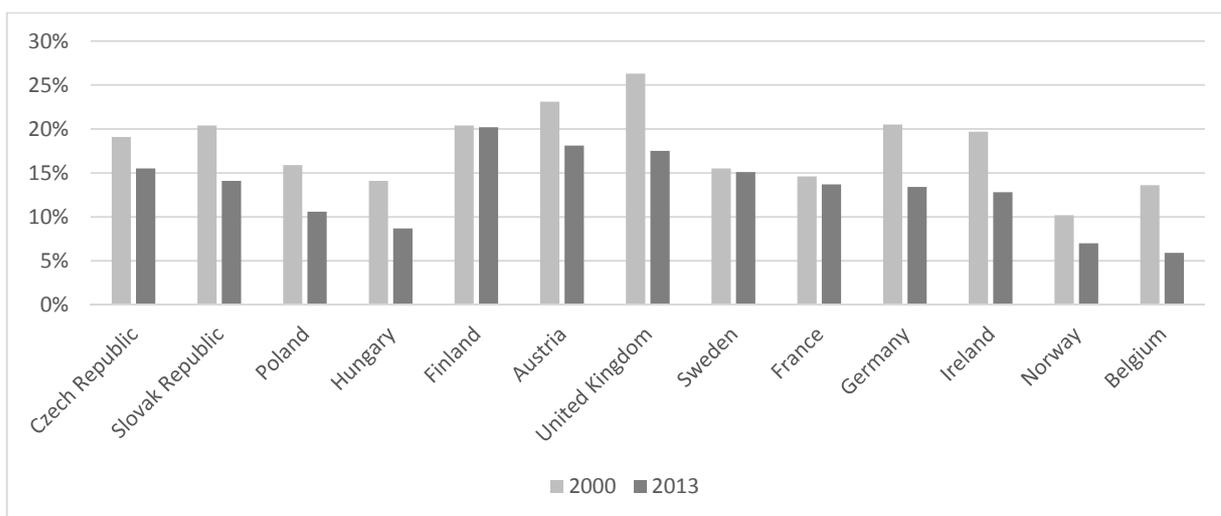
- Gender differences in science performance are statistically not significant.
- Men are better at using computers than women. However the gender gap in computer use has narrowed among younger people with almost no difference in use between men and women.
- Boys score in average higher than girls in problem solving among European countries.

This sub-chapter has been included in the research to find out about fundamental academic and conceptual skills of men and women in the past. Gender differences in reading, math and problem solving skills may impact the occupation of top level business positions. This supposition will be empirically evaluated in chapter three.

#### **2.4 Differences in Earnings between Women and Men in the European Union**

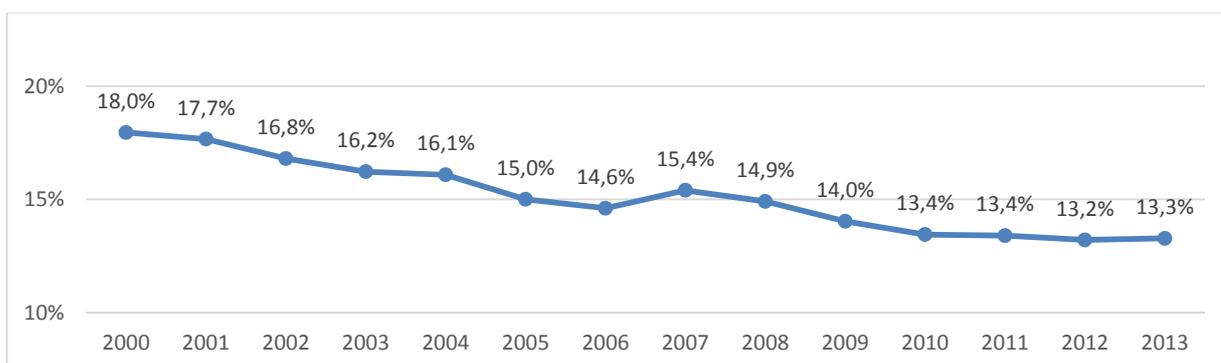
Across the European Union, women earn less than men. The gender wage gap development from the year 2000 to the year 2013 in selected Eastern and Western European countries is shown in figure 2-4. Thirteen countries from Western and Eastern Europe have been selected for showing the development of the gender differences in earnings. Only thirteen countries are displayed as for other Western and Eastern European countries no complete data is available for the timeframe described. It can be stated that the gender wage gap declined in all selected countries over the years but is still significant in 2013. The largest decline can be seen in the United Kingdom with a reduction of the gender wage gap of 8.8% from 26.3% in 2000 to 17.5% in 2013. Another big decline can be seen in Belgium with a reduction of 7.7% from 13.6% in 2000 to 5.9% in 2013. Overall the highest gender wage gap was in the United Kingdom in 2000 and was replaced by Finland in 2013. The lowest gender wage gap was in Norway in 2000 and in Belgium in 2013.

The gender wage gap of the selected European countries shown in figure 2-4 was summarized in figure 2-5. The average gender wage gap declined over the years but was still high with 13.3% in 2013. This indicates a decline of nearly 5% from a gap of 18.0% in 2000.



**Figure 2-4: Gender wage gap in% in the European Union in 2000 and 2013**

Source: created by the author from OECD available at <http://stats.oecd.org/>.



**Figure 2-5: Average gender wage gap in % from 2000 to 2013**

Source: created by the author from OECD available at <http://stats.oecd.org/>.

In the following a closer look was given to women’s average hourly earnings, the average number of hours paid per month and the employment rate in order to calculate the overall gender earnings gap within the European Union. For this deep dive exercise the year 2010 was selected for extensive analysis. The average gender wage gap may only be one view and doesn’t take for example fewer hours worked by women because of a lower employment rate into the account. This is the reason why a deeper analysis is made on the selected year 2010 by taking more factors into account for the evaluation of earning differences of men and women in the European Union.

In 2010, throughout all member states of the European Union, women's gross hourly earnings were on average, 17.9 % below those of men. This number includes 2010 statistics of Croatia who entered the European Union in 2013. The gender pay gap varied significantly across member states. In 2010, the gender pay gap ranged from 0.7 % in Slovenia, 4.5 % in Poland 5.3 % in Italy, 5.6% Croatia, 7.2 % in Malta, 8.7 % in Luxembourg and 8.8 % in Romania to 20.3 % in Finland, 21.2 % in the Czech Republic, 22.3 % in Germany, 23.9 % in Austria and 27.2% in Estonia (Eurostat, 2015b). The gender pay gap in Europe has declined over the years. In 2002 for example the average gross hourly earnings of women were much lower in all European Union member states than 2010, ranking from 11% in Slovenia to more than 30% in the United Kingdom (Plantenga et al., 2009).

Besides the gender pay gap based on hourly earnings, the difference between the average annual earnings of women versus men is also influenced by the higher proportion of part-time employees among women. This is shown by the 'gender hours gap' which represents the difference between average monthly hours paid to men and women expressed as a percentage of average hours paid to men. In 2010 across the European Union, men were paid on average 13.8 % hours more than women per month. The number of hours paid to men is broadly similar across EU countries, whereas part-time arrangements for women differ substantially. For the Netherlands, the gender hours gap stands out, at 28.8 %, meaning that female employees work are paid on average 29 % fewer hours per month than men. At the other end of the scale, Bulgaria and Romania recorded a gender gap that was close to zero. Besides the gender pay gap and the gender hour's gap, it is also important to consider gender gaps in employment, as these also contribute to the difference in average earnings of women versus men (Eurostat, 2015b).

In 2010, employees within the European Union with tertiary level of education earned per hour almost twice as much as those with a low level of education. In the European Union, the median gross hourly earnings of employees with a high level of education amounted to 16.3 EUR in 2010 which is almost one half above the figure for those with a medium level of education amounting to 11.30 EUR and 70% above the level recorded for employees with a low level of education. Employees with a high level of education in Portugal recorded median hourly earnings of almost three times the value of those with a low level of education. Besides Portugal, the highest ratio between the median hourly earnings of employees with a high level of education and those with a

low level were recorded in Germany and Romania (Eurostat, 2015). Earnings tend to rise in line with people's level of education in all Western and Eastern European countries. Adults with university education can expect to earn more than those who have only attained upper secondary education. Men earn more than women at all levels of education in many countries but the largest gap is among individuals with tertiary education where men for example earned in average 25% more than women in 2012. Gender gaps in earnings persist, in many countries, regardless of the levels of education and skills. The gap is smallest among those with upper secondary and post-secondary non-tertiary education and largest among those with tertiary education (OECD, 2014).

**Table 2-2: Gender earnings gap in the European Union in 2010**

	Average hourly earnings (EUR)		Hourly earnings gap (%)	Average number of hours paid per month		hours paid gap (%)	Employment rate for age group 15-64 (%)		Gender overall earnings gap (%)
	Men	Women	Women	Men	Women	Women	Men	Women	
Malta	8,71	8,08	7,2	171	148	13,5	72,5	39,5	56,3
Netherlands	18,85	15,56	17,5	146	104	28,8	80,0	69,3	49,1
United Kingdom	19,20	14,71	23,4	161	127	21,1	74,4	64,5	47,6
Austria	16,37	12,45	23,9	164	133	18,9	76,0	65,7	46,7
Germany	18,81	14,62	22,3	157	127	19,1	76,0	66,1	45,3
Greece	11,81	10,03	15,1	165	156	5,5	70,3	48,0	45,2
Italy	14,82	14,04	5,3	165	142	13,9	67,5	46,1	44,3
Czech Republic	6,00	4,73	21,2	172	168	2,3	73,5	56,3	41,0
Luxembourg	22,64	20,67	8,7	167	144	13,8	73,1	57,2	38,4
Spain	12,43	10,41	16,3	163	148	9,2	64,8	52,8	38,0
Slovakia	5,24	4,21	19,7	163	158	3,1	65,2	52,3	37,5
Belgium	19,80	17,78	10,2	155	132	14,8	67,4	56,5	35,9
Ireland	23,94	20,62	13,9	161	139	13,7	63,5	55,8	34,7
Cyprus	13,12	10,91	16,8	171	163	4,7	75,3	63,0	33,7
France	17,54	14,80	15,6	152	138	9,2	68,3	59,8	32,9
Hungary	4,91	4,04	17,7	166	162	2,4	59,9	50,2	32,7
Estonia	5,73	4,17	27,2	164	155	5,5	61,7	60,8	32,2
Sweden	19,33	16,31	15,6	165	146	11,5	74,6	69,7	30,2
Romania	2,74	2,50	8,8	169	168	0,6	67,9	52,5	29,9
Poland	5,32	5,08	4,5	165	151	8,5	65,3	52,6	29,6
Portugal	8,23	7,18	12,8	168	159	5,4	69,8	61,0	27,8
Finland	20,35	16,22	20,3	161	153	5,0	69,4	66,9	27,0
Denmark	27,76	23,20	16,4	139	130	6,5	75,6	71,1	26,5
Croatia	6,03	5,69	5,6	169	166	1,8	62,7	52,1	23,0
Bulgaria	2,18	1,89	13,3	162	161	0,6	63,0	56,4	22,9
Latvia	4,14	3,50	15,5	152	148	2,6	57,9	59,0	16,1
Slovenia	9,13	9,07	0,7	167	163	2,4	69,6	62,6	12,8
Lithuania	3,68	3,24	12,0	156	150	3,8	56,5	58,5	12,3
<b>European Union average</b>	<b>15,37</b>	<b>12,62</b>	<b>17,9</b>	<b>160</b>	<b>138</b>	<b>13,8</b>	<b>70,0</b>	<b>58,2</b>	<b>41,1</b>
Norway	30,29	25,51	15,8	151	124	17,9	77,3	73,3	34,4

Source: created by the author from Eurostat 2015, Structure of earnings survey, [http://ec.europa.eu/eurostat/statistics-explained/index.php/Gender\\_statistics#Earnings](http://ec.europa.eu/eurostat/statistics-explained/index.php/Gender_statistics#Earnings).

Table 2-2 shows that the gender overall earnings gap including hourly pay gap, fewer hours per months and employment rate was 41.1 % in the EU in 2010. Across member states the gender overall earnings gap varied significantly, from 12.3 % in Lithuania, to 56.3 % in Malta. Western European countries like the Netherlands, United Kingdom, Austria and Germany indicate a high gender overall earnings gap between 45% and 49% and Eastern European countries like Lithuania, Slovenia, Latvia, Bulgaria or Croatia indicate a lower overall earnings gap between 12 and 23% (Eurostat, 2015b).

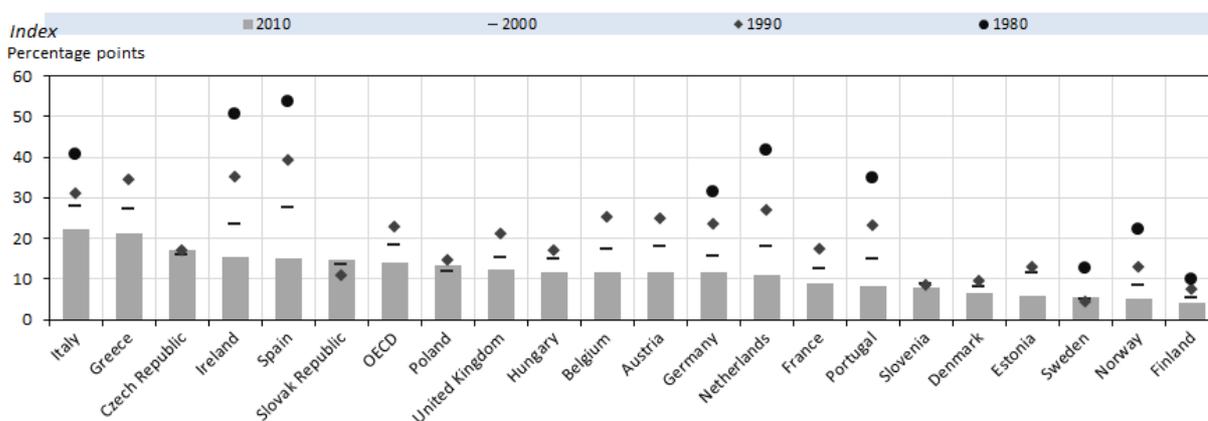
When looking at the European statistical records the trend can be confirmed (Eurostat, 2015b). It can be summarized that the university entry rate is higher for women than for men in European Countries as well as the graduation rate. Even though this is the case women with high education earn on European average less than men.

Main conclusions on differences of earnings between women and men:

- Across the European Union, women earn less than men. The gender wage gap declined in the European Union over the years but is still significant with 13.6% in 2013. The largest wage gap decline from the year 2000 to the year 2013 can be seen in the United Kingdom with 8.8%, the lowest decline is stated in Sweden with 0.4%.
- The overall gender gap including earnings per hour, average hours paid and employment rate shows a high gap of 45% to 49% between men and women in the Netherlands, United Kingdom, Austria and Germany and a low gap in Lithuania, Slovenia and Latvia of only 12% to 16% in 2010.
- Within Western and Eastern European countries adults, with university education earn more than those who have only attained upper secondary education. In 2010, employees within the European Union with tertiary level of education earned per hour almost twice as much as those with a low level of education. In general men earn more than women at all levels of education in European countries.
- Women earn less than men in the European Union. One conclusion could be that women occupy less leadership positions and also have less access to leadership positions due to less working experience and less experience in a challenging job due to family reason. This conclusion needs to be further discussed in chapter three and validated with empirical data.

## 2.5 Female Labour Force Participation in Western versus Eastern European Countries

Gains in female education attainment have contributed to a worldwide increase in women's participation in labor force in recent decades which helps narrow the employment gender gap in most countries. Nevertheless considerable gaps do remain in working hours, in condition of employment, occupations and sectors and in earnings. Women continue to undertake a much higher load of unpaid work than men which restricts their opportunities to take on paid work. In Western and Eastern European countries considerable variation across countries are seen. In 2010 female labor force participation ranged from over 75% in the Nordic countries and Switzerland to below 50% in Turkey (OECD, 2012).



**Figure 2-6: Evolution of gender gaps in labor force participation from 1980 to 2010**

Source: created by the author from OECD Employment Database 2012 and ILO 2012, 'Key Indicators of the Labor Market (KILM)', 7<sup>th</sup> Edition, ILO Department of Economic and Labor Market Analysis, Geneva, available at <http://dx.doi.org/10.1787/888932675861>.

Figure 2-6 shows the gap in labor force participation calculated as male rates minus female rates of 15-64 years old for 1980 to 2010 in selected Western and Eastern European countries. Selected countries of the European Union representing the Western and Eastern European approach are taken into consideration for analysis of the actual situation. The European Union consists of the following countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherland, Poland, Portugal, Romania, Slovak Republic, Slovenia, Sweden and the United Kingdom. The smallest member states in respect of habitants and square meters of the European Union like Malta, Luxemburg and Cyprus are not taken into consideration for discussion in this

chapter due to low percentage of representation. The focus is on countries with a high number of inhabitants and considerable extent of the country. Economic power, political influence or other factors have not been taken into account for the selection of the countries. Based on statistic peculiarities, countries were selected for the discussion. Even though Norway is not part of the European Union, Norway was included in the discussion for comparison reasons as Norway is a role model in respect of gender quota laws within Europe.

Countries are arranged from left to right in ascending order of 2010 gender gap in labor force participation. There are still some European countries with a high gender gap in labor force participation in 2010. Italy and Greece point a gap of more than 20%. Finland, Norway, Sweden, Estonia and Denmark are the European countries with the smallest gap of only 5%. Slovenia is also below the OECD average with a gap of about 10%. The gender gap in labor force participation was always low in communist systems as seen in figure 2-6 for Slovenia, Poland, Slovak Republic or the Czech Republic. The equality of men and women was one of the objectives of the communist system where the policy of full employment applied to both men and women also including mothers.

The equality of men and women was one of the avowed objectives of the communist system where the policy of full employment applied to both men and women also including mothers. Due to the size of the industrial sector and prevailing labor demand, women were encouraged to a certain extent to take up physical, traditionally male jobs (Kamerman & Moss, 2009). However during the transition period in the early 1990ies the industrial sector declined and both men and women moved out and into other jobs related to science, technology, engineering and mathematics abbreviated to STEM. The change was more visible among women who left the industrial sector more quickly than men and entered sectors with traditionally high levels of female concentration such as healthcare, social services and education. Many men either quit or combined their former employment with economic activities in the private sector which took over a number of state owned industrial enterprises (OECD, 2012).

It can be summarized that female labor force participation increased since the 1980 in Western European countries. 30 years ago the gender gap in labor force participation was higher than 40%

in Spain, Netherlands, Ireland and Italy and decreased to 20% in Italy and 10% in the Netherland since then. In Eastern European former communist countries, female labor participation is more or less at the same level as it was 30 years ago due to the policy of full employment of men and women. The same tendency can be seen for women in management positions which increased over the years but still are underrepresented. The gender gap in management position is much higher than in general labor force participation. The higher the position the fewer women occupy it.

### *2.5.1 The Number of Women in Management Positions*

With growing competitive pressures, companies are constantly looking for the best talent. Women account for a growing share of the talent emerging from the education system and more and more graduate with science degrees (OECD, 2011d). With rapid ageing in OECD countries and beyond, the search for talent is of growing importance to many businesses and having women in greater roles is increasingly seen as part of the solution. Companies that are not able to address gender equality in the workplace also risk not being seen as attractive career prospects by the next generation of talent. Drawing on new improved talent pools can also be good for economic growth. Hsieh et al. suggest that between 17 and 20% of economic growth between 1960 and 2008 in the United States can be attributed to the greater intake of under-represented groups in the workforce, notably women (Hsieh et al., 2012).

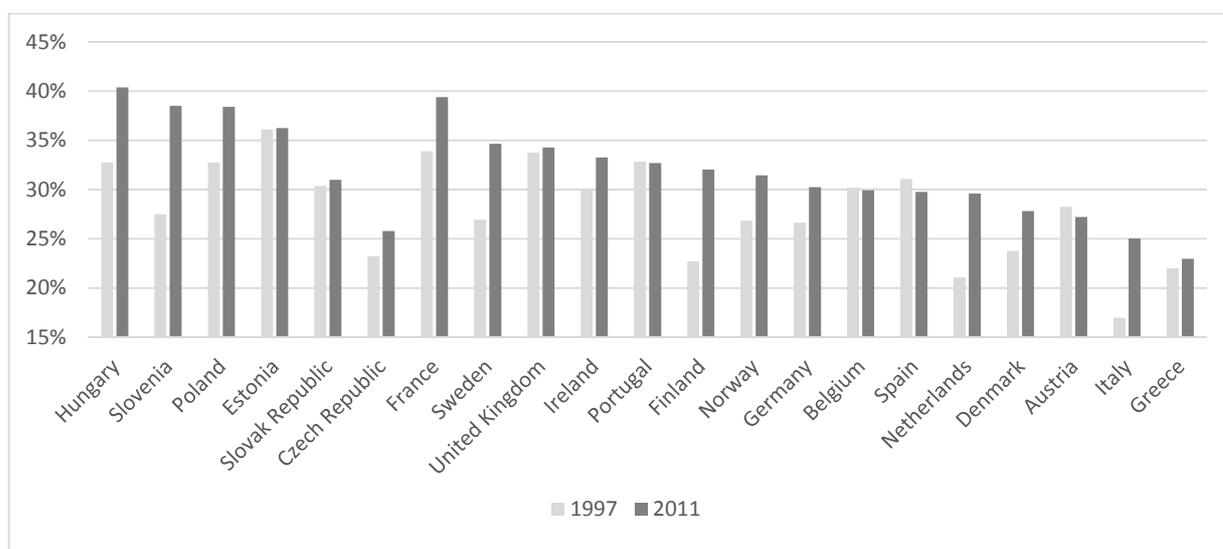
A greater role for women also enhances diversity which can be valuable for a firm's performance in an increasingly complex world enabling it to draw on diverse perspectives to solve problems, take decisions, and enhance leadership. This is important both at board level and other levels of decision making. More women in leadership positions can have a positive trickle-down effect, easing in more inclusive workplace cultures and providing younger women with role models and mentors (OECD, 2012).

Women also account for a large share of the global consumer market and purchasing decisions in households. Companies, in particular those serving consumer markets may therefore seek out women to better understand buying patterns and help develop and market products aimed at them. Such an approach is important in developing countries, where several firms leverage women's networks to reach rural markets that would otherwise be difficult to reach. Firms may also look for

other non-financial benefits such as an improved image or strong female role models that can indirectly contribute to company strategies (OECD, 2012).

Women across the world face a so called ‘glass ceiling’ where opportunities for career advancement for a gender are narrowed. In figure 2-7 the development of the proportion of women among staff with managerial responsibilities is displayed from 1997 to 2011. The countries are sorted from left to right by the highest number of women in management positions in 2011. In all Western and Eastern European countries selected, women represent only 35% and below of all management positions except in France, Slovenia, Poland and Estonia where women represent more than 35% but below 40% of senior management positions in 2011. It seems that women face many more obstacles to promotion and reaching top positions of the corporate world than men do.

Austria and Spain are the two countries where the proportion of women in senior management declined over the years from 28.2% in 1997 to 27.2% in 2011 in Austria and from 31.1% in 1997 to 29.8% in 2011. In Belgium, Portugal, Estonia and the United Kingdom the proportion stayed approximately the same during the evaluated time frame. In all other countries the proportion of



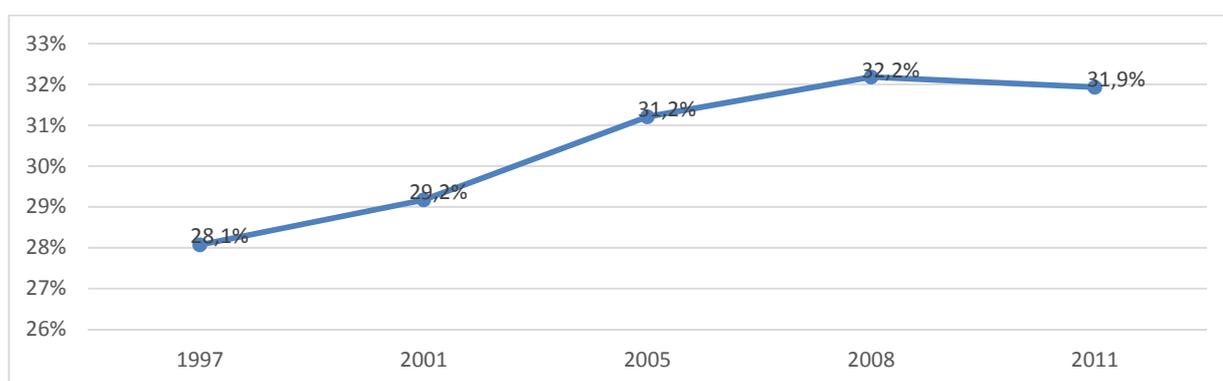
Note: Senior managers cover category 1 of the International Standard Classification of Occupations (ISCO), which includes legislators, senior officials and managers.

**Figure 2-7: Women’s representation in senior management in 1997 and 2011**

Source: created by the author from the World Bank databank available at <http://databank.worldbank.org/data/reports.aspx?source=gender-statistics>.

women in senior management positions increased over the years. The highest increase over the time period in discussion is found in Slovenia, Hungary, Netherlands, Sweden, Italy and Finland with more than 5% increase each.

Figure 2-8 displays the development of women's representation in senior management across all countries from 1997 to 2011. It can be summarized that the number of women in senior management positions increased by 3.9% within 14 years which illustrates a small rise per year. Female employment has evolved differently not only across regions and countries but also across age groups, education and family status. In all Western European countries except Sweden, mothers' employment rates are lower than those of women aged 25 to 49. During the prime childbearing years, women often tend to reduce their work participation while men maintain to increase the number of hours worked. However, as children grow up and enter compulsory schooling around the age of 6 women frequently re-enter the labor market or switch from part-time to full-time work. The number of children can also play an important role in female employment decision. In many countries, mothers with three or more children are significantly less likely to be in employment than those with one or two. Such patterns vary across countries and are related to the availability of formal childcare support facilities and other family friendly arrangements in the workplace (OECD, 2012a).



**Figure 2-8: Average women's representation in senior management from 1997 to 2011**

Source: created by the author from the worldbank databank available at <http://databank.worldbank.org/data/reports.aspx?source=gender-statistics>.

Several studies have also argued that there is a positive relationship between a company's financial performance and women's presence on boards or at senior management levels (McKinsey & Company, 2008). While most empirical analysis has yielded mixed results on this question to date (Terjesen et al., 2009), a recent study by Dezso and Ross (Dezso & Ross, 2011), covering the enterprises including in Standard and Poor's 1 500 Composite Index for the period 1992-2006, found that female representation in top management does improve firm performance but only insofar as its business strategy focuses on innovation.

Main conclusions on women in management positions:

- Women account for a large share of the global consumer market and purchasing decisions in households. Therefore women should be included in decision making of a company to cover e.g. female product requirements or distribution channels.
- Despite good education of women in Western and Eastern European countries, women are still under-represented in management positions. In all Western and Eastern European countries selected, the number of women in management positions increased from 1997 to 2011 except in Austria and Spain where a slight decline can be stated.
- Women represent only 35% and below of all management positions except in Estonia, Hungary, Poland, France and Ireland where women represent more than 35% but below 41% of senior management positions in 2011.
- The number of women in senior management positions increased by 3.9% from 1997 to 2011 which illustrates a small rise per year
- A positive relationship exists of financial performance and the presence of women in management positions.
- Mothers' representation rates in management positions are lower than for women without children.
- Women are well educated, women possess transformational leadership skills which are advantageous to avoid critical business situations however women are underrepresented in leadership positions. The conclusion is drawn that there must be factors which hinder female career progression.

### *2.5.2 Changes of Women's Participation in Management Boards due to Legal Quotes*

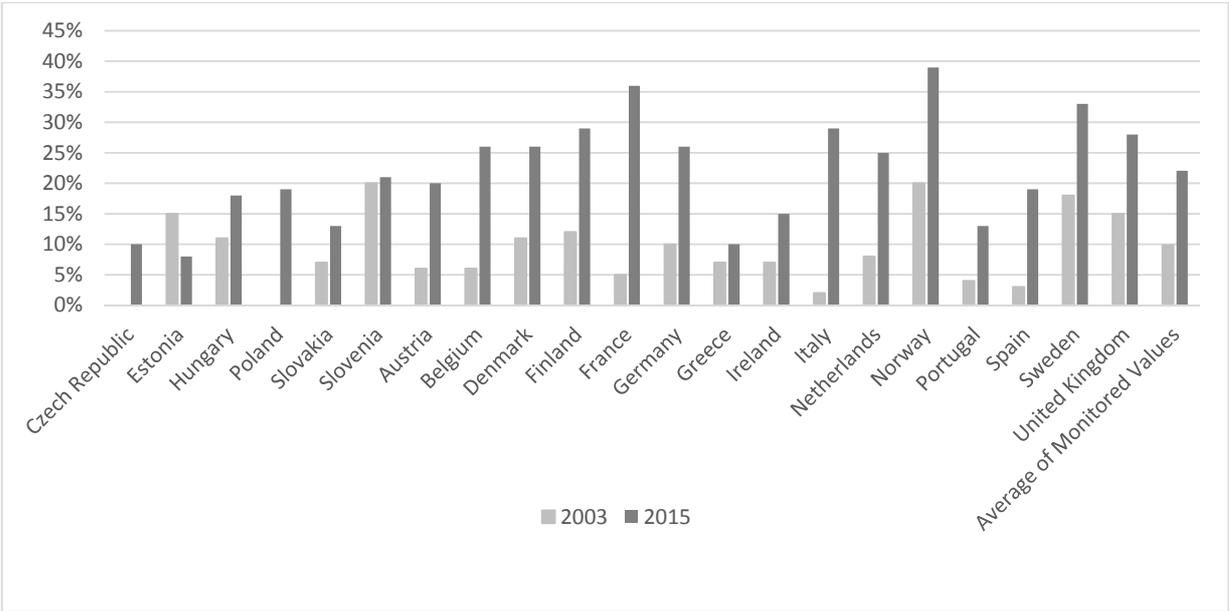
The issue of diversity on boards of listed companies has gained considerable attention in the gender debate in recent years. Improving the gender balance at the top of companies is seen as one way of fostering wider gender equality within companies. However there is considerable debate on whether the best way for policy to achieve its objectives is by promoting self-regulatory corporate governance codes or imposing board quotas by law. In parallel there are also a plethora of voluntary or private sector led initiatives, involving shareholders or investor groups, chief executives, universities, search firms, institutes of directors and other stakeholders seeking to both widen the pool of qualified female candidates and create incentives as well as pressure on companies to have a more formal and transparent board nomination process that favors diversity (OECD, 2012).

Gender quotas legislating minimum representation of women on boards of directors were first introduced in Norway in 1981 in Europe and, at that time, only applied to government appointed boards, councils, and committees. This remained the status quo for almost twenty years. In 2001, the Norwegian government began official discussions to implement a more expansive board quota. The first change in the law was proposed in 2002, and in December 2003, the Norwegian Company Act was revised. The previous quota for publicly appointed boards, council, and committees would now also apply to public limited liability companies. This new law stated that all publicly limited liability companies were required to have at least 40% representation of each gender. By 2005 however, the fraction of women on boards of directors of public limited liability companies was still only 17%, so sanctions were introduced. Affected firms had time until January 1, 2008 to comply or would be subject to forced dissolution. By 2008, the average share of women on boards was 40% (Bertrand et al., 2014).

Following Norway's lead, Spain, Iceland, Italy, Finland, France, and the Netherlands have all passed similar reforms. The idea of mandating gender quotas on corporate boards has been gaining further political traction in Europe over the last years. In November 2013, the European parliament voted in favor of a proposed draft law that would require 40% female board members in about 5,000 listed companies in the European Union by 2020. State-owned companies would be required to comply by 2018. In 2014 the German government passed legislation requiring that corporate

boards be comprised of at least 30% women by 2016 or else the seat would be left vacant (Bertrand et al., 2014).

Figure 2-9 shows the development of the share of women on boards of listed companies in Western and Eastern European countries. It can be stated that the board quota regulations of some countries have increased the share of women on boards of listed companies significantly. In Norway for example share of women on boards where at 20% when the board quota was introduced in 2003. In 2005 when sanctions were introduced in Norway, it was at 29%. Since 2010 the share is at 39%. In countries where similar reforms as in Norway have taken place, show a similar development. These countries are for example Austria, Belgium, Spain, Italy, Finland, France, the Netherlands and Germany. In France the share increased tremendously by 31% from 2003 to 2015. A similar situation exists in Italy with an increase of 27% from 2% in 2003 to 29% in 2015. On average the share of women on boards of listed companies in the selected Western and Eastern European countries increased by 12.2% from 9.8% in 2003 to 22.0% in 2015.



Note: There is no data available for the Czech Republic and Poland in 2003.

**Figure 2-9: Share of women on boards of listed companies in 2003 and 2015**

Source: created by the author from [http://ec.europa.eu/justice/gender-equality/gender-decision-making/database/business-finance/supervisory-board-board-directors/index\\_en.htm](http://ec.europa.eu/justice/gender-equality/gender-decision-making/database/business-finance/supervisory-board-board-directors/index_en.htm).

More gender diverse boards can contribute to better corporate governance for multitude of reasons. A heterogeneous board can be a stronger monitor of executive behavior (Nielsen & Huse, 2010). Since women are generally under-represented in 'old boys' networks, more female directors might bring more independent views into the boardroom and strengthen its monitoring function (Rhode & Packel, 2010). Moreover, gender diverse boards tend to have a wider range of backgrounds, experiences, perspectives, and problem-solving skills. They can be passed on the top managers and potentially improve a firm's governance (Terjesen et al., 2009) . Adams and Ferreira (Adams & Ferreira, 2009) suggest that more diverse boards are more likely to hold CEOs accountable for poor stock prices and encourage better attendance at board meetings. McKinsey and company (McKinsey & Company, 2010) find that women are more likely than men to use leadership skills such as employee development, rewards, role models, inspiration and participative decision making. Brown et al. (Brown et al., 2002) suggest that when there are more women on boards there is closer scrutiny of the handling of conflicts of interest.

The economic argument for bringing more women into the boardroom is based on the proposition that companies which fail to select the most competent candidates for their boards impair their financial performance. Catalyst (Catalyst, 2008) and McKinsey and Company (McKinsey & Company, 2010) assert that better-performing firms tend to have more women on their boards. Taking a sample of Fortune 1 000 companies and controlling for various characteristics including firm and board size, industry, share of inside board member and other, Carter et al. (Carter et al., 2003) found a positive relationship between the presence of women on boards. The positive link between female board presence and return on equity is confirmed by Lückérath-Rovers (Lückérath-Rovers, 2013) in their studies of Dutch firms. Other country-specific studies have found positive stock market reactions to the appointment of women (Campbell & Vera, 2010) and higher volatility in the stock returns of firms with lower proportions of women directors (Adams & Ferreira, 2004). However there are probably at least as many studies that find no or negative relationships between women on the board and financial performance (Ahern & Dittmar, 2010; Lee & James, 2007).

Corporate Governance Codes are self-regulatory measures increasingly used to promote gender-balanced company boards. Corporate Governance Codes typically apply to listed companies and rely on peer pressure to influence companies from within and pressure from stakeholders, including

shareholders, and the media from outside (European Commission, 2010). Non-compliance does not usually result in a penalty but it does require an explanation. Reference to gender in Corporate Governance Codes in countries like Austria, Denmark, Finland, France, Germany, the Netherlands, Poland, Spain, Sweden and the United Kingdom is deemed to have some influence on the composition of boards in listed companies. However the situation differs between countries. In Finland, for example where there is an obligation to 'comply to explain' compliance with the code, the percentage of listed companies with women on boards went up from 51% in 2008 to 74% in 2010 (Finland Central Chamber of Commerce, 2010).

The scope of Corporate Governance Codes recommendations varies. In Finland, they require both men and women to be represented on the board. The Netherlands code states that the supervisory board shall aim for a diverse composition in terms of such factors as gender and age, in 2011, the Corporate Governance Codes was supplemented with an amendment of the Civil Code to create an obligation for larger companies to strive for a well-balanced composition of the board and supervisory board, by which 30% should be female (Corporate Governance Code Monitoring Committee, 2010). In Sweden the Corporate Governance Codes stipulates that the company should strive for equal gender distribution on the board.

In the UK the Davies Report, a Government commissioned report released in early 2011, required that the chairs of the top 350 UK companies (known as the FTSE 350) set out the percentage of women they aim to have on their boards in 2013 and 2015. FTSE 100 boards were asked to aim for a minimum of 25% female representation by 2015. CEOs are also required to review goals for the percentage of women on executive committees in 2013 and 2015. A progress report in March 2012 showed the largest ever annual increase in percentage of women on boards. Within the FTSE 100 women accounted for 16% of all directorships in March 2012, up from 13% a year before. It was also reported that should momentum be maintained, a record 27% female board representation in FTSE 100 companies would be achieved by 2015 (Abersoch, 2012).

In Austria companies must publish all measures undertaken to promote women to management boards. Denmark announced in May 2012 a series of legislative amendments to strike a balance between the need to real progress in increasing the share of women on boards of directors and

flexibility for companies. First, the 1 100 largest companies are required to set a target for the proportion of the under-represented gender on the board which needs to be realistic and ambitious. Second, these companies must have a policy which must be presented in the company's annual report, for increasing the proportion of the under-represented gender at the management level of the companies. Third, companies must report on the status of fulfilling the target set out in the annual report and explain why the companies failed to achieve the target set. Fines can be applied to companies that fail to report (OECD, 2012).

Mandatory legal quotas have been introduced in some countries. The issue has received most attention in Europe, where gender board quotas for publicly listed companies have been established in Belgium, France, Iceland, Italy, the Netherlands, Norway and Spain. The European Commission will examine progress in women's representation at board level and has launched a public consultation that will help assess the effects of possible EU measures including legislation and the commitment of countries to redressing gender imbalance on boards (Ansón, 2012). The Norwegian experience shows that legal quotas can be effective in advancing gender balance at board level, although the economic consequences have yet to become clear. A few years might not be long enough to judge the effects of the law, particularly as it was introduced only two years before the financial crisis struck. Moreover the Norwegian experience shows that introducing quota legislation may affect board memberships, but does not immediately change the number of women in top management positions. The holes in the 'leaky pipeline' are not plugged that easily. The law also had some unintended consequences as some companies changed their legal status with the aim to either prevent or choose not to comply with the new legislation (OECD, 2012). A positive consequence of quotas is the dynamic public debate they have fostered around diversity, even beyond gender. The Italian move towards a quota supported by law, for example, created active debate throughout the business world. Even the expectation of quota enforcement can be a compelling incentive to motivate change (OECD, 2012).

Main conclusions on women in management boards:

- The share of women on boards of listed companies in selected Western and Eastern European countries increased by 12.2% on average from 9.8% in 2003 to 22.0% in 2015.

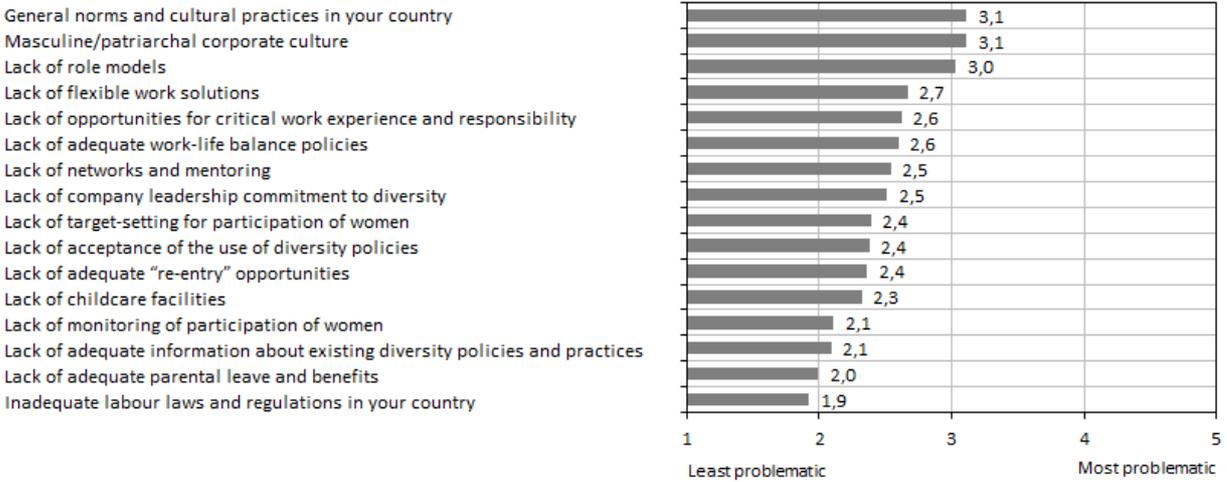
- The board quota regulations of some countries have increased the share of women on boards of listed companies significantly. In Norway for example the share of women on boards were at 20% when the board quota was introduced in 2003. In 2005 when sanctions were released in Norway, the percentage lied at 29%. Since 2010 the share constitutes 39%.
- In countries where similar reforms than in Norway have taken place, show also a high increase of the share of women on boards. These countries are for example Austria, Belgium, Spain, Italy, Finland, France, the Netherlands and Germany. In France the share increased tremendously by 31% from 2003 to 2015. A similar situation exists in Italy with an increase of 27% from 2% in 2003 to 29% in 2015.
- The proportion of women on the boards of the largest listed companies is largest in Norway with nearly 40% followed by Sweden, France and Finland. The increase may result from legal quotas, the Corporate Governance Codes or voluntarily set gender board objectives which help to better balance out gender equality on boards.
- A greater proportion of women on boards may positively affect company's performance although there is no conclusive evidence for it. The general arguments for more women on boards seem apparent with receiving a larger talent pool, better representation of diverse experiences and competencies and better understanding of consumer needs. However, gender balanced boardrooms remain rare.
- Board quotas increased the number of women in boards. The conclusion is drawn that a regulation, objectives or a discussion is needed to increase the number of women in top jobs.

## 2.6 Constraints for Career Progression in Corporate Conceptions

In the final part of this chapter it will be described why women are underrepresented in top level business positions and if female leadership plays a significant role for this phenomenon. For this discussion the gender gap report will be taken into account (Zahidi & Ibarra, 2010). The gender gap report is based on an extensive survey conducted in 2009 to better determine the gender gap in corporate institutions. The gender gap survey has been conducted one time only therefore no comparison with other years is possible and no development of the indicated factors can be displayed. The survey comprises the feedback of 600 companies from 16 different industries in

more than 20 countries (Hausmann et al., 2009). In order to obtain the most relevant results, only countries with a critical mass of completed surveys have been included in the gender gap report. The following 20 major economies from the original target sample of 34 countries are covered: Austria, Belgium, Brazil, Canada, the Czech Republic, Finland, France, Germany, Greece, India, Italy, Japan, Mexico, the Netherlands, Norway, Spain, Switzerland, Turkey, the United Kingdom and the United States.

Figure 2-10 shows the result of the survey in respect to the major constraints for female career progression. It is outlined that general norms and cultural practices in a country as well as a masculine, patriarchal corporate culture are seen as the biggest barriers to women’s access to leadership positions. Right after these two main reasons, the lack of role models is seen as a major constraint for female career progression. The outcome of the extensive gender gap survey also shows that the least problematic reasons are identified to be the lack of adequate parental leave and benefits and inadequate labor laws and regulations in a country.



**Figure 2-10: Cultural and corporate practices as the main barriers to women’s rise to leadership**

Source: created by the author from Zahidi & Ibarra (2010), The Corporate Gender Gap Report 2010, World Economic Forum Geneva, Switzerland.

Barriers displayed in figure 2-10 which are related to leadership are chosen and shortly discussed further. Out of the barriers identified in the gender gap report, four barriers are identified to be related to leadership. These are general norms and cultural practices in a country,

masculine/patriarchal corporate culture, lack of opportunities for critical work experience and responsibility and the lack of networks and mentoring. In the following all four barriers are shortly highlighted and reflected. The result of the gender gap survey indicates that general norms and cultural practices in a country are seen as most problematic for female career progression towards top level jobs.

Social institutions and cultural practices in a country set the parameters of what decisions, choices or behaviors are deemed acceptable or unacceptable in a society and therefore play a key role in defining and influencing gender roles and relations. Discriminatory social institutions play an important role in shaping women's employment outcomes, specifically women's labor market participation, gender segregation by employment status, gender segregation by sectors as well as discouraging women from seeking or entering paid employment (Jutting et al., 2010). Such norms and practices can hinder women's participation in the labor force outside the household by limiting their freedom of movement, while also hindering women's job mobility. In particular, family discriminatory norms, such as early marriage, parental authority and limited access to inheritance, limit women's and girls' opportunity to enter in the labor market (OECD, 2012).

Women's status and decision-making power in the family has been shown to have an impact on women's employment outcomes. Also women's inheritance rights are shown to have an impact on female labor force participation. Equal inheritance rights enhance women's empowerment through greater decision-making power in the household thus leading to greater economic independence (Peterman, 2012). Studies carried out in developed economies have shown that female labor force participation is influenced by maternity leave and child care provision. A study on Germany, for instance, has found a positive and significant correlation between paid maternity leaves and women's return to the workforce after giving birth (Bergemann & Riphahn, 2011).

Supporting fathers to play a greater role in caring for children provides an important tool to achieve greater gender equality by shifting norms and practices that entrench child care as women's work and men's role as a primary breadwinner. Paternity leave represents a shift in attitudes towards more equal parenting roles. At the same moment, men taking on a greater share of child caring responsibilities foster gender equality in the labor market by enabling women to enter or come back

to the labor market faster with minimal career disruption following maternity leave. In 2000, EU countries approved the Resolution of the Council and of the Ministers for Employment and Social Policy, which promoted also individual and non-transferable right to paternity leave. There are few developing countries with legislated paternity leave. There are different perspectives on the most appropriate duration for maternity leave. Maternity leave which is too short in duration can increase the likelihood of health complications for both mother and newborn. However, prolonged disruptions from the workplace may break women's ties from the labor market (Dustmann et al., 2011). It was discussed in chapter one that female leadership advantages based on transformational and participative leadership styles are often offset by stereotyping. Women face discriminatory barriers mainly in male dominated and masculine environments. Female leaders are rejected because people perceive a lack of agentic qualities which are associated with effective leadership.

Other barriers shown in figure 2-10 have also an influence on the leadership skills development named the lack of flexible work solutions, adequate work-life policies, re-entry opportunities or a lack of child care facilities. All these reasons lead to the fact that women have less work experience and opportunities for increasing responsibilities. They lose years to build their conceptual and practical training skills. It has been discussed in chapter one and two that women have high fundamental knowledge and skills and more than 50% of university graduates are women. However due to family reason they need more time in building conceptual and practical training skills like leading people or taking on a challenging job. Women are for example taking more advantage of long-term leave programs and therefore miss years of work experience which is a constraints for career progression in corporate conceptions.

In addition women's networks have not always been perceived as positive with even the intended beneficiaries questioning their value. Some worry that women's networks are viewed as 'have a chat clubs' or 'hens clubs'. Others worry that by joining a women's network they will be seen as 'recipe swapping male-bashers' or as sending the message that they 'need help'. If network members or members of the organization's leadership team do hold such negative perceptions of the value of women's networks, then these networks are unlikely to contribute to the career advancement of women (O'Neil et al., 2011). Networking helps individuals understand the political and cultural aspects of an organization (Ibarra, 1993). Networks are a source of social

capital (Molloy, 2005) and power (Perriton, 2006). Networking affects career success, with research finding it associated with increased salary, promotions, and career satisfaction (Seibert et al., 2001). Questions have been raised as to whether the careers of men and women benefit equally from networking. Studies have found that there are basic differences in the structures of men's and women's networks which influence their effectiveness. Women tend to establish networks which are smaller in size, have stronger tie strength, i.e. contacts have strong relationships to the individual, and a higher degree of similarity among members than men (Knouse & Webb, 2001). Men's networks, which typically have weak ties and a broad or more diverse range in membership, tend to provide more instrumental benefits such as upward mobility (Ibarra, 1997).

Research has found that women tend to have less influential and less well-developed social networks which are associated with fewer opportunities within their firm and in the external labor market (Forret, 2006). For example, in a study of male and female managers in three large organizations, Burke et al. (Burke et al., 1995) found that women had more women in their networks than men did, and men had more men in their networks than did women. Given that more men typically hold higher-level managerial roles than women (Schein, 2007), the networks of women are likely to result in less access to opportunities for career advancement. Likewise, studies have found that networking strategies which are successful for men do not work with equal success for women. For instance, Forret and Dougherty (Forret & Dougherty, 2004) discovered that using networking to increase internal visibility was significantly related to number of promotions for men but not for women. Women's networking is often further hampered by organizational structures which influence women's interactions with others. For example, if women do not hold line positions with accountability for profits and loss, they have fewer chances to interact with powerful organizational decision makers who can assist them in their career advancement. A woman's position in the firm can prevent her from regularly demonstrating her abilities and achievements to important organizational leaders, thus inhibiting her opportunities for career advancement. In addition to formal organizational structures, informal structures are likely to affect women's networking. Women are often left out of informal communications among men because these conversations occur in traditionally male-dominated environments like hunting cabins, cigar clubs or locker rooms. Men may feel more at ease speaking and working with other men who have been similarly socialized by society and tend to speak the same language like sports metaphors (Forret,

2006). The creation of formal women's networks within organizations began because women were often excluded from male-dominated networks which offer members advice, information, and friendship (Ibarra, 1993), and provide access to mentors and other resources for career advancement (Brass et al., 2004). High level executive women have discussed the importance of 'who they know' to their career success (Sheridan, 2002) and women in general have consistently reported that a primary barrier to their career advancement is their exclusion from organizational networks (O'Neil et al., 2011).

The detailed results of the gender gap survey 2009 show that for networks and mentoring on average, 59% of the total number of companies surveyed claim to offer internally led mentorship and networking programs for their employees, 43% provide employees with the opportunity to participate in externally run programs, and 28% of companies offer women-specific mentorship and networking programs. Results show that companies in the United Kingdom offer their employees the most access to internal mentorship and networking programs, with all of the respondent companies affirming that they run such initiatives internally. All companies in these countries also claim to offer external mentorship and networking opportunities for their employees. At the other end of the scale, the survey shows that companies in Spain provided the lowest access to such programs for their employees, with only 21% of respondents providing initiatives set up internally, followed by Austria with 33%. Companies in Spain (10%) and Greece (18%) provided the fewest opportunities for their employees to participate in programs organized externally. With regard to the number of companies that offer mentorship programs and networks specifically targeted at women, Spain rank lowest with no companies providing mentorship or training support networks, while France (75%) and the United Kingdom (71%) rank the highest (Zahidi & Ibarra, 2010).

In the first chapter we found out that female leadership advantages based on transformational and participative leadership styles are often offset by stereotyping. Women face discriminatory barriers mainly in male dominated and masculine environments. Female leaders are rejected because people perceive a lack of agentic qualities which are associated with effective leadership. The building of knowledge and skills play an important role for leadership skills development. Research shows that formal education does positively correlate with the achievement of recognized leadership positions.

It was discussed before that the educational level of women is very high and more than 50% of university graduates in Europe are female. As a consequence it could be expected that women are highly present in top level business positions. This is not the case so there must be other factors which decelerate women in achieving top level business positions. Leadership education is not enough to develop leadership. The development of practical skills and job experience also provide valuable leadership development. Challenging job opportunities are a source for learning leadership skills. Women are in disadvantage to develop conceptual and practical business skills in Western Europe as they are not as many years in professional life as men due to family reasons. Women are often not promoted because of their professional work performance instead of their future potential. Women have less global experience as a consequence of their inflexible family situation. These are examples which penalize women to develop their practical leadership skills.

In the second chapter research results from the past were taken into account to come-up with the analytical findings that general norms and cultural practices in a country, a masculine corporate culture, a lack of networks and mentoring and a lack of opportunities for critical work experience and responsibility are seen as barriers for female career progression. General norms and cultural practices in a country and a masculine corporate culture can be related to a masculine leadership style which is according to the literature review more related to a transactional leadership style. A lack of networks and mentoring and a lack of opportunities for critical work experience and responsibility can be related to practical training skills as outlined in chapter three.

In the following the outcome of an empirical study is demonstrating if the perception of good knowledge and skills, concretely fundamental academic knowledge and skills, personal, conceptual and practical training skills as well as a certain leadership style help women to occupy top level business positions. The research study is undertaken in German speaking countries and compares the outcome of female respondents with the outcome of male respondents. The intent of a gender comparison is to find out if in general differences exist between women and men and in concrete if the investment in leadership skills and the leadership style identified are recognized as accelerators for occupying top level business positions by women.

### **3. EMPIRICAL TESTING OF THE LEADERSHIP SKILLS IMPACT MODEL IN GERMAN SPEAKING COUNTRIES**

Over the last decades the educational level of women has increased tremendously, so that now more than 50% of graduates across the European Union are women (Eurostat, 2015b). In view of this improvement in female education, it is all the more remarkable that women's presence in top management jobs is still small. Despite good skills and education of female population, women are underrepresented in top level business positions. This circumstance allows to state that women face various barriers for accessing top management positions. To counteract this reality, compulsory female quotes have been introduced for the board of director composition in some Western European countries.

There is a business case for having more women in top level business positions. Since both women and men are part of the worldwide population and possess certain talents it would be wasteful to ignore women when so many businesses struggle to fill high powered jobs. In addition women are nowadays generally better educated than men (Eurostat, 2015b). Especially in times of skilled employee shortage in Western European countries there is a high need to capitalize female potential. The demand for highly qualified employees is increasing and companies are starting initiatives to increase their attractiveness for the fight of potential highly talented employees.

In chapter three it will be evaluated if a relationship between the building of leadership skills and the occupation of top level business positions exists with specific focus on gender. To answer this question a research model has been developed based on an extensive literature review. The research model is named leadership skills impact model and assumes that certain knowledge and skills and a certain leadership style has a significant impact on the occupation of top level business positions by women. The leadership skills impact model is distinguished into five dimensions: fundamental academic knowledge and skills like mathematical skills, computer skills or project management skills, interpersonal skills like communication or team work skills, conceptual skills like change management or strategic planning skills and practical training like mentoring and coaching. These four dimensions used in the research model rely on the 'multi stage leadership educational model' of Elmuti, Minnis and Abebe (Elmuti et al., 2005) which classifies education and the importance for leadership skills development. The component leadership style has been added to the model as the fifth dimension. The

first four dimensions are seen as accelerators for leadership skills development and it is evaluated if these four dimension have an influence on the occupation of top level business positions. The fifth dimension evaluates if the leadership style itself has an impact on the occupation of top jobs.

### 3.1 **Research Design and Strategy**

After working out the hypothesis it was decided to develop a quantitative research instrument for the empirical verification of the research model. A questionnaire was elaborated and verified by two independent experts in leadership topics. One expert has profound academic knowledge and is engaged at the University of Applied Science in Kufstein, Austria. The other expert is a business consultant advising corporations in leadership questions. In addition a pre-test involving 5 experts from science and business with know-how on the research topic and questionnaire was conducted. The selection of the experts was a combination of scientists, business experts and male and female persons. The sample size was calculated with a population of 1200 people, a confidence level of 95% and a confidence interval of 5%. Based on these assumptions a needed sample size of 278 persons was calculated. Finally 342 cases could be realized which constitute a response rate of 29%. For the data preparation for statistical analysis the primary data was exported from the survey software to SPSS for statistical processing and coding of variables. For first statistical analysis and interpretations, descriptive statistic tools and correlations analysis were used. Cross tabs and a regression analysis were applied. Cross tabs help to find out correlations of examined variables. In the empirical study it is expected to find out if men occupy relatively more top level business positions than women, if men participating in this study have more children than women and if men earn relatively more than women. For finding out correlations of variables the Fisher test and the Chi-Square test according to Pearson are used. The Fisher test is used for 2x2 crosstabs and the Pearson test is used for crosstabs bigger than 2x2.

After analysing the research results, they have been discussed and reflected with three female leaders in top positions in Germany. In this context the female leaders confirmed the meaningfulness of the questionnaire and the interpretation of the results of the empirical study. It was confirmed that even though women invest in knowledge and skills and perform a transformational leadership style, women are underrepresented in top level business positions due to stereotyping, a masculine business environment, a lack of role models and many other factors. However this doesn't draw the conclusion that women should not invest in knowledge and skills and should not perform a transformational leadership style. Other factors besides leadership skills and styles need to be taken into account to

improve the situation and increase women in leadership positions. Further analysis based on the empirical study outcome needs to be conducted. Due to time and resource restriction further analysis cannot be covered in this research study.

**Table 3-1: Summary of the Research Process**

1	Definition of the research topic	Women are underrepresented in top level business positions. The research topic is about the evaluation of female participation in leadership positions and if the leadership style may hinder women for career development. In this context the relationship between the building of leadership skills and the occupation of top level business positions by women is explored.
2	Literature review	Review of the development of the changing role of women in Western versus Eastern European countries, the changing context of female leadership and different types of leadership styles correlating to gender, stereotyping of female leaders and leadership in the frame of education.
3	Development of the theoretical research model	Formulation of the hypothesis and operationalization of the dependent and independent variables. The basic hypothesis (H0) of the research model has been formulated as following: 'Leadership skills have a significant impact on the occupation of top level business positions by women'. The basic hypothesis has been divided in five sub-hypothesis to allow a better analysis of the primary data and a better verification and interpretation of the results.
4	Development of the quantitative research instrument	Survey based on the developed leadership skills impact model, using 23 main questions and 36 sub-questions; all questions are closed questions except of one open question for comments.
5	Definition of population and sample size	4 channels used to border the population: 2 female business networks; 2 social business networks Xing and LinkedIn; sample size 342 persons. The targeted sample size was calculated with a population of 1200 people, a confidence level of 95% and a confidence interval of 5%. Based on these assumptions a needed sample size of 278 persons was calculated. 342 cases could be realized which is a response rate of 29%.
6	Validation of the questionnaire	Survey validated by 2 independent experts and by a pre-test of 5 business and scientific experts.
7	Execution of the survey	Survey link sent to defined population via email with formal, personal request for participation; thank you email sent 1 week later including a reminder notice.
8	Statistical analysis and interpretation	Export of data from survey software to SPSS for statistical processing and coding of variables. Descriptive statistics, correlation analysis, cross tabs, regression analysis.
9	Presentation of the research result	Composition of own graphs and tables to present the statistical result of the empirical research.
10	Critical reflection of the research result	Reflection of the research results substantiated by three female leaders in top business positions in Germany; verification and falsification of the hypothesis and the five sub-hypotheses; comparison to prior investigations mentioned in the literature review.
11	Interpretation and summary of the result	Formulation of conclusions in Management Science and derivation of suggestions to governmental and educational institutions as well as business professionals in the private sector.

Source: created by the author

In table 3-1 the research process is summarized, starting from the definition of the research topic and ending with the interpretation and summary of the research result. The dissertation is based on a quantitative research method using primary data out of an empirical ascertainment.

### 3.2 The Leadership Skills Impact Model

Referring to the conclusions made out of the theoretical approach in chapter one it is evaluated if a relationship between the building of leadership skills respectively style and the occupation of top level business positions exists. To answer this question a research model has been developed. The research

model assumes that high leadership skills and the existing of a transformational leadership style increase the occupation of top level business positions by women. The model distinguishes five dimensions: fundamental academic knowledge and skills like mathematical skill, computer skills or project management skills, interpersonal skills like communication or team work skills, conceptual skills like change management or strategic planning skills and practical training like mentoring and coaching. These four dimensions used in the research model rely on the ‘multi stage leadership educational model’ of Elmuti, Minnis and Abebe (Elmuti et al., 2005). The component leadership style has been added to the model as the fifth dimension.

The basic hypothesis (H0) of the research model has been formulated as following: ‘Leadership skills have a significant impact on the occupation of top level business positions by women’. The basic hypothesis has been divided into five sub-hypothesis to allow a better analysis of the primary data and a better verification and interpretation of the results. The five subdivided hypotheses are listed in Table 3-2 using for example H1 as the synonym for hypothesis one and x1 as the synonym for the independent variable ‘fundamental knowledge and skills’.

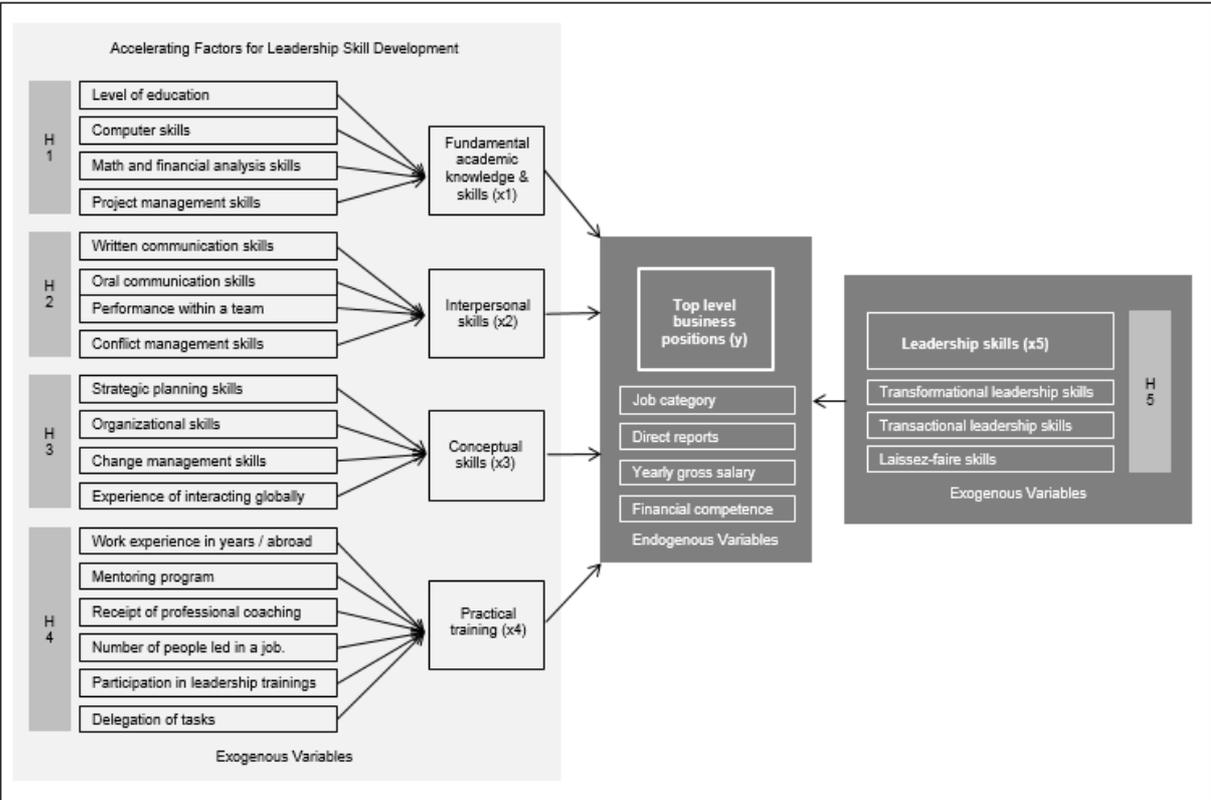
**Table 3-2: Sub-Hypotheses**

Hypothesis 1 (H1)	The development of fundamental knowledge and skills (x1) by women raises the number of women in top level business positions
Hypothesis 2 (H2)	The development of interpersonal skills (x2) by women raises the number of women in top level business positions
Hypothesis 3 (H3)	The development of conceptual skills (x3) by women raises the number of women in top level business positions
Hypothesis 4 (H4)	The development of practical training (x4) by women raises the number of women in top level business positions
Hypothesis 5 (H5)	The development of leadership skills (x5) by women raises the number of women in top level business positions

Source: created by the author

It was outlined in chapter two that in 2015 the female quota on the boards was 39% in Finland and 26% and 20% in German speaking countries Germany and Austria. In the empirical study of this research it was found out that in general women occupy fewer top level business position than men. In concrete, 34% of all male survey participants are categorized into the group top level whereas only 27% of all participating women are categorized as top level business position. When looking at the female Management Board quota, it was found out in the empirical study that out of the total number of tested people, women constitute a quote of 66% and men constitute a quote of only 33% of all people occupying a Management Board position. In this context it can be summarized that the female

Management Board quota of the sample group is very high with 66%. This means that the sample size comprises a high number of women who actually occupy a Board position. However a hypothesis cannot be derived constituting that women in general occupy more Board positions compared to men. The main question of this research is to determine the relationship and impact of leadership skills respectively style on the number of women in top level business positions. The focus on the female quota in Management Boards would require a separate extensive evaluation and is not further evaluated in a hypothetic context in this research. In this research the focus is on top level business positions taking more parameters into account besides the job category also the number of direct reports, the yearly gross salary and the financial competence are operationalized to the term top level.



**Figure 3-1: The Leadership Skills Impact Model**

Source: created by the author

Figure 3-1 shows the derived leadership skills impact model visualizing the five hypotheses and its operationalized variables. The five hypotheses and their independent or exogenous variables are displayed as well as the number of women in top level business positions which demonstrates the

dependent or endogenous variable  $y$ . The research project tries to find out the influence of knowledge and skills which are accelerators for leadership skill development as well as the leadership style on the number of women in top level business positions. The research model is the basic framework for further evaluation of the empirical data. Each hypothesis will be verified by finding out if a high occurrence of the distinctive dimension influences the number of women in top level business positions.

In the following the exogenous and endogenous variables indicated in the research model will be further explicated and operationalized. The operationalization has been conducted by the author.

### Endogenous Variables – Top Level Business Positions

Based on the leadership skills impact model presented above one category of dependent variables and five categories of independent variables have been defined. The high level dependent variable category is named ‘top level business position’ and it was operationalized by the author with four sub variables. All four variables aim to conceive if a person fills a top level business position or not.

The dependent variable category ‘top level business position’ has been operationalized with the variables job category, the number of direct reports, the yearly gross salary and the financial competence within a company. In table 3-3 the selection possibilities of the four variables which were used in the research questionnaire are stated.

**Table 3-3: Operationalization of Top Level Business Positions**

Job category	Staff / non-management, manager / supervisor, executive / senior manager, manager of the management board, self-employed
Number of direct reports	None, less than 5 direct reports, from 5 to 20 direct reports, 21 to 100 direct reports, more than 100 direct reports
Yearly gross salary	Below 50.000 EUR, between 50.000 and 100.000 EUR, more than 100.000 EUR
Financial competence	Below 1.000 EUR, between 1.000 and 5.000 EUR, between 5.000 and 20.000 EUR, between 20.000 and 100.000 EUR, more than 100.000 EUR

Source: created by the author

The term ‘top level business position’ has been operationalized by the author. In respect to the job category, ‘executive / senior manager’ and a ‘member of the management board’ are defined as persons who occupy a top level business position. Managers with 21 direct reports and more are defined to occupy top level business positions. Managers with a yearly gross salary of 100.000 EUR and more are seen to occupy top level business positions. In respect to the financial competence, a top level business

position job was defined with a financial competence of 20.000 EUR and more. Persons whose answers are three or four times out of four times categorized as top level are overall occupying top level business positions. Persons who have zero, one or two answers categorized as top level are overall occupying no top level business position. The operationalization of the term top level business position was conducted by the author and verified by 2 experts in the field as described in sub-chapter 3.1.

#### Exogenous Variables – Four categories of leadership skill accelerating factors and one category of leadership style

In the research model five categories of independent variables were taken into consideration to verify the basis hypothesis. Additional exogenous variables for leadership skills acceleration and style may exist which could influence the dependent variable ‘top level business positions’. The fact of infinite possible exogenous variables can be seen as a limitation of the research model. Due to fundamental literature research the five categories of independent variables have been chosen for leadership skills and style evaluation.

Table 3-4 describes the five categories of the exogenous variables and operationalizes according to the outcome of the literature review. The operationalization of fundamental academic knowledge and skills, interpersonal skills, conceptual skills and practical training is based on the multi stage leadership education model of Elmuti, Minnis and Abebe (Elmuti et al., 2005). The operationalization of leadership styles is based on various authors’ and researchers’ definitions of transactional, transformational and laissez-faire leadership skills and styles. Fundamental academic knowledge and skills were divided into computer skills, math and financial analysis skills and project management skills. Communication skills and how well a person performs within a team as well as conflict management skills define a person’s interpersonal skills. Conceptual skills are required for top jobs where fundamental academic knowledge and interpersonal skills are not enough anymore (Elmuti et al., 2005). For these categories and corresponding questions the participant of the empirical study has the option to select between five answers. The author operationalized the answers ‘very’ and ‘extremely’ as indicators for high knowledge and skills. The rating has been defined by the author.

**Table 3-4: Operationalization of the Exogenous Variables of the Leadership Skills Impact Model**

Fundamental Academic Knowledge & Skills	<ul style="list-style-type: none"> <li>• Level of education: Apprenticeship, A-level (qualification for university entrance), Bachelor, Master, MBA, PHD</li> <li>• Computer skills</li> <li>• Math and financial analysis skills</li> <li>• Project management skills</li> </ul>
Interpersonal Skills	<ul style="list-style-type: none"> <li>• Written communication skills</li> <li>• Oral communication skills</li> <li>• Performance within a team</li> <li>• Conflict management skills</li> </ul>
Conceptual Skills	<ul style="list-style-type: none"> <li>• Strategic planning skills</li> <li>• Organizational skills</li> <li>• Change management skills</li> <li>• Experience of interacting globally</li> </ul>
Practical Training	<ul style="list-style-type: none"> <li>• Work experience in years: less than 5 years, 5 to 10 years, 11 to 20 years, 21 to 30 years, more than 30 years</li> <li>• Work experience abroad: no, less than 6 months, 6 months to 1 year, 1 to 3 years, more than 3 years</li> <li>• Participation in a mentoring program as a mentor or mentee</li> <li>• Receipt of professional coaching</li> <li>• Taking over of challenging jobs</li> <li>• Number of people led in a job: none, less than 10 people, 11 to 50 people, 51 to 100 people, more than 100 people</li> <li>• Number of people led in other associations like charity, community, sports club etc.: none, less than 10 people, 11 to 50 people, 51 to 100 people, more than 100 people</li> <li>• Participation in leadership trainings: never, once, 2 to 4 times, more than 4 times</li> <li>• Delegation of tasks to followers</li> </ul>
Transactional Leadership Skills	<ul style="list-style-type: none"> <li>• Monitor work of followers</li> <li>• Reward followers when the goals and objectives are fulfilled</li> <li>• Focus attention on irregularities, mistakes, exceptions and deviations from what is expected from followers</li> <li>• Keep careful track of mistakes</li> <li>• Tell followers what to do to be rewarded for taking efforts</li> <li>• Work out agreements with followers what they will receive if they do a good job</li> <li>• Demonstrate a strong conviction in own beliefs and values</li> </ul>
Transformational Leadership Skills	<ul style="list-style-type: none"> <li>• Involving people in decision making</li> <li>• Empower followers</li> <li>• Portraying an optimistic future through an idealized vision to followers</li> <li>• Challenge followers to think of innovative solutions</li> <li>• Be aware of followers' needs and interests to facilitate self-realization of the followers</li> <li>• Set high standards and act as a role model</li> <li>• Set goals and develop a plan for achieving the goals</li> <li>• Mentor and develop people</li> <li>• Easily lead people without hierarchical authority</li> <li>• Develop people to become better in their job</li> <li>• Clarify responsibilities of followers</li> <li>• Make decisions based on consensus</li> </ul>
Laissez-Faire Leadership Skills	<ul style="list-style-type: none"> <li>• Avoidance of getting involved when important issues arise</li> <li>• Things need to go wrong before taking actions</li> <li>• Avoidance of decision making</li> </ul>

Source: created by the author

Work experience of more than 20 years is defined as high practical training experience. For work experience abroad the criteria is more than 1 year. Leading more than 50 people within a company or any other association was defined as high practical training experience. The participation in a leadership training of at least 2 times can be seen as high practical training experience. For all other characteristics the survey participant has the option to select between five answers. The author operationalized the answers 'several times' and 'permanently' as indicators for high practical training skills of the survey participant. The valuation has been defined by the author.

Various authors researched on leadership style characteristics of transactional, transformational and laissez-faire leadership styles. Based on the literature review of different authors the characteristics of the different leadership styles have been summarized. For all leadership style skills the participant of the empirical study has the option to select between six answers. The author operationalized the answers 'very often' and 'all the time' as indicators for high transactional, transformational and laissez-faire leadership skills of the survey participant.

The selection of the five categories and its characteristics has been derived from the literature. The five categories describe accelerating factors of leadership skills and three different leadership styles. The operationalization of the five categories of the leadership skills impact model has been conducted by the author and verified by 2 experts in leadership topics. One expert has profound academic knowledge and is engaged at the University of Applied Science in Kufstein, Austria. The other expert is a business consultant advising corporations in leadership questions. In addition a pre-test involving 5 experts from science and business with know-how on the research topic and questionnaire was conducted. The selection of the experts was a combination of scientists, business experts and male and female persons.

### **3.3 Parameters of the Survey**

An extensive literature review was conducted to find out if similar investigations and similar questionnaires in respect to the research question have already been developed to be used for the research project. Leadership questionnaires were found in the literature but they are mainly focusing on assessing other persons but no questionnaire could be found which focuses on self-assessment. In addition no questionnaire could be found on leadership skills and style and its impact on top level business positions. Based on these two reasons it was decided to develop a new questionnaire which enables to find answers to the research model impact and hypotheses.

The survey questions were divided into three main parts: demographics and deployment data, knowledge and skills and coaching and leadership behaviour. All three parts and its questions aim to gather data for the verification and falsification of the hypothesis. The part 'demographics and deployment' aims to gather general demographic data and data about the actual business position of the questionnaire participant. In this part it is required to find out if the questionnaire participant occupies a top level business position or not. Each question of the survey in respect to top level business positions has been operationalized and has been characterized as dependent variable. Question of the survey in respect to demographics can be used for control group comparisons.

The second part of the survey aims to get an understanding about the knowledge and skills of the questionnaire participant. In the third part it is required to find out if the questionnaire participant has transactional, transformational or laissez-faire leadership skills. The second part was included in the model to find out if accelerating factors of leadership skill development play an important role to occupy a top job besides the leadership style itself covered in the third part. Each question of the survey can be traced back to the literature and has been assigned as independent variable of the hypothesis: fundamental academic knowledge and skills, practical training (to develop / learn leadership skills), conceptual skills, interpersonal skills, transactional leadership skills, laissez-faire leadership skills and transformational leadership skills. Fundamental academic knowledge and skills, practical training, conceptual and interpersonal skills questions have been included in the model and empirical study as these are important factors to develop leadership skills. It will be evaluated what accelerating leadership skill factors play a role for occupying a top job besides the leadership style itself.

The survey contains 23 questions with 36 sub-questions. It was decided to group some sub-questions to gather a good flow of answering of questions (see Appendix 2 question 22). This means that questions of the same category e.g. leadership style and with the same answering possibilities have been grouped to enable a smooth flow and fast answering of questions. All questions are closed questions except of the last question which allows entering comments.

The questionnaire has been verified by two independent experts in leadership topics. One expert has profound academic knowledge and is engaged at the University of Applied Science in Kufstein,

Austria. The other expert is a business consultant advising corporations in leadership questions. In addition a pre-test with five experts has been conducted. The selection of the experts was a combination of scientists, business experts and male and female persons. The feedback and recommendations of the independent experts were valuable and have been incorporated in the questionnaire. In table 3-5 the characteristics of the questionnaire are summarized.

**Table 3-5: Characteristics of the Survey**

Purpose	Verification or falsification of the research model and derived hypotheses
Participants	Male and female managers and executives in German speaking countries
Derivation of questions	From literature as no similar ascertainment available
Validation of the questionnaire	Questionnaire validated by 2 experts in leadership topics and by a pre-test including 5 male and female scientists and business experts; post discussion with 3 female leaders in Germany to interpret and validate survey results
Format	Standardized email with survey
Language	English
Privacy	Anonymous
Data collection	Survey via survey monkey
Timing of data collection	12 weeks data collection period
Sample size	Basic population of 1200 persons: 600 women addressed via the European Women's Management Development network; 150 women addressed via 'Zukunft Frauen' and 450 persons addressed via Xing and LinkedIn; sample size of 342 persons; 29% response rate
Data analysis	Analysis via statistical software SPSS including descriptive statistics, correlation analysis, parametric and non-parametric tests, regression analysis

Source: created by the author

The purpose of the empirical study is the verification of the research model and the corresponding hypotheses. Due to the interest of gender specific answers it was decided to include male as well as female managers and executives in German speaking countries in the empirical study. The questions of the survey in respect of leadership skill development factors and leadership styles were derived from the literature as no similar ascertainment could be found. The questionnaire was validated by two experts in leadership topics, one having an academic background and one having a consulting background. In addition a pre-test including five scientists and business experts was performed. Three out of the five pre-test experts have been chosen due to their special know-how on questionnaires, two out of the five pre-test experts have been chosen due to their specific know-how of female leadership. The survey has been developed and managed via survey monkey. Data was collected during a period of 12 weeks. Finally 342 persons answered the questionnaire which resulted in a response rate of 29%. The high response rate of 29% can be ascribed to the effort of sending single emails to potential survey participants instead of sending anonymous mass emails. Statistical analysis including descriptive statistics, correlation analysis, parametric and non-parametric test and regression analysis could

conducted with the help of the statistical software SPSS. After analysing the research results, they have been discussed and reflected with three female leaders in top positions in Germany. The conversation was undertaken in an open dialogue discussing the validity of the questionnaire, the outcome of the survey results and derived conclusions. In this context the female leaders confirmed the meaningfulness of the questionnaire and the interpretation of the results of the empirical study.

### **3.4 Derivation of the Research Participants and Sample Size**

The purpose of defining research participants and the sample is to create a representative sample for generalizable results. Participants for this research need to be positioned in low, middle and top management positions in German speaking countries. For defining the sample of the quantitative research, four different channels have been conducted to reach out to survey participants. The first two channels are female business networks, the third and fourth channels are social business networks including men and women. In the following all four channels will be described and it will be argued why these four channels have been chosen to receive a representative sample for the research project.

Two female business networks were employed. The first women's network which has been addressed is the so called European Women's Management Development business network. The network consists of about 600 female members in Europe mainly situated in Germany and Austria. There are some characteristics of its members which are very much suitable for the research project. One characteristic is that members need to have an academic background another one is that members need to exhibit several years of work experience in mid to high level business positions. Additionally a special application process and an annual network fee of about 300 EUR guarantee the participation of top class business women. One personal email was sent out to all 600 female members of the European Women's Management Development network with the request to support a doctoral research project and fill the research survey. After 7 days one thank you email was sent to the same email distribution lists as originally sent. It included a reminder to fill the survey in case this has not been done yet.

A second women's network called 'Zukunft Frauen' has been contacted. 'Zukunft Frauen' is a leadership program for female managers and executives which is a common initiative of the Chamber of Trade, Commerce and Industry and the Ministry of Economic Affairs in Austria. 'Zukunft Frauen' has about 150 female members. The network is conceived for women in leadership position who are ready for the next career step or who want to become a member of a management board or the board

of directors. Due to the quota discussion for board of director positions in the European Union ‘Zukunft Frauen’ has been founded to offer a program to women to become a board of director. ‘Zukunft Frauen’ is a very good platform to reach out to research project participants for the following reasons: candidates need to go through a high level application process which includes a written essay arguing why you want to participate to the program. Furthermore the company you work for needs to write a letter of recommendation for the candidate. Additionally the program has participation costs of about 3 500 EUR. The candidates are selected by a joint committee of the Chamber of Trade, Commerce and Industry and the Ministry of Economic Affairs. Based on this selection process it is guaranteed that top level business women are part of this network and therefore suitable for the research project. One email has been sent out to all members of the ‘Zukunft Frauen’ network with the request to support a doctoral research project and fill the research survey. After 7 days one thank you email was sent to the same email distribution lists as originally sent. It included a reminder to fill the survey in case this has not been done yet.

In addition to the two female business networks it was decided to use the social business network Xing and LinkedIn to reach out to male and female managers and executives in German speaking countries. Potential survey participants have been randomly selected by job title independent from industry or business in LinkedIn and Xing. A personal email was sent to each of the randomly selected persons with the request to support a doctoral research project by filling the survey.

**Table 3-6: Dimension of Business Network Segmentation**

Members	German Speaking Countries	Worldwide	Comment
Xing	7 mio	14 mio	Number 1 in German speaking countries; founded in Hamburg / Germany
LinkedIn	5 mio	300 mio	Number 1 worldwide; founded in Mountain View / California
<b>Total</b>	<b>12 mio</b>	<b>312 mio</b>	

Source: created by author

Xing is the market leader of all social business networks in German speaking countries which comprise more than 7 million members in German speaking countries and more than 14 million members worldwide (Xing AG, 2014). LinkedIn is the world’s largest career network with more than 300 million members worldwide and more than 5 million members in German speaking countries (LinkedIn, 2014).

Potential survey participants have been randomly selected by job title in both business networks. Extended search functions were used to search for director, CEO, Manager, CFO, Head, Executive, Senior Vice President and General Managers. In Xing and LinkedIn you can search with an extended search function. In LinkedIn for example you can search by keyword, name, position, company, university, country, county and postal code. When you insert for example ‘CEO’ under the search category ‘position’ and you insert ‘Germany’, then you receive 72.321 results. It has randomly been clicked through the first 100 pages and 300 persons were selected in LinkedIn and 150 persons were selected in Xing. A personal email was sent individually to the randomly selected persons with the request to support a doctoral research project and fill the research survey. In total 450 persons have been contacted thereof 250 men and 200 women. It was aimed to receive a total sample of half men and half women. Women have been addressed additionally through two women’s business networks therefore it was necessary to contact more men via the channels of Xing and LinkedIn. Each person has been randomly selected based on the actual job title and has been contacted individually per Xing and LinkedIn message system or Email. After 7 to 10 days a personal thank you email has been sent which included a reminder in case the person has not filled the survey yet. A participants list with all job titles and names listed has been created which were addressed via Xing and LinkedIn. This contact list will not be published in the research document due to anonymous treatment of randomly selected persons. It has not been made a difference between employees and self-employed persons when randomly selecting potential participants. First of all it was not clearly apparent if the person is an employee or self-employed second self-employed people may also have a top job based on the defined characteristics of the research and therefore were included in the empirical survey. When searching based on job titles in Xing and LinkedIn much more men were found than women.

**Table 3-7: The Quantitative Research Sample Size by Gender**

Gender	Research Participants	Percentage
Male	142	42%
Female	200	58%
<b>Total</b>	<b>342</b>	<b>100%</b>

Source: created by the author

In total 1200 persons could be reached and received the survey per email or social business network message. 600 women were addressed via a mass email to the European Women’s Management Development network, 150 women were addressed via a mass email to ‘Zukunft Frauen’ members and

450 persons were addressed via Xing and LinkedIn by individual email. Out of the 1200 persons, 342 persons filled the survey. This is a response rate of 29%. This high response rate may result from the writing of individual emails to 450 Xing and LinkedIn members instead of sending a mass email. Sending a mass email was only an option for the European Women's Management Development network and 'Zukunft Frauen' network as email addresses were available due to own membership of these networks. For all other survey participants sending a mass mail was not an option due to unavailability of lists of managers and executives in German speaking countries. The final sample size contains 342 cases. 42% of the sample includes male respondents which represent 142 persons, 58% of the sample includes female respondents which represent 200 persons.

### **3.5 Quantitative Data Collection and Operationalization of the Research Aspects**

The verification of the hypothesis requires the answering of specific questions. Due to unavailability of primary data in the field of the specific research question it was decided to conduct a primary data collection. For the empirical data collection a quantitative research instrument was designed. Therefore a standardized questionnaire has been developed to collect primary data. For the realization of the questionnaire, the 'survey monkey' internet software has been used.

After a 12 weeks of data collection via the survey, raw data has been analysed with the assistance of the statistical software SPSS. In a first step different variable scores have been calculated to define how many people belong to the top level business position group. Reliability analyses have been conducted to find out if the different variables of each skills group can be summarized. This was the case for the skills group interpersonal skills and leadership skills. For later analyses the summarized variables could be used for statistical testing. For the variables where a summary doesn't make sense, the content of the questions shows significant different aspects and cannot be summarized. In this case Cronbach's Alpha is smaller than 0.75.

In the following the descriptive analysis has been used to characterize the sample. The different demographic and top job variables have been presented with histograms. Subsequently five hypotheses were examined using the Mann-Whitney test and the Welch-test. All tests included a separation of gender so that the outcome could be analysed for men as well as for women.

At the end a comprehensive regression model was applied in order to find out which variables are qualified to explain and influence the dependent variable ‘top level business position’. The influencing variables were selected by the regression model established for women and for men. For women it resulted in three influencing variables.

Overall it can be summarized that the hypotheses can partly be verified. It needs to be differentiated between gender and it needs to be looked at individual variables in order to verify part of the hypotheses. In table 3-8 the operationalization of the hypotheses and its analysis are summarized.

**Table 3-8: Operationalization of Research Aspects, Hypotheses and Analysis**

Research Aspect	Hypothesis	Independent Variables	Dependent Variable	Analysis
Influence of fundamental knowledge & skill on top level business positions	H1	Fundamental knowledge & skills (x1)	Top level business position	Cronbach’s Alpha, Mann-Whitney test (u-test)
Influence of interpersonal skills on top level business positions	H2	Interpersonal skills (x2)	Top level business position	Cronbach’s Alpha, Welch test (t-test)
Influence of conceptual skills on top level business positions	H3	Conceptual skills (x3)	Top level business position	Cronbach’s Alpha, Mann-Whitney test (u-test)
Influence of practical training experience on top level business position	H4	Practical training (x4)	Top level business position	Cronbach’s Alpha, Mann-Whitney test (u-test)
Influence of leadership skills on top level business positions	H5	Leadership skills (x5)	Top level business position	Cronbach’s Alpha, Welch test (t-test)

Source: created by author

Table 3-8 summarizes the various aspects of the research topic and their operationalization in terms of hypotheses, independent and dependent variables. The table also provides information on the analysis tools used for each aspect of the research questions.

### 3.6 Descriptive Statistics of the Depended Variable ‘Top Level Business Position’

In the following primary data of the four components of the depended variable ‘top level business position’ will be displayed to receive a first overview and understanding of the sample size. The four components of the depended variable will be presented in form of histograms. The sample size comprises 342 participants. Values within the histograms are displayed in full numbers or in percentages. Valid numbers and valid percentages are identical due to the fact that all 342 participants answered all questions.

As a first step scores have been built for the operationalization of the depended variables which were then used for all later data analysis. The dependent variable category ‘top level business position’ was divided into four sub-variables ‘job category’, ‘yearly gross salary’, ‘financial competence’ and ‘number of direct reports’. All four variables have been operationalized by the author. Executive and senior manager as well as members of the management board has been defined as top level for the sub-variable ‘job category’. A yearly gross salary of 100 000 EUR or more has been defined as top level for the sub-variable ‘yearly gross salary’. A financial competence of more than 20 000 EUR within a company has been defined as top level for the sub-variable ‘financial competence’. A person who has 21 direct employees or more has been defined as top level for the sub-variable ‘number of direct reports’.

For every of the four questions of the four sub-variables a score of either 0 or 1 could be realized. If a survey participant for example answers to be a senior manager with a yearly gross salary of more than 100 000 EUR, a financial competence of less than 20 000 EUR and has 50 direct employees, the score of this survey participant is 3. In three cases the survey participant fulfils the criteria ‘top level business position’ and in one case which is the financial competence in this example, the survey participant doesn’t fulfil the criteria ‘top level business position’. For this one case where the survey participant doesn’t fulfil the criteria ‘top level business position’ he receives a score of 0, for the other three cases he receives a score of 1 for each sub-variable. Overall this survey participant has a total score of 3. Each survey participant can score 0, 1, 2, 3 or 4. The score 0 means that the survey participant doesn’t fulfil the requirement for the respective top level business position sub-variable defined by the author. The score 1 means that the survey participant fulfils the requirements for one sub-variable of ‘top level business position’. In the best case a survey participant can have a score of 4 which means ‘top level’ in all categories. In the worst case a survey participant can have a score of 0 which means that in all four sub-variable questions the person is rated as ‘not top level’. In case all characters are given by a survey participant, the survey participant occupies a 100% top level business position.

Table 3-9 shows that 99 survey participants have a rating of 0 which means that these 99 persons or 29% don’t fulfill a single criterion for a ‘top level business position’. 30% of all survey participants have reached a score of 3 or 4. These 30% which demonstrate 102 survey participants will be classified as ‘top level’ for all further analysis. The classification has been conducted by the author. A ‘top level

**Table 3-9: Frequency Table of Top Level Business Positions**

Top level business position score	Frequency	Percentage	Cumulative Percentage
0	99	29%	29%
1	86	25%	54%
2	55	16%	70%
3	72	21%	91%
4	30	9%	100%
<b>Total</b>	<b>342</b>	<b>100%</b>	

Source: created by the author based on author's performed survey in 2016

business position' classification from 2 to 4 would represent about 46% of all survey participants as 'top level. This would mean that only two criteria out of four must be fulfilled to occupy a top level business position which is not representative according to the author. Choosing only the score of 4, the 'top level' category would be only 9% which is very small and could negatively influence the application of various statistic methods. This is the reason why the author has defined score 3 and 4 as 'top level business position'.

**Table 3-10: The Frequency Overview of Top Level Business Positions**

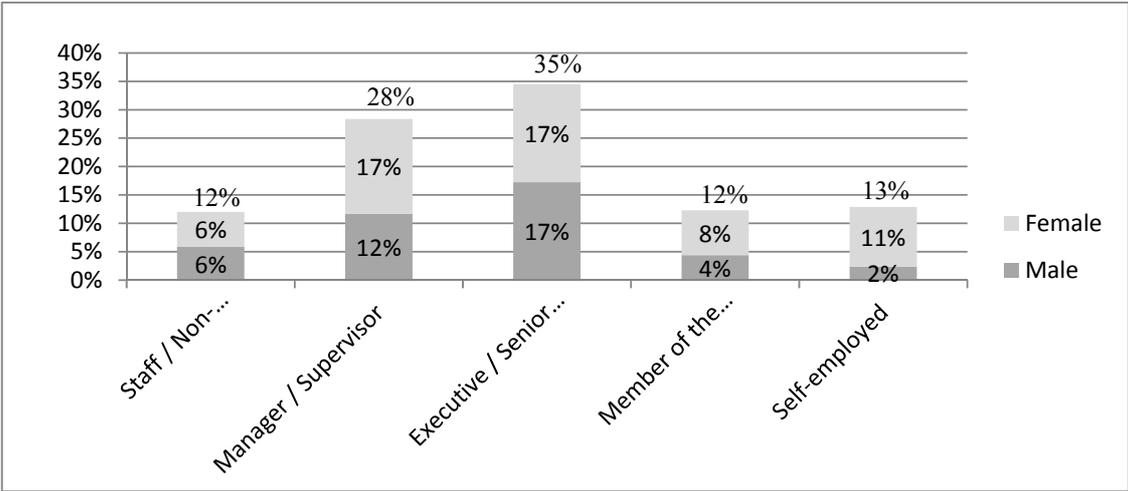
Business Positions	Research Participants	Percentage
Top level	102	30%
No top level	240	70%
<b>Total</b>	<b>342</b>	<b>100%</b>

Source: created by the author based on author's performed survey in 2016

Table 3-10 shows the distribution of survey participants occupying a top level business position. 102 out of the 342 survey participants which represent 30% occupy a top level business position. 240 survey participants which represent 70% of the research sample, don't occupy a top level business position. In the following the empirical outcome of the four sub-variables of the dependent variables are described with histograms and displayed by gender.

Figure 3-2 shows that 40% of all survey participants rated themselves as staff / non-management and manager / supervisor which is defined as no top level business position. 47% of all cases rated themselves as executive / senior manager and member of the management board which was defined as top level business position. 13% of all survey participants are self-employed. The focus of the research is not on self-employed persons and it cannot be valued if a self-employed person has a top level job

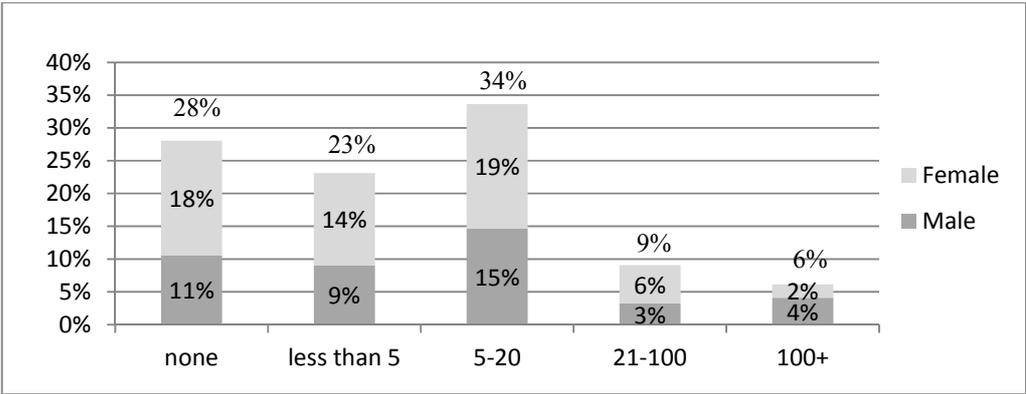
or not without further information. Therefore the category self-employed has been defined as no top level business position. Out of the 47% top level business positions, 26% are occupied by women and 21% by men. When looking at the category ‘Member of the Management Board’, the female quota constitutes 66% compared to 33% for men. In this context it can be summarized that the female board quota of the sample group is very high with 66%.



**Figure 3-2: The Frequency Overview of the Job Category**

Source: created by the author based on author's performed survey in 2016

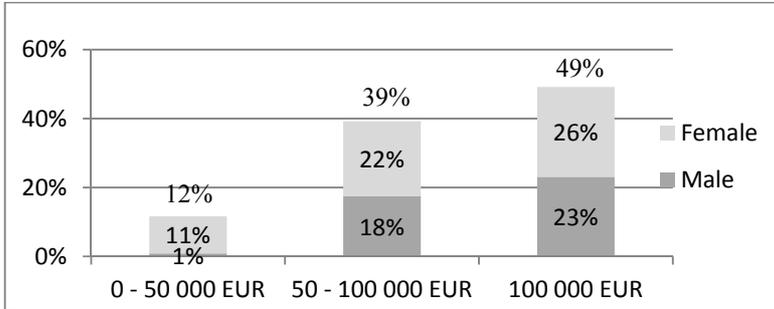
Figure 3-3 shows the empirical output of the number of direct employees of the survey participant. 85% of all survey participants have 20 or less direct employees, thereof 28% have no direct reports. 15% of all survey participants have 21 or more direct reports. These 15% have been defined as persons with a



**Figure 3-3: The Frequency Overview of the Number of Direct Reports**

Source: created by the author based on author's performed survey in 2016

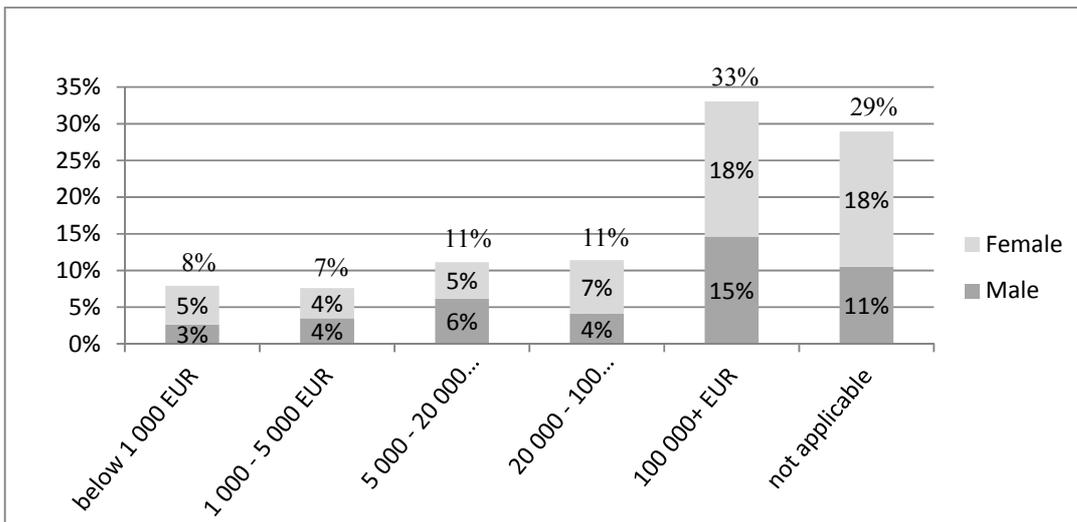
top level business positions. Out of the 15% top level business positions, gender is balanced with 8% women and 7% men. Overall the variable ‘number of direct reports’ shows a score with low top level business positions cases.



**Figure 3-4: The Frequency Overview of the Yearly Gross Salary**

Source: created by the author based on author's performed survey in 2016

Figure 3-4 shows that nearly half of all survey participants earn 100 000 EUR or more per year. 49% of the survey participants count for 168 persons. Only 12% or 41 persons have a yearly gross salary of less than 50 000 EUR. Out of these 12%, almost only women are affected. This means that 11% of all female participants earn 50 000 EUR or less. It has been defined by the author that survey participants with a yearly gross salary of 100 000 EUR or more are rated as persons who occupy a top level business position.



**Figure 3-5: The Frequency Overview of the Financial Competence**

Source: created by the author based on author's performed survey in 2016

Figure 3-5 shows that 33% of all survey participants have a financial decision power of 100 000 EUR or more. 29% of all survey participants used the selection ‘not applicable’. For the variable ‘financial competence’ it was decided to rate all persons with a financial competence of 20 000 EUR or more as top level. In the empirical sample this counts for 44% of all survey participants. In respect of gender, no significant difference between men and women is demonstrated.

Based on the criteria defined above it can be summarized that 102 survey participants occupy a ‘top level business position’ which represent 30% of the empirical sample size.

### 3.7 Correlation Analysis by Gender displayed with Crosstabs

Before verifying the different hypotheses it will be examined if gender differences exist in respect to top level business position, number of children and the salary range. It is expected to find out if men occupy relatively more top level business positions than women, if men participating in this empirical study have more children than women and if men earn relatively more than women. Data is displayed in from of crosstabs. For finding out correlations of examined variables the Fisher test and the Chi-Square test according to Pearson can be used. The Fisher test is used for 2x2 crosstabs and the Pearson test is used for crosstabs bigger than 2x2.

#### Correlation Top Level Business Position and Gender

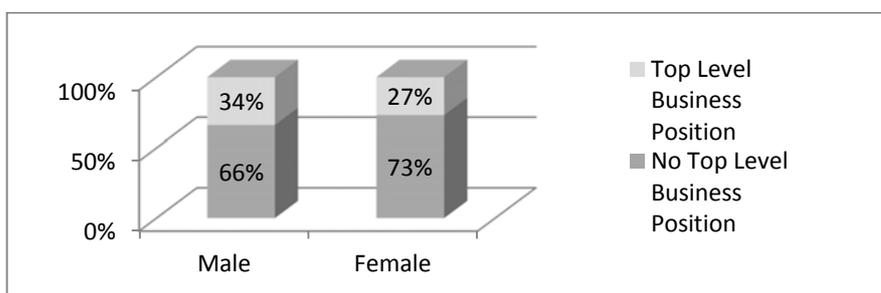
In the following a crosstab with the two variables gender and top level business position will be presented. For this analysis a 2x2 crosstab is used and the Fisher test can be taken into consideration. The crosstab consists of the two items ‘top level’ and ‘not top level’ and the two items ‘male’ and ‘female’. The Fisher test examines if a correlation exists between the two variables gender and top level business positions.

**Table 3-11: Crosstab Top Level Business Position and Gender**

<b>Business Position</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
Not top level	94	146	240
Top level	48	54	102
<b>Total</b>	<b>142</b>	<b>200</b>	<b>342</b>

Source: created by the author based on author's performed survey in 2016

Table 3-11, Figure 3-6 as well as Appendix 4 display the output of the Fisher test. It indicates the frequency distribution of the two variables top level and gender. 48 men or 34% are categorized into the group top level whereas only 54 women which indicate 27% are categorized as top level business position. With the calculation of the Fisher test it is possible to find out if gender and top level business position shown in the frequency distribution are independent from each other or not. The two variables are correlating to each other and are dependent from each other if the p value of the Fisher test is smaller than 0.05. SPSS calculates a p value of 0.188 shown in Appendix 4 which indicates that there is no correlation between the two variables. Gender has no significant influence for the occupation of top level business positions. A correlation exists but it is not statistically significant.



**Figure 3-6: Top Level Business Positions by Gender in %**

Source: created by the author based on author's performed survey in 2016

When looking at the female quota of top level business positions it can be summarized that women occupy 53% of top level business positions and men occupy 47% of top level business positions out of the total sample group.

#### Correlation Number of Children and Gender

When looking at the correlation of gender and the number of children the Chi-Square test according to Pearson is taken into consideration as it is a 5x2 crosstab which is bigger than a 2x2 crosstab. For crosstabs bigger than 2x2 the Pearson Chi-Square test is used. The Chi-Square test according to Pearson displayed in Appendix 4 indicates if the outcome of the frequency distribution of the contingency table points out if the variables are dependent from each other or not. For gender and the number of children the p value according to Pearson shows a value smaller than 0.001 which indicates a highly significant statistical correlation. Gender highly correlates with the number of children. Men participating the empirical study have more children than women. More than half of the women who participated in the

survey have no children. It seems like having children is a barrier for women to occupy top level business positions.

**Table 3-12: Crosstab Number of Children and Gender**

Number of Children	Male	Female	Total
None	41	104	145
1	24	46	70
2	55	43	98
3	19	5	24
3+	3	2	5
<b>Total</b>	<b>142</b>	<b>200</b>	<b>342</b>

Source: created by the author based on author's performed survey in 2016

Table 3-12 demonstrates the frequency distribution of men and women in respect to the number of children. 104 women which represent 52% of all women survey participants have no children. 77 men which represent 54% of all men have two or more children.

#### Correlation Gross Salary Range and Gender

When looking at the correlation of gender and the salary range the same approach will be taken into consideration as for the calculation of the correlation between gender and the number of children.

**Table 3-13: Crosstab Gross Salary Range and Gender**

Gross Salary Range	Male	Female	Total
0 – 50 000 EUR	3	37	40
50 – 100 000 EUR	60	74	134
100 000+ EUR	79	89	168
<b>Total</b>	<b>142</b>	<b>200</b>	<b>342</b>

Source: created by the author based on author's performed survey in 2016

Table 3-13 demonstrates the frequency distribution of men and women in respect to the gross salary range. 79 men or 56% of all male survey participants have a yearly gross salary of more than 100 000 EUR whereas only 45% of all females which indicate 89 persons, have a yearly gross salary of more than 100 000 EUR. 19% of women earn 50 000 EUR or less per year.

The crosstab is 3x2 which is bigger than 2x2. Therefore the Pearson Chi-Square test is used to find out if the variables of the crosstab are dependent from each other or not. The test result is displayed in Appendix 4 and shows a p value according to Pearson of smaller than 0.001 which indicates a highly

significant statistical correlation. The gender determines the range of salary. Men earn relatively more than women. In concrete men earn 11% points more than women.

Before verifying the hypothesis it is now necessary to conduct some reliability checks. Reliability checks are performed to find out if variables of a variable category can be summarized. If this is possible the complexity can be reduced and instead of having for example ten variables included in an analysis or test only one variable is used which represents the ten variables. For statistically performing the reliability test, Cronbach's-Alpha was calculated.

### **3.8 Reliability check of Leadership Skills Variable Categories with Cronbach's-Alpha**

Cronbach's Alpha is a measure used to assess the reliability, or internal consistency, of a set of scale or test items. In other words, the reliability of any given measurement refers to the extent to which it is a consistent measure of a concept, and Cronbach's Alpha is one way of measuring the strength of that consistency. When items are used to form a scale they need to have internal consistency. The items should all measure the same thing, so they should be correlated with one another. A useful coefficient for assessing internal consistency is Cronbach's alpha. The resulting coefficient of reliability ranges from 0 to 1 in providing this overall assessment of a measure's reliability. If all of the scale items are entirely independent from one another (i.e., are not correlated or share no covariance), then the coefficient of reliability is 0. If all of the items have high co-variances, then Cronbach's Alpha will approach 1 as the number of items in the scale approaches infinity. In other words, the higher the coefficient, the more the items have shared covariance and probably measure the same underlying concept (Bland & Altman, 1997).

In order to reduce complexity and measure internal consistency of sub-variables, a reliability analysis was conducted to find out if a summary of the sub-variables of the independent variable categories of leadership skills makes statistically sense. For the seven independent variable categories of leadership skills which contain 'fundamental academic knowledge & skills', 'interpersonal skill', 'conceptual skills', 'practical training skills', 'transactional leadership skills', 'transformational leadership skills' and 'laissez-faire leadership skills' the value of Cronbach's-Alpha was calculated.

The value of Cronbach's Alpha indicates if a summary of the variables or questions of a variable category make statistically sense and if it probably measure the same underlying variable category. The

value of Cronbach's Alpha can have a value from 0 to 1. The higher the value the better the variables can be summarized. Values of 0.75 and higher indicate a high reliability and a useful summary of the variables or questions.

**Table 3-14: Statistical Reliability Check with Cronbach's-Alpha**

Variable Category	Cronbach's-Alpha	Number of variables	Summary of variables makes sense
Fundamental academic knowledge & skills	0.353	4	no
Interpersonal skills	0.778	4	yes
Conceptual skills	0.593	4	no
Practical training skills	0.633	6	no
Transactional leadership skills	0.935	8	yes
Transformational leadership skills	0.892	12	yes
Laissez-faire leadership skills	0.884	5	yes

Source: created by the author based on author's performed survey in 2016

Table 3-14 shows the Cronbach's-Alpha values of the different variable categories. The variables of the four variable categories 'interpersonal skills', 'transactional, transformational and laissez-faire leadership skills' can be summarized as the value of Cronbach's-Alpha is above 0.75. This means that each question or sub-variable is as good as the category itself. For example each question or sub-variable of interpersonal skills is very much depending from each other and can be treated as one variable. The variable category 'fundamental academic knowledge & skills', 'conceptual skills' and 'practical training skills' cannot be summarized as the value of Cronbach's-Alpha is below 0.75. Each question or variable is independent from each other and must be treated and analyzed separately. For the variable category 'fundamental academic knowledge & skills' for example the value of Cronbach's-Alpha is 0.353 which is very weak and not reliable. The four questions or variables of the category 'fundamental academic knowledge & skills' cannot be summarized and will be treated separately in all upcoming analysis. For the category 'transformational leadership skills' for example Cronbach's Alpha shows a value of 0.935. This value is very high which indicates a high dependency from each other and allows summarizing all items or questions of transactional leadership skills. The value is reliable and all items or questions related to transactional leadership skills can be summarized and treated as one variable.

### 3.9 Exploration of the Hypothesis Derived from the Leadership Skills Impact Model

In this section it will be examined if the five hypotheses of the research model can be verified or falsified. Each hypothesis will be verified based on the data set of the empirical data of the questionnaire.

### Hypothesis 1 – Impact of Academic Knowledge and Skills on Female Career Progression

In the prior section it was found out that the single questions or variables of the category fundamental knowledge cannot be summarized based on the calculation of Cronbach’s Alpha. For this reason all sub-variables of the category ‘fundamental knowledge and skills’ need to be examined separately. To verify the hypothesis H1 which says that the development of fundamental knowledge and skills (x1) by women raises the number of women in top level business positions, the Mann-Whitney test will be taken into consideration. The pre-requisite for this test is that variables are ordinal and that two groups are compared. In concrete the top-level group is compared with the not top level group. The Mann-Whitney test examines if the medians form two or more samples are identical. If this is the case the hypothesis can be verified. The Mann-Whitney test which is often named as u-test does not analyze the original data but data from both groups will be ranked from 1 to n. The mean rank stands for the average rank within the respective group (Fahrmeir et al., 2001).

**Table 3-15: Mann-Whitney U-Test to Verify Hypothesis 1 – Fundamental Knowledge**

Gender	Sub-variable	Business position	Survey participants	Mean rank	P-value
male	Level of education	not top level	94	65.4	0.007
		top level	48	83.4	
	Computer skills	not top level	94	76.2	0.027
		top level	48	62.3	
	Math and financial analysis skills	not top level	94	68.2	0.165
		top level	48	77.9	
	Project management skills	not top level	94	70.2	0.588
		top level	48	74.0	
female	Level of education	not top level	146	95.1	0.017
		top level	54	115.1	
	Computer skills	not top level	146	106.0	0.008
		top level	54	85.7	
	Math and financial analysis skills	not top level	146	96.8	0.111
		top level	54	110.5	
	Project management skills	not top level	146	101.7	0.607
		top level	54	97.3	

Source: created by the author based on author's performed survey in 2016

Table 3-15 shows the outcome of the Mann-Whitney test. It indicates which one of the two business position groups has a higher average rank. It may already indicate a significant difference between the two groups if one group shows a significant higher rank than the other group. The p-value displayed in the last column helps to find out if the difference of the mean ranks is statistically verifiable. A statistically significant influence of the independent variable on the dependent variable top level business position is assigned if the p-value shows a value below 0.05. It can be summarized that for men as well as for women a significant difference exists in respect of 'highest education' and 'computer skills'. It can be stated that top-level people are significantly well educated but have significantly low computer skills.

Hypothesis H1 can partly be verified: It can be verified that the higher the education level, the higher the possibility to occupy a top level business position for men as well as for women. It cannot be confirmed that good computer skills, math and financial analysis skills and project management skills are significant factors for occupying top level business position. It can be summarized that the development of fundamental academic knowledge and skills (x1) by women doesn't raise the number of women in top level business positions. Only the increase of the educational level increases the number of women in top level business positions.

#### Hypothesis 2 – Impact of Interpersonal Skills on Female Career Progression

In the prior section it was found out that the single questions or variables of the category interpersonal skill can be summarized based on the calculation of Cronbach's Alpha. For this reason all sub-variables of the category 'interpersonal skills' can be summarized to one variable for further analysis. To verify the hypothesis H2 which says that the development of interpersonal skills (x2) by women raises the number of women in top level business positions, a mean score was calculated which is examined in detail. The newly build variable is a metric value therefore a t-test or Welch test can be used for examination. The Welch test is very similar to the t-test but it has the advantage that it delivers reliable results even though the group size is very diverse. In this research project the group sizes are very diverse with 200 female responses and 142 male responses (Kohr & Games, 1974). Table 3-16 displays the outcome of the Welch test. The mean and standard deviation indicate a difference between the two groups of top level and not top level. Men and women who occupy top level business positions possess higher interpersonal skills than men and women who don't occupy a top level business positions.

**Table 3-16: Welch T-Test to Verify Hypothesis 2 – Interpersonal Skills**

Gender	Skill group	Business position	Survey participants	Mean	Standard deviation	P-value
male	Interpersonal skills	not top level	94	3.74	0.628	0.000
		top level	48	4.07	0.443	
female	Interpersonal skills	not top level	146	3.89	0.583	0.000
		top level	54	4.18	0.422	

Source: created by the author based on author's performed survey in 2016

Hypothesis H2 can fully be verified: It can be summarized that a significant difference of group size exists and the homogeneity of variance is not given. For this reason the t test or Welch test can be used for interpretation. The outcome of the Welch test is statistically high significant with a p-value of 0.00. Interpersonal skills have a significant influence on the level of business positions. Top level persons have higher interpersonal skills. The difference between top level and not top level persons is statistically highly significant and can be verified. It can be summarized that the development of interpersonal skills (x2) by women raises the number of women in top level business positions.

#### Hypothesis 3 – Impact of Conceptual Skills on Female Career Progression

In a prior section it was found out that the summary of conceptual variables doesn't make sense based on the calculation of Cronbach's Alpha. For this reason all sub-variables of the category 'conceptual skills' need to be examined separately. To verify the hypothesis H3 which says that the development of conceptual skills (x3) by women raises the number of women in top level business positions, the same approach is taken into consideration as for fundamental knowledge and skills. The Mann-Whitney test is used to compare the mean rank of the two groups of top level and not top level people. In table 3-17 significant differences between man and women can be recognized. Men show differences between top level and not top level for all conceptual skills variables as p is smaller than 0.05. Women show only differences between top level and not top level for change management skills with a p value of 0.007. All other items or sub-variables of the conceptual skill group have no influence on occupying top level business positions by women as the p value is higher than 0.05.

Hypothesis H3 can partly be verified: It can be verified that the higher the conceptual skills of men the more top level business positions they occupy. It can be summarized that high conceptual skills (x3) by women doesn't raise the number of women in top level business positions. Only the

development of change management skills by women increases the number of women in top level business positions.

**Table 3-17: Mann-Whitney U-Test to Verify Hypothesis 3 – Conceptual Skills**

Gender	Sub-variable	Business position	Survey participants	Mean rank	P-value
male	Experience of interacting globally	not top level	94	65.2	0.007
		top level	48	83.8	
	Strategic planning skills	not top level	94	67.0	0.047
		top level	48	80.3	
	Organizational skills	not top level	94	65.9	0.009
		top level	48	82.6	
	Change management skills	not top level	94	65.0	0.005
		top level	48	84.3	
female	Experience of interacting globally	not top level	146	98.0	0.302
		top level	54	107.2	
	Strategic planning skills	not top level	146	98.5	0.379
		top level	54	106.1	
	Organizational skills	not top level	146	100.1	0.843
		top level	54	101.7	
	Change management skills	not top level	146	94.2	0.007
		top level	54	117.6	

Source: created by the author based on author's performed survey in 2016

Hypothesis 4 – Impact of Practical Training on Female Career Progression

In a prior section it was found out that the aggregation of the sub-variables of the practical training category doesn't make sense based on the calculation of Cronbach's Alpha. For this reason all sub-variables of the category 'practical training' need to be examined separately. To verify the hypothesis H4 which says that the development of practical training (x4) by women raises the number of women in top level business positions, the same approach is taken into consideration as for fundamental knowledge and skills and conceptual skills.

Table 3-18 displays the outcome of the Mann-Whitney test which compares the mean rank of the top level and not top level group. It shows that in several cases significant differences of the top level and not top level groups could be verified. It is always the case that top level persons have significantly better skills than not top level except for women for the item 'how many people have you ever led in

other associations'. Women in top level business positions have led less people in other associations than women who occupy not top level positions.

**Table 3-18: Mann-Whitney U-Test to Verify Hypothesis 4 – Practical Training**

Gender	Sub-variable	Business position	Survey participants	Mean rank	P-value
Male	Participation in mentoring programs	not top level	94	65.3	0.008
		top level	48	83.7	
	Professional coaching received	not top level	94	66.5	0.031
		top level	48	81.3	
	Challenging job taken over	not top level	94	67.0	0.032
		top level	48	80.3	
	People management in a company	not top level	94	58.0	0.000
		top level	48	98.0	
	People management in associations (charity, community, sports club, ...)	not top level	94	68.1	0.148
		top level	48	78.2	
	Participation in leadership trainings	not top level	94	61.2	0.000
		top level	48	91.6	
Female	Participation in mentoring programs	not top level	146	93.3	0.002
		top level	54	119.9	
	Professional coaching received	not top level	146	97.1	0.151
		top level	54	109.6	
	Challenging job taken over	not top level	146	96.2	0.045
		top level	54	112.2	
	People management in a company	not top level	146	83.9	0.000
		top level	54	145.4	
	People management in associations (charity, community, sports club, ...)	not top level	146	102.2	0.492
		top level	54	96.0	
	Participation in leadership trainings	not top level	146	88.3	0.000
		top level	54	133.5	

Source: created by the author based on author's performed survey in 2016

For men all sub-variables of practical training play a significant role to occupy a top level business position except the item 'how many people have you ever led in other associations'. This sub-variable doesn't play an important role for men who occupy a top level business position. When looking at the female scores the variable of how many people you have ever led in a job and the participation in leadership trainings are also very significant and can be interpreted similar to men. The more women participate in leadership trainings and in mentoring programs and the more people women lead the

more women are part of the top level group. It can be summarized that women should participate in leadership trainings and in mentoring programs as these trainings and programs help women to occupy top level positions.

Hypothesis H4 can partly be verified: It can be verified that the sub-variables of the practical training category play a role to occupy top level business positions by women with two exceptions: leading people in other associations doesn't help to occupy top level business position neither for men nor for women. The other exception is that receiving professional coaching has no statistically relevant influence for women to occupy top level business positions. It can be summarized that the development of practical training skills (x4) by women raises the number of women in top level business positions except of receiving professional coaching and leading people in other associations. It can be interpreted that receiving professional coaching by women doesn't have a significant statistical influence to occupy top level positions. It can also be interpreted that women who occupy a not top level job receive professional coaching but it doesn't help them to move to the top job group.

#### Hypothesis 5 – Impact of Leadership Skills on Female Career Progression

In the prior section it was found out that the single questions or variables of the three leadership skill categories can be summarized based on the calculation of Cronbach's Alpha. For this reason all sub-variables of the category transformational leadership skills can be aggregated as well as for transactional leadership skills and laissez-faire leadership skills. For the verification of the hypothesis H5 which says that the development of leadership skills (x5) by women raises the number of women in top level business positions, three mean scores were calculated which are examined in detail and displayed in the table 3-19. The three newly built variables are metric values therefore a t-test or Welch test could be used for verifying if a difference exists between the top level and not top level group when looking at the different leadership skills. The approach for verifying the leadership skill hypothesis is the same as used for the verification of interpersonal skills (H2).

Table 3-19 shows that for transformational and laissez-faire leadership skills, differences could be found for top level and not top level groups. Top level people have high transformational leadership skills and low laissez-faire skills. This interpretation is based on a high mean of transformational leadership skills and a low mean of laissez-faire leadership skills for the top level group. Top level men

have more transactional leadership skills than not top level men. No significant difference could be found between top level and not top level women in respect to transactional leadership skills.

**Table 3-19: Welch T-Test to Verify Hypothesis 5 – Leadership Skills**

Gender	Leadership skills	Business position	Survey participants	Mean	Standard deviation	P-value
Male	Transformational	not top level	94	3.49	0.75	0.000
		top level	48	3.90	0.51	
	Transactional	not top level	94	3.19	0.90	0.083
		top level	48	3.41	0.62	
	Laissez-faire	not top level	94	1.50	0.56	0.448
		top level	48	1.42	0.57	
Female	Transformational	not top level	146	3.76	0.71	0.077
		top level	54	3.93	0.55	
	Transactional	not top level	146	3.45	0.96	0.754
		top level	54	3.48	0.56	
	Laissez-faire	not top level	146	1.53	0.86	0.000
		top level	54	1.22	0.37	

Source: created by the author based on author's performed survey in 2016

Table 3-19 demonstrates differences between men and women. For men only the transformational leadership skill is statistically highly significant with a p-value of 0.000. The more transformational leadership skills men have the more they are part of the top level business position group. For women only the laissez-faire leadership skill is statistically highly significant showing a p-value of 0.000. The lower the laissez-faire leadership skills of women, the more women are part of the top level business position group.

Hypothesis H5 can partly be verified: It can be verified that the development of transformational leadership skills by women raises the number of women in top level business positions. However, this influence shows a p-value of 0.077 which is not highly statistically significant. It cannot be confirmed that the development of laissez-faire leadership skills by women increases the number of women in top level business positions. It is statistically verified with a p-value of 0.000 that the lower the laissez-faire leadership skills by women, the more women are part of the top level

business positions group. The sub-variable transformational leadership skills can be verified with a low statistical substantiation. The sub-variable laissez-faire leadership skill cannot be confirmed with a high statistical substantiation.

### 3.10 Key Influencing Factors Derived from the Logistic Regression Model

Up to now the different leadership skill categories have been analysed individually. In the following the independent variables will be analysed together with a comprehensive regression model. As the regression model should not have too many independent variables, a selection of variables will be conducted. Theoretically all variables can be included within the model except the dependent variables indicating top level business position variables. For this research purpose survey questions 1, 2, 3 and 10 have been taken out of the model as industry, company and demographic questions are not relevant for the analysis. In concrete the industrial sector, number of employees worldwide of the company you work for, country you live in and the age question were taken out of the analysis. Furthermore the comprehensive regression model has been calculated for men as well as for women as it is of interest what factors are important for men and what factors are important for women to occupy top level business positions. In table 3-20 the influencing factors or sub-variables which increase the opportunity to occupy top level business positions are summarized for men and for women. Statistical details regarding the regression model are displayed in Appendix 4.

For men a two-step model with two variables is calculated by SPSS. Table 3-20 shows that for men the number of people ever led in a company and interpersonal skills have a high influence of occupying top level business positions. Interpersonal skills include oral and written communication skills, need of

**Table 3-20: Influencing Factors for the Occupation of Top Level Business Positions**

Gender	Sub-variable	P-value	Nagelkerke r <sup>2</sup>
Male	People management in a company	0.000	0.358
	Interpersonal skills	0.026	
Female	People management in a company	0.000	0.526
	Participation in leadership trainings	0.002	
	Number of children	0.068	

Source: created by the author based on author's performed survey in 2016

a team to perform well and good conflict management skills. It needs to be mentioned that the model is statistically weak as the coefficient of determination  $r^2$  according to Nagelkerke shows a low value of 0.358. The closer the coefficient of determination value is to 1, the better the model. The statistical details of the regression model are displayed in Appendix 4. The logistic regression model for men is weak and therefore the testing outcome of the individual hypotheses will be taken into consideration for conclusions.

For women a three-step model with three variables is calculated by SPSS. The outcome of the comprehensive regression model displayed in table 3-20 shows that the number of people ever led in a company, the participation in leadership trainings and the number of children have a statistically significant influence on the occupation of top level business positions by women. Women should try to participate in leadership trainings and women should be ambitious to lead people within a company. These two variables are statistically highly significant with a p-value of 0.000 and 0.002 which means that they have a high influence on the occupation of top level business positions by women. The number of children is also calculated as an influencing factor. It has already been demonstrated in a prior section that women who have no or less children have a higher chance to occupy top level business positions. This is a sober fact and it can be seen as a barrier for women's career development especially for women who want to combine family and career. For women the coefficient of determination  $r^2$  according to Nagelkerke shows a higher value with 0.525 compared to men, which indicates a model of average quality. The statistical details of the regression model are displayed in Appendix 4. As the logistic regression model for women has an average quality it will not be solely taken into consideration for conclusions. It is an additional analysis to the testing of the hypothesis. For the formulation of conclusions of the empirical research the testing of the individual hypothesis will be mainly taken into consideration.

### **3.11 Key Findings Deducted from the Leadership Skills Impact Model**

The purpose of this dissertation is to investigate the impact of leadership skills and styles on the occupation of top level business positions by women and derive corresponding suggestions. The basic hypothesis (H0) of the research model has been formulated as following: 'Leadership skills have a significant impact on the occupation of top level business positions by women'.

Some researchers state that leadership skills are born, some state that leadership skills can be taught. As taking into account that leadership skills can be taught, leadership skill developing factors have been included in the research model which may help to develop an effective leadership style and which may have an influence on occupying a top job too. The research model includes five hypotheses which have been statistically tested and verified. Table 3-21 summarizes the outcome of the statistical tests for each research hypothesis and its sub-hypotheses.

**Table 3-21: Outcome of Statements to be Defended**

Hypothesis	Factors for Leadership Skills Development and Leadership Styles	Male	Female
<b>H1</b>	<b>Fundamental academic knowledge &amp; skills</b>	<b>Partly confirmed</b>	<b>Partly confirmed</b>
	Level of education	Confirmed	Confirmed
	Computer skills	Not confirmed	Not confirmed
	Math and financial analysis skills	Not confirmed	Not confirmed
	Project management skills	Not confirmed	Not confirmed
<b>H2</b>	<b>Interpersonal skills</b>	<b>Confirmed</b>	<b>Confirmed</b>
<b>H3</b>	<b>Conceptual skills</b>	<b>Confirmed</b>	<b>Partly confirmed</b>
	Experience of interacting globally	Confirmed	Not confirmed
	Strategic planning skills	Confirmed	Not confirmed
	Organizational skills	Confirmed	Not confirmed
	Change management skills	Confirmed	Confirmed
<b>H4</b>	<b>Practical Training</b>	<b>Partly confirmed</b>	<b>Partly confirmed</b>
	Participation in mentoring programs	Confirmed	Confirmed
	Professional coaching received	Confirmed	Not confirmed
	Challenging job taken over	Confirmed	Confirmed
	People management in a company	Confirmed	Confirmed
	People management in associations	Not confirmed	Not confirmed
	Participation in leadership trainings	Confirmed	Confirmed
<b>H5</b>	<b>Leadership skills</b>	<b>Partly confirmed</b>	<b>Not confirmed</b>
	Transformational leadership skills	Confirmed	Not confirmed
	Transactional leadership skills	Not confirmed	Not confirmed
	Laissez-faire leadership skills	Not confirmed	Not confirmed

Source: created by the author based on author's performed survey in 2016

In order to answer the research question a quantitative research method has been applied. Various hypotheses have been tested with different statistical tests to find out if the defined hypotheses can be verified. In concrete five hypotheses were formulated based on the theoretical foundation of the research project and the research model.

Table 3-21 summarizes the key findings of the empirical research. It can be confirmed that the development of interpersonal and conceptual skills increases the number of men in top level business positions. All sub-variables or characteristics of interpersonal and conceptual skills have a statistically significant influence for men occupying top level business positions. All other hypothesis can partly be

confirmed which means that some sub-variables of the category fundamental academic knowledge, practical training and leadership skills can be confirmed and some cannot be confirmed. In concrete the educational level, the participation in mentoring and professional coaching programs, leadership training, people management and the willingness of taking over a challenging job have a high influence for men occupying top level business positions. In respect to the hypothesis 5 of leadership skills it can be verified that men who occupy top level business positions possess a transformational leadership style. The more transformational leadership skills possessed by men the higher the possibility to occupy a top level job.

For women the results are in some cases different to men and in some cases similar to the results of men. It can be confirmed that interpersonal skills have the same importance for women as for men to reach a top level business position. Hypothesis 2 is the only hypothesis that can be fully confirmed which means that the development of interpersonal skills has a high influence for women occupying top level business positions. Sub-variables of all other hypotheses can be partly confirmed or not confirmed. Specifically, the educational level, change management skills, the participation in mentoring programs and leadership trainings play an important role besides people management and taking on a challenging job. It is very surprising that the experience of interacting globally, strategic planning and organizational skills as well as the receiving of professional coaching doesn't positively influence the female occupation of top level jobs in contrast to men. It can either be interpreted that interacting globally, the development of strategic planning and organizational skills and the receiving of professional coaching doesn't increase the number of women in top level business positions. It can also be interpreted that women who have strategic planning and organizational skills, interact globally and receive professional coaching still have a job which is not categorized top level and that the investment into these specific leadership skill factors doesn't aid them for their career progression and for their move to a top level business position. This can be interpreted as a barrier for the career development of women. In respect to leadership skills it can be summarized that women occupy a top job if they don't have a laissez-faire leadership style. The higher the laissez-faire leadership skills developed by women the fewer women in top level business positions. When verifying the hypothesis 5 of leadership skills it was also found out that the existence and development of transformational leadership skills increases the number of women in top level business positions. This tendency can be

confirmed even though it doesn't show a highly statistical correlation. For this reason the sub-hypothesis of transformational leadership skills has not been confirmed.

It was found out that three factors or sub-variables have a statistically highly significant influence for the occupation of top jobs by women when simultaneously testing all variables. These three factors are people management, the participation in leadership trainings and the number of children. Two variables with high statistical significance are identical with the outcome of the testing of individual hypotheses. When taking all variables of the research model into account there are three key variables which help women to occupy top level jobs: lead people within the company, participate in leadership trainings and have none or a low number of children. It is statistically proven that women with none or a low number of children occupy top jobs. This fact can be seen as a barrier for female career progression.

Only two variables have been identified which statistically highly influence the occupation of top level business positions by men when simultaneously testing all variables. The two variables are people management and interpersonal skills. Both variables are covered as influencing variables in the results of the individual hypotheses testing.

### **3.12 Comparison of Empirical Findings with prior Researchers**

In the following the findings out of the empirical study will be compared with findings of other authors researching the respective field. Elmuti et al. (Elmuti et al., 2005) who were researching on education and the importance for leadership skills development argue that fundamental knowledge and skills are the base for any further leadership skills development. This may be the case; however the empirical study shows that only the level of education plays a significant role to occupy a top job when looking at the category of fundamental knowledge and skills. It can be deducted that other factors like interpersonal, conceptual or practical skills play a more important role for accessing top level business positions. In chapter two we also found out that women are better educated than men in most of the Western and Eastern European countries. The more surprising it is that we do not find more women in management positions as outlined in chapter two. In chapter two it was also found out that men are better at using computers even though this gap has nearly narrowed out among younger people. In addition boys perform in average higher than girls in mathematics among European countries. However it was found out in the empirical study that neither computer skills nor math and financial analysis skills are significant influencing factors to occupy a top job by men as well as by women.

Elmuti et al. (Elmuti et al., 2005) also states that interpersonal and conceptual skills are very important factors for effective leadership as the global expansion demands globally literate managers and leaders. Also in the empirical study it was found that interpersonal and conceptual skills are important factors for accessing top level business positions, for men even more than for women. The gender inequality in respect of the occupation of top level business positions has already been discussed several times and it needs to be stated that other factors exist, which hinder women in career progression.

Practical training skills are seen as very important by several researchers as they determine the effectiveness of the leaders in the market place since it indicates the level of integration of conceptual and theoretical knowledge with real world application (Doh, 2003), (Remidez & Fodness, 2015). In chapter two it was found out that a gender pay gap still exists in the European Union. One conclusion was derived that women experience less practical training skills due to less opportunities for challenging jobs due to family reasons which leads to less professional work experience and in a consequence to less access to top jobs and less earnings. In the empirical study it was confirmed that practical training skills play an important role for the occupation of top jobs, for men as well as for women, however lower substantiated for women due to other hindering factors faced by women.

For leadership skills it was found out by several researchers that the transformational leadership style is very effective to avoid critical business situations (Sheaffer et al., 2011), (Rubin, Munz, & Bommer, 2005), (Antonakis et al., 2003). In addition it was found out by several researchers that women tend to possess transformational leadership skills alluded to crisis-prepared leaders (Kaiser, Hogan, & Craig, 2008), (Purvanova & Bono, 2009), (Avolio, Mhatre, Norman, & Lester, 2009), (Bartunek, Walsh, & Lacey, 2000), (Richardson, 1995), (Johanson, 2008), (James & Wooten, 2005), (Richardson, 1995), (Powell, Butterfield, & Bartol, 2008), (Rosenthal & Kouzmin, 1997). The empirical study confirms that men who possess transformational leadership skills occupy a top job. However for women this is not the case. Even though it was found out in the empirical study that women possess transformational leadership skills, it doesn't lead to access top level business positions. The finding of the empirical study was also amplified by other researchers in chapter one and two

showing that women possess transformational leadership skills but are still underrepresented in leadership positions. Again it can be concluded that other factors exist which hinder female career progression. Hindering factors were discussed in chapter two based on the gender gap report from 2009 (Hausmann et al., 2009). Out of the barriers identified in the gender gap report, four barriers were identified to be related to leadership. Deep analysis of hindering factors is a more extensive field than the present research project, but yields a new topic for future research.

Empirical findings have been discussed from many different points of view and critically reflected on previous experience in the field as well as on existing literature. In addition the survey results have been discussed and interpreted with three female leaders in top business positions in Germany to post confirm the meaningfulness of the questionnaire.

### **3.13 Limitations for the Application of the Leadership Skills Impact Model**

In respect to selected theories discussed in the first chapter it needs to be stated that only selected theories have been taken into account as a foundation for this research project. There exist various theories which may be taken into consideration for the understanding of the female role development, the term constraints for women's access to top business positions, leadership skills and all other theories used in the research project. Out of numerous possible theories only selected theories are reviewed and further discussed because the scope of the study is limited in respect to resources and time. The specification is based on the evaluation and selection of a few theories out of numerous existing theories. The same is valid for constraints themselves. Only selected constraints for female career development may be taken into consideration for research investigation and the verification of the hypotheses.

The leadership skills impact model can be seen as a limitation itself as it is a simplified model focusing only on five leadership skill dimensions influencing the number of women in top level business positions. There may be other dimensions in general and in respect of leadership skills having an influence on the occupation of top level business positions by women which are not outlined in this research. In addition, the geographical dimension of the empirical study can be seen as a limitation for the research project. The empirical study was conducted within Western European German speaking countries. Only 5% of all 342 survey participants which represent 16 cases live outside of Western and Eastern European countries, all other survey participants are

living in German speaking Western European countries. The investigations and results of the empirical research project are valid for German speaking Western European countries only. Results may differ very much when investigating in Asia, Africa or North America. This fact can be seen as a limitation of the quantitative research study and the research project.

Finally primary research has been conducted using a survey. The survey has been distributed to 1200 email addresses of managers and leaders, 342 cases could be used for statistical analysis, constituting a response rate of 29%. The achieved sample size can be considered as substantial and allowed data processing. Out of the 342 cases realized, 200 women and 142 men took part in the survey. It could be seen as a limitation of the quantitative research that men are underrepresented in the empirical study and that the sample size of men varies too much from the sample size of women. Moreover the empirical study is based on the self-assessment of skills by women and by men, which can be seen as a limitation too. Women may have a different self-perception of skills than men.

## CONCLUSIONS AND SUGGESTIONS

It was found out that the leadership style plays an important role for men to reach a top business positions. Men occupy a top job if they possess transformational leadership skills whereas for women, the leadership style doesn't help significantly to occupy a top job. Even though women possess transformational leadership skills it doesn't aid them to reach a top job. In addition other factors like a high educational level, interpersonal and change management skills, the participation in mentoring programs and leadership trainings as well as people management and taking on a challenging job correlate positively with the occupation of top jobs. These factors can be seen as accelerators for leadership skills development and for the occupation of top jobs. It can be concluded that for men accelerating factors for leadership skill development as well as a transformational leadership style plays a significant role for the occupation of top level business positions. For women this is the case in some areas but not as significant as for men. It can be concluded that there are other significant influencing factors which hinder women to occupy top jobs even though women possess good leadership skills and perform a transformational leadership style. Negative influencing factors like stereotyping, a masculine corporate culture, general norms and cultural practices, a lack of role models, a lack of flexible work solutions, raising children would need further discussion and have not been statistically evaluated in this research study.

In the following the conclusions of the **theses to be defended** are summarized for men as well as for women:

- Thesis 1 can partly be confirmed: It can be verified that the higher the education level, the higher the possibility to occupy a top level business position for men as well as for women. Good computer skills, math and financial analysis skills and project management skills are not the key drivers to occupy a top level business position. It can be summarized that the development of fundamental academic knowledge and skills by women and men does not raise the number of women and men in top level business positions. Only the increase of the educational level increases the number of women and men in top level business positions.
- Thesis 2 can fully be confirmed: It can be summarized that interpersonal skills have a significant influence on the level of business positions. Top level persons have higher interpersonal skills. The difference between persons, who occupy top level positions and other

managers is statistically highly significant and can be verified. It can be summarized that the development of interpersonal skills by women and men raises the number of women and men in top level business positions.

- Thesis 3 can be confirmed for men and partly confirmed for women: It can be verified that the higher the conceptual skills of men the more top level business positions they occupy. It can be summarized that the development of conceptual skills by women has no significant influence on the number of women in top level business positions. For women only high change management skills have a significant influence on the increase of the number of women in top level business positions.
- Thesis 4 can partly be confirmed: It can be verified that the sub-variables of the practical training category play a role to occupy top level business positions by women with two exceptions: leading people in other associations is no accelerator to occupy top level business position neither for men nor for women. The other exception is that receiving professional coaching has no statistically relevant influence for women to occupy top level business positions. It can be summarized that the development of practical training skills by women raises the number of women in top level business positions except of receiving professional coaching and leading people in other associations. It can be interpreted that receiving professional coaching by women does not have a significant statistical influence to occupy top level positions. It can also be interpreted that women who occupy a position, which does not belong to the top level, receive professional coaching but it does not aid them in moving to the group of the top level positions.
- Thesis 5 can partly be confirmed for men and cannot be confirmed for women: It can be verified that the development of transformational leadership skills by men raises the number of men in top level positions. It can also be verified that the development of transformational leadership skills by women raises the number of women in top level business positions. However for women it can only be verified with a low statistical substantiation. For this reason the sub-hypothesis of transformational leadership skills has not been confirmed for women. It also cannot be confirmed that the development of transactional and laissez-faire leadership skills by women increases the number of women in top level business positions. It is statistically verified that the lower the laissez-faire leadership skills of women are, the more

women are part of the top level business positions group. The sub-variable laissez-faire leadership skill cannot be confirmed with a high statistical substantiation.

## **Conclusions**

1. The female role has changed and developed significantly over the years. Hundred years ago women were oppressed by men and they could only be liberated from the rule of men and become equal to men by including them into the industrial production process. The situation has changed during the last twenty years as women increasingly participated in the labour market due to the political reworking of welfare and work relations, family transformations, increasing number of divorces and the expansion of child care service and flexible working arrangements. This tendency can be seen in Western European Countries whereas in Central and Eastern European countries women's labour was crucial to economic development. Laws framed women as equal individuals. In the European Union the concept of equal opportunities was developed which helped women to increase workforce participation, close the gender wage gap and increase the number of women in management positions. The change of the female role within Western European countries creates opportunities for economies, institutions and companies to access a larger workforce and talent population.
2. The perception of effective leadership styles has changed over the years. Until the 1990ies women were related to interpersonal and people oriented leadership styles characterized by caring, helping others, being friendly and doing favours compared to their male counterparts which were more related to task oriented and directive leadership styles. Women were perceived as too soft and not agentic and directive enough to lead effectively. Women became effective leaders as they possess leadership characteristics which are very effective to avoid critical economic situations. Female leaders set high standards, act as a role models, empower followers to develop full potential and stimulate for thinking of innovative solutions. These leadership characteristics are very important in the present unstable and fast changing economy.
3. Some theories underline that leaders are born others state that leadership abilities can be taught like written and oral communication and change management. This statement enables women as well as men the same opportunities to develop their leadership skills. Based on this finding there is no advantage or disadvantage for women or men as both have the same chances to master leadership skills irrespectively of gender.

4. The tertiary educational level of women increased enormously during the last years and passed male level within all major Western and Eastern European countries. Tertiary education of women is higher in Eastern and Nordic countries than in Western European countries. Women predominate among graduates in the field of education, health and welfare. Men predominate among graduates in the fields of engineering, manufacturing and construction. The graduation rate as well as the entry rate in tertiary education is significantly higher for women than for men within all Western and Eastern European countries. This fact enables to say that women will continue to achieve a higher educational level than men.
5. It can be stated that women achieve a higher educational level than men in Western and Eastern European countries, however this doesn't mean that women perform better in the major disciplines. Girls perform significantly better in reading than boys. Boys perform better in mathematics than girls in the majority of the European countries but the differences are less systematic and smaller in size compared to gender differences in reading. Men are better at using computers than women. However the gender gap in computer use has narrowed among younger people with almost no difference in use between men and women. Boys score in average higher than girls in problem solving among European countries. It can be generalized that boys perform better in mathematics and have higher skills in problem solving and girls perform better in reading. This may be a reason for the underrepresentation of women in top level business positions. One derived conclusion could be that good mathematics and problem solving skills are needed for career progression as we find more men than women in top business positions. However, empirical evidence based on this research shows that mathematics and computer skills are not statistically significant for reaching top level business positions, neither for men nor for women. Problem solving skills may play a more important role as it tends to fit in the category of conceptual skills. In the empirical study it is proven that conceptual skills play an important role for men for the occupation of top level business positions.
6. Across the European Union, women earn less than men. The gender wage gap declined in the European Union over the years, but is still significant. In general men earn more than women at all levels of education in European countries. This statement was also proven by empirical evidence as part of the research study. Men earn relatively more than women. However the difference of earnings of men and women is not so extensive in the segment of earnings of 100 000 EUR and more. One reason for this result can be that the empirical study aimed to survey

leaders and managers in top positions. It can be deducted that women, who have made it to the top business positions generate high earnings compared to women, who haven't reached top business positions.

7. Despite good education of women in Western and Eastern European countries, women are still underrepresented in management positions. An increase of female board participation versus prior years is recognized. The increase may result from legal quotas, the Corporate Governance Codes or voluntarily set gender board objectives which help to better balance out gender equality on boards. The board quota regulations of some countries have increased the share of women on boards of listed companies significantly. The proportion of women on the boards of the largest listed companies is largest in Norway with nearly 40%. The general arguments for more women on boards seem apparent with receiving a larger talent pool, better representation of diverse experiences and competencies and better understanding of consumer needs. Furthermore women account for a large share of the global consumer market and purchasing decisions in households. Therefore women should be included in decision making of a company to cover for example female product requirements or distribution channels. However women still account only for 30% of management positions within the European Union. This statement could not be underlined in the empirical study where the female quota of top level business positions is 53%. In the empirical study it was found out that there are relatively more women in top jobs than men. This is an oppositional statement compared to other studies in the past saying women account only for 30% of management positions. The outcome of the empirical study may have been influenced by the channels used for the survey. The survey was distributed to female management networks in which the participation of top level business women seems to be high.
8. Research shows that formal education does positively correlate with the achievement of recognized leadership positions. It was discussed before that the educational level of women is very high and more than half of university graduates in Europe are female. As a consequence it could be expected that women are highly present in top level business positions. This is not the case which leads to the assumption of other factors which decelerate women in achieving top level business positions. In the empirical study it was found out that the number of children has a significant influence on the occupation of top business positions. More than half of the women who participated in the survey have no children. It can be concluded that raising children is a barrier for women to occupy top level business positions. This couldn't be proven for men.

9. The development of practical skills and job experience provides valuable leadership development. Challenging job opportunities are a source for learning leadership skills. Women are in disadvantage to develop conceptual and practical business skills in Western Europe as they are not as many years in professional life as men due to family reasons. Another reason is that women have less global experience as a consequence of their inflexible family situation. Additionally women are often not promoted because of a low perception of their future potential by men even though they have proven a high professional work performance in the past. Often women don't go for challenging opportunities due to their lower perception of their personal self-confidence and skills. These reasons penalize women to develop their practical leadership skills and as a consequence may hinder the occupation of a top business position.
10. The most important determinant of a country's competitiveness is its human talent, the skills, education and productivity of its workforce. Women account for one half of the potential talent base throughout the world and therefore are an important factor for contributing to the competitiveness of a country. As a consequence, investment in knowledge and skills increases economic growth. It can be summarized the higher the education of people in a country, the higher the employment rate and earnings in that country. The more women invest in education and skills, the more they earn. In the empirical study it was found out that high earnings are also related to top level business positions. Top level jobs are quoted higher than low level jobs. Women who invest in education earn more money.
11. General norms and cultural practices in a country as well as a masculine, patriarchal corporate culture are seen as the biggest barriers to women's access to leadership positions. Right after these two main reasons, the lack of role models is seen as major constraints for female career progression. Other barriers also have an influence like the lack of flexible work solutions, adequate work-life policies, re-entry opportunities or a lack of child care facilities. All these reasons lead to the fact that women have less work experience and opportunities for increasing responsibilities. As a consequence women lose years to build their conceptual and practical training skills which are important factors to occupy top level business positions as empirically proven by men.
12. The educational level plays an important role to occupy a top level business positions for men as well as for women. This has been stated by various researchers in the past and could be proven by the empirical study of the research project as well. However good computer skills, math and financial analysis skills and project management skills are not the main drivers for the occupation

of a top level business positions. This leads to the conclusion that lower mathematics and computer skills of girls compared to boys have no significant influence on the occupation of top level business positions. It can be summarized that the development of fundamental academic knowledge and skills by women is not the key accelerator for raising the number of women in top level business positions.

13. Interpersonal skills and change management skills of women have a significant influence on the level of business positions. The development of interpersonal and change management skills by women raises the number of women in top level business positions. Especially during times of high volatility in economics, politics and business environment, change management skills are necessary to adapt to new situations quickly and see environmental changes as an opportunity. Interpersonal skills are accelerating factors for female career progression highlighted by the fact that these skills support a transformational leadership style which is very effective in nowadays fast growing environment. Women who invest in interpersonal and change management skills have better chances to occupy top level business positions.
14. Practical training skills play a role to occupy top level business positions by women with two exceptions: leading people in other associations does not help to occupy top level business position neither for men nor for women. The other exception is that receiving professional coaching has no statistically relevant influence for women to occupy top level business positions. It can be summarized that the development of practical training skills by women raises the number of women in top level business positions except of receiving professional coaching and leading people in other associations. It can be interpreted that receiving professional coaching by women does not have a significant statistical influence to occupy top level positions. It can also be interpreted that women who occupy a position not belonging to the top level, receive professional coaching but it does not help them to move to the top job group. Practical training skills are very important for career progression; however women often miss these skills due to less job experience based on family reasons.
15. Transformational leadership styles are recognized to be effective in contemporary situations. It was found out that men who possess transformational leadership skills occupy top level business positions. As a conclusion it can be stated that for men it is important to possess transformational leadership skills in order to reach out to top level business positions and in order to lead effectively through contemporary situations. Based on the finding that transformational leadership skills are

required in nowadays fast changing environment, it can be concluded that women should continue to invest into transformational leadership skills to reach top level business positions and act as effective leaders. However in the empirical study of this research project it was found out that transformational leadership style characteristics help women to occupy top level jobs but with low statistical substantiation. It can be interpreted that even though women possess a transformational leadership style it doesn't help them to occupy top level business positions. The conclusion is drawn that barriers exist, which hinder female career progression.

16. In the course of the research study various barriers for female career progression have been identified by reviewing the literature, analyzing secondary data from prior research and by conducting a new empirical study in German speaking countries. Three main groups of barriers have been identified: prejudice and stereotyping of female leaders, social norms and constraints and less practical training skills of women. Women are confronted with masculine corporate cultures and general norms and cultural practices which hinder female career progression. In addition women are facing a lack of role models and a lack of flexible work solutions which would enable to combine work and life integration. Women are in disadvantage to develop conceptual and practical business skills as they are not as many years in professional life as men due to family reasons. Women have less global experience as a consequence of their inflexible family situation. These barriers are the main drivers to hinder women to occupy top level business positions even though women possess a transformational leadership style which is highly valued in nowadays economic surface.

### **Suggestions**

Out of the research study findings there is a broad variety of suggestions which can be posed to institutions and individuals who are decision makers in public and private organizations. Institutions are able to influence the situation on a meta-level as well as managers and executives who are decision makers on an organizational level. Specific suggestions are made to governmental and educational institutions and to male and female executives and hiring managers who are the hiring and promotional decision makers in an organization. The following suggestions are derived to help to increase the number of women in top level business positions.

### Suggestions to governments and educational institutions:

1. The first recommendation is to invest in the educational system of a country and especially foster the increase of girls in educational disciplines which are actually underrepresented by girls like information technology, manufacturing or engineering. There are less female graduates of e.g. technical disciplines which lead to a weak female pipeline in this area. A weak female pipeline in certain disciplines leads to less female leaders in this area. It is suggested that especially educational institutions increase their efforts to familiarize and increase the awareness and attractiveness of 'boy's topics' for girls. It is proposed to create technical educational offers which address girl's interests and needs.
2. Governmental institutions should be role models for companies and corporations by fostering the hiring and promotion of women to become female leaders within their own governmental institution. For female career progression it is also important that governmental institutions act as employer role models by helping women to develop conceptual and practical training skills and by creating opportunities to participate in mentoring programs either as mentee or as mentor. Women should receive the opportunity to take over challenging jobs, to lead people and to participate in leadership trainings to deliberately reflect about further career aspiration.
3. The investment in knowledge and skills by women is important for their career development however there are factors and barriers which hinder female career progression. The major factors are general norms and cultural practices in a country, a masculine corporate culture and a lack of role models. Governmental institutions and educational institutions have a significant influencing role in respect of general norms and cultural practices in a country. These institutions are the associations who can change norms and cultural practices in a country by releasing laws and practices in the educational system which help to create equality between women and men. Specifically, this could be the creation of governmental opportunities to support fathers to play a greater role in caring for children and as a consequence achieve greater gender equality by shifting norms and practices that entrench child care as women's work and men's role as a primary breadwinner. Paternity leave represents a shift in attitudes towards more equal parenting roles. At the same moment, men taking on a greater share of child caring responsibilities foster gender equality in the labor market by enabling women to enter or come back to the labor market faster with minimal career disruption following maternity leave.

Suggestions to executives and hiring managers of organizations:

4. The educational level of women is higher than that of men in Western and Eastern European countries. Based on this fact it is suggested to increase efforts of hiring well educated and talented women and create an organizational environment where they can progress.
5. It is suggested to train executives and hiring managers about the female role development, the existing bias and stereotyping against female leaders, different leadership styles of men and women and how women are perceived as leaders. It is suggested to take female potential into account when filling a job opening instead of only looking at prior performance and expert skills.
6. Women tend to possess transformational leadership skills which help to avoid critical economic situations. Especially in nowadays uncertain environment, it is important to pro-actively work on avoiding critical economic situations and finding solutions upfront. Based on this fact it is recommended to place women in top business positions especially for avoiding critical economic situations. Awareness needs to be increased that women tend to have good transformational leadership style characteristics which can help to avoid critical business situations. Men tend to have good transactional leadership style characteristics which are effective during critical business situations. These research results about transformational and transactional leadership styles can be helpful information for executives and hiring managers when decisions are made about hiring or promoting the right person for solving or avoiding a critical business situation.
7. Create awareness that different behaviors and expectations exist between men and women. Women behave differently, when applying for a job opening compared to men. Women are not applying for a job when they don't meet the placed expectations for the job. It is suggested to place employment adds to attract more women. Women are perceived differently when applying for a job. Women are approved, when evaluated by their success in the past and if they have performed well compared to men who are evaluated based on their potential. The suggestion is to focus on female potential instead of prior performance.
8. Major barriers for female career progression are recognized to be general norms and cultural practices in a country, a masculine corporate culture and a lack of role models. Based on that statement it is suggested to create the same opportunities for all which means for example the

same salary conditions for the same work irrespectively of gender, work environment, which values different requirements of men and women in respect to working flexibly, or the improvement of work life integration policies within companies. Furthermore it is highly recommended that women in top level business positions act as a role model. Women are still operating as a minority in top level business positions. However, it is important that this minority acts as a role model for younger women within the organization.

9. It is proven that mixed teams perform better than homogenous teams. Therefore it is suggested to include women in decision making boards and teams. Women reflect the customer and they add diverse opinions and ideas by having a different thinking and leadership style.
10. It is recommended to further promote women to invest in higher education, in the development of interpersonal and change management skills, participate in mentoring programs either as mentee or as mentor, take over challenging jobs, aim to lead people and to participate in leadership trainings to reflect about their career aspirations. Moreover women should avoid a laissez-faire leadership style and develop especially transformational leadership skills, which is very effective to avoid critical situations.
11. It is recommended to support women in their development of knowledge and skills, enable them to participate in leadership and mentoring programs, offer challenging jobs, the lead of change projects and create opportunities to manage people. These components are highly relevant for female career development according to the empirical study of this research.

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## APPENDIX

Appendix 1: Mean Scores by Gender in PISA 2012

	Mathematics scale				Reading scale				Science scale			
	Females		Males		Females		Males		Females		Males	
	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.
Australia	498	2,0	510	2,4	530	2,0	495	2,3	519	2,1	524	2,5
Austria	494	3,3	517	3,9	508	3,4	471	4,0	501	3,4	510	3,9
Belgium	509	2,6	520	2,9	525	2,7	493	3,0	503	2,6	507	3,0
Canada	513	2,1	523	2,1	541	2,1	506	2,3	524	2,0	527	2,4
Chile	411	3,1	436	3,8	452	2,9	430	3,8	442	2,9	448	3,7
Czech Republic	493	3,6	505	3,7	513	3,4	474	3,3	508	3,5	509	3,7
Denmark	493	2,3	507	2,9	512	2,6	481	3,3	493	2,5	504	3,5
Estonia	518	2,2	523	2,6	538	2,3	494	2,4	543	2,3	540	2,5
Finland	520	2,2	517	2,6	556	2,4	494	3,1	554	2,3	537	3,0
France	491	2,5	499	3,4	527	3,0	483	3,8	500	2,4	498	3,8
Germany	507	3,4	520	3,0	530	3,1	486	2,9	524	3,5	524	3,1
Greece	449	2,6	457	3,3	502	3,1	452	4,1	473	3,0	460	3,8
Hungary	473	3,6	482	3,7	508	3,3	468	3,9	493	3,3	496	3,4
Iceland	496	2,3	490	2,3	508	2,5	457	2,4	480	2,9	477	2,7
Ireland	494	2,6	509	3,3	538	3,0	509	3,5	520	3,1	524	3,4
Israel	461	3,5	472	7,8	507	3,9	463	8,2	470	4,0	470	7,9
Italy	476	2,2	494	2,4	510	2,3	471	2,5	492	2,4	495	2,2
Japan	527	3,6	545	4,6	551	3,6	527	4,7	541	3,5	552	4,7
Korea	544	5,1	562	5,8	548	4,5	525	5,0	536	4,2	539	4,7
Luxembourg	477	1,4	502	1,5	503	1,8	473	1,9	483	1,7	499	1,7
Mexico	406	1,4	420	1,6	435	1,6	411	1,7	412	1,3	418	1,5
Netherlands	518	3,9	528	3,6	525	3,5	498	4,0	520	3,9	524	3,7
New Zealand	492	2,9	507	3,2	530	3,5	495	3,3	513	3,3	518	3,2
Norway	488	3,4	490	2,8	528	3,9	481	3,3	496	3,7	493	3,2
Poland	516	3,8	520	4,3	539	3,1	497	3,7	527	3,2	524	3,7
Portugal	481	3,9	493	4,1	508	3,7	468	4,2	490	3,8	488	4,1
Slovak	477	4,1	486	4,1	483	5,1	444	4,6	467	4,2	475	4,3
Slovenia	499	2,0	503	2,0	510	1,8	454	1,7	519	1,9	510	1,9
Spain	476	2,0	492	2,4	503	1,9	474	2,3	493	1,9	500	2,3
Sweden	480	2,4	477	3,0	509	2,8	458	4,0	489	2,8	481	3,9
Switzerland	524	3,1	537	3,5	527	2,5	491	3,1	512	2,7	518	3,3
Turkey	444	5,7	452	5,1	499	4,3	453	4,6	469	4,3	458	4,5
United Kingdom	488	3,8	500	4,2	512	3,8	487	4,5	508	3,7	521	4,5
United States	479	3,9	484	3,8	513	3,8	482	4,1	498	4,0	497	4,1
EU 28	..	..	..	..	..	..	..	..	..	..	..	..
OECD	489	0,5	499	0,6	515	0,5	478	0,6	500	0,5	502	0,6
Brazil	383	2,3	401	2,2	425	2,2	394	2,4	404	2,3	406	2,3
China	..	..	..	..	..	..	..	..	..	..	..	..
India	..	..	..	..	..	..	..	..	..	..	..	..
Indonesia	373	4,3	377	4,4	410	4,3	382	4,8	383	4,1	380	4,1
Russian Federation	483	3,1	481	3,7	495	3,2	455	3,5	489	2,9	484	3,5
South Africa	..	..	..	..	..	..	..	..	..	..	..	..

Source: OECD Factbook 2014

## Appendix 2: Derivation of Questions from the Literature

Questions derived from the literature to characterize defined variables	Variables derived from the literature
<b>1. Demographics and Employment Data</b>	
1 In what industrial sector are you working?	Industry
2 What is the number of employees worldwide of the company you work for?	Company size
3 In what country do you live?	Demographics
4 Are you male or female?	Demographics
5 What is the highest level of education you have completed?	Fundamental Academic knowledge & skills
6 How many years of work experience do you have?	Practical Training
7 Do you have work experience abroad?	Practical Training
8 Are you working full-time or part-time?	Demographics
9 How many children do you have?	Demographics
10 How old are you?	Demographics
11 In what job category are you working?	Top level business position
12 How many people are reporting to you?	Top level business position
13 In what range does your yearly gross salary fit?	Top level business position
14 How high is your financial competence within the company?	Top level business position
15 Do you have experience of interacting globally?	Conceptual skills
<b>2. Knowledge and Skills</b>	
16 Please indicate one answer for each line	<b>Human capital cathergy</b>
Do you have computer skills?	Fundamental Academic knowledge & skills
Do you have math and financial analysis skills?	Fundamental Academic knowledge & skills
Do you have project management skills?	Fundamental Academic knowledge & skills
Do you have written communication skills?	Interpersonal skills
Do you have oral communication skills?	Interpersonal skills
Do you need a team to perform well?	Interpersonal skills
Do you have conflict management skills?	Interpersonal skills
Do you have strategic planning skills?	Conceptual skills
Do you have organizational skills?	Conceptual skills
Do you have change management skills?	Conceptual skills
<b>3. Coaching and Leadership Behavior</b>	
17 Please indicate one answer for each line	<b>Human capital cathergy</b>
Have you ever participated in a mentoring program (mentor or mentee)?	Practical Training
Have you ever received professional coaching?	Practical Training
Did you ever take over a challenging job?	Practical Training
18 How many people have you ever led in a job?	Practical Training
19 How many people have you ever led in other associations (charity, community, sports club, ...)?	Practical Training
20 Have you ever participated in a leadership training?	Practical Training
21 Please indicate one answer for each line	
Are you monitoring the work of your followers?	Transactional leadership skills
Are you rewarding your followers when the goals and objectives are fulfilled?	Transactional leadership skills
Are you focusing your attention on irregularities, mistakes, exceptions and deviations from what is expected from your followers?	Transactional leadership skills
Do you keep careful track of mistakes?	Transactional leadership skills
Are you telling your followers what to do to be rewarded for taking efforts?	Transactional leadership skills
Are you working out agreements with your followers what they will receive if they do a good job?	Transactional leadership skills
Do you demonstrate a strong conviction in your beliefs and values?	Transactional leadership skills
Are you avoiding to get involved when important issues arise?	Laissez-faire leadership skills
Do you think things need to go wrong before you take actions?	Laissez-faire leadership skills
Do you avoid to make decisions?	Laissez-faire leadership skills
22 Please indicate one answer for each line	
Are you delegating tasks to your followers?	Practical Training
Are you involving people in decision making?	Transformational leadership skills
Are you empowering your followers?	Transformational leadership skills
Are you portraying an optimistic future through an idealized vision to your followers?	Transformational leadership skills
Are you challenging followers to think of innovative solutions?	Transformational leadership skills
Are you aware of your followers' needs and interests to facilitate self-realization of your followers?	Transformational leadership skills
Are you setting high standards and are you acting as a role model?	Transformational leadership skills
Are you setting goals and are you developing a plan for achieving the goals?	Transformational leadership skills
Are you mentoring and developing people?	Transformational leadership skills
Do you easily lead people even if you don't have hierarchical authority?	Transformational leadership skills
Are you developing people to become better in their job?	Transformational leadership skills
Are you clarifying responsibilities of your followers?	Transformational leadership skills
Are you making decisions based on consensus?	Transformational leadership skills
23 Please add any comment	

### Appendix 3: Example of Quantitative Survey Questions

The questionnaire has been newly created in the frame of the dissertation. However questions in respect of knowledge, skills and leadership styles were taken over from prior research from Elmuti et al. (Elmuti et al., 2005) and Eagly et al. (Eagly et al., 2003). In concrete, questions 1 to 4 and 8 to 10 and question 23 have been newly created, all others are derived from prior research.

## EVALUATION 'HUMAN CAPITAL AND THE OCCUPATION OF TOP

### Demographics and Employment Data

THE PURPOSE OF THIS QUESTIONNAIRE IS TO FIND OUT IF THE BUILDING OF HUMAN CAPITAL HAS AN INFLUENCE ON THE OCCUPATION OF TOP LEVEL BUSINESS POSITIONS. QUESTIONS RELATED TO HUMAN CAPITAL ARE DEFINED IN THE BROADER SENSE INCLUDING KNOWLEDGE AND EXPERIENCE AS WELL AS INTERPERSONAL, CONCEPTUAL AND LEADERSHIP SKILLS. TOP LEVEL BUSINESS POSITIONS ARE CHARACTERIZED BY THE JOB CATEGORY, THE NUMBER OF PEOPLE REPORTING TO YOU AND BY YOUR FINANCIAL COMPETENCE.

THANK YOU IN ADVANCE FOR INVESTING ABOUT 10 MINUTES OF YOUR TIME TO COMPLETE THE SURVEY.

**1. In what industrial sector are you working?**

production oriented industry

service oriented industry

trade oriented industry

**2. What is the number of employees worldwide of the company you work for?**

below 50

50 - 1000

1000 - 50.000

50.000+

**3. In what country do you live?**

Germany

Austria

Western Europe

Eastern Europe

Other

**4. Are you male or female?**

male

female

## EVALUATION 'HUMAN CAPITAL AND THE OCCUPATION OF TOP

### 5. What is the highest level of education you have completed?

- Apprenticeship
- A- Level (qualification for university entrance)
- Bachelor
- Master
- MBA / PHD

## EVALUATION 'HUMAN CAPITAL AND THE OCCUPATION OF TOP

### Demographics and Employment Data

**6. How many years of work experience do you have?**

- less than 5 years
- 5 - 10 years
- 11 - 20 years
- 21 - 30 years
- more than 30 years

**7. Do you have work experience abroad?**

- no
- less than 6 months
- 6 months to 1 year
- 1 to 3 years
- more than 3 years

**8. Are you working full-time or part-time?**

- less than 50%
- 51 - 70%
- 71 - 90%
- full-time

**9. How many children do you have?**

- none
- 1
- 2
- 3
- 3+

**10. How old are you?**

- 30 years or younger
- 31-40 years
- 41-50 years
- 51-60 years
- 60+ years

## EVALUATION 'HUMAN CAPITAL AND THE OCCUPATION OF TOP

### Demographics and Employment Data

**11. In what job category are you working?**

- Staff / Non-Management
- Manager / Supervisor
- Executive / Senior Manager
- Member of the Management Board
- Self-employed

**12. How many people are reporting to you?**

- none
- less than 5
- 5-20
- 21-100
- 100+

**13. In what range does your yearly gross salary fit?**

- 0 - 50.000 EUR
- 50 - 100.000 EUR
- 100.000+ EUR

**14. How high is your financial competence within the company?**

- below 1.000 EUR
- 1.000 - 5.000 EUR
- 5.000 - 20.000 EUR
- 20.000 - 100.000 EUR
- 100.000+
- not applicable

**15. Do you have experience of interacting globally?**

- not at all
- slightly
- moderately
- very
- extremely

## EVALUATION 'HUMAN CAPITAL AND THE OCCUPATION OF TOP

### Knowledge and Skills

TO ANSWER QUESTION 16 IT IS NOT NECESSARY TO COMPARE YOUR SKILLS WITH THE SKILLS OF YOUR COLLEAGUES, EMPLOYEES OR WITH THE SKILLS REQUIRED FOR YOUR JOB. PLEASE INDICATE HOW YOU RATE YOUR SKILLS IN GENERAL WITHOUT COMPARISON TO INDIVIDUAL PERSONS OR JOB REQUIREMENTS.

#### 16. Please indicate one answer for each line

	not at all	slightly	moderately	very	extremely
Do you have computer skills?	<input type="radio"/>				
Do you have math and financial analysis skills?	<input type="radio"/>				
Do you have project management skills?	<input type="radio"/>				
Do you have written communication skills?	<input type="radio"/>				
Do you have oral communication skills?	<input type="radio"/>				
Do you need a team to perform well?	<input type="radio"/>				
Do you have conflict management skills?	<input type="radio"/>				
Do you have strategic planning skills?	<input type="radio"/>				
Do you have organizational skills?	<input type="radio"/>				
Do you have change management skills?	<input type="radio"/>				

## EVALUATION 'HUMAN CAPITAL AND THE OCCUPATION OF TOP

### Coaching and Leadership Behavior

**17. Please indicate one answer for each line**

	never	once	several times	permanently
Have you ever participated in a mentoring program (mentor or mentee)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you ever received professional coaching?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did you ever take over a challenging job?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**18. How many people have you ever led in a job?**

- none
- less than 10 people
- 11 to 50 people
- 51 to 100 people
- more than 100 people

**19. How many people have you ever led in other associations (charity, community, sports club, ...)?**

- none
- less than 10 people
- 11 to 50 people
- 51 to 100 people
- more than 100 people

**20. Have you ever participated in a leadership training?**

- never
- once
- 2 to 4 times
- more than 4 times

## EVALUATION 'HUMAN CAPITAL AND THE OCCUPATION OF TOP

### Coaching and Leadership Behavior

IN CASE YOU ARE NOT LEADING PEOPLE IN YOUR ACTUAL JOB PLEASE THINK ABOUT PROJECT LEADERSHIP OR INFORMAL LEADERSHIP WHEN FILLING QUESTION 21. INFORMAL LEADERSHIP WITHOUT HIERARCHICAL AUTHORITY MAY EXIST WHEN WORKING IN TEAMS, WHEN FULFILLING CORSSFUNCTIONAL TASKS OR WHEN WORKING IN A MATRIX ORGANIZATION.

#### 21. Please indicate one answer for each line

	not at all	sometimes	often	very often	all the time	not applicable
Are you monitoring the work of your followers?	<input type="radio"/>					
Are you rewarding your followers when the goals and objectives are fulfilled?	<input type="radio"/>					
Are you focusing your attention on irregularities, mistakes, exceptions and deviations from what is expected from your followers?	<input type="radio"/>					
Do you keep careful track of mistakes?	<input type="radio"/>					
Are you telling your followers what to do to be rewarded for taking efforts?	<input type="radio"/>					
Are you working out agreements with your followers what they will receive if they do a good job?	<input type="radio"/>					
Do you demonstrate a strong conviction in your beliefs and values?	<input type="radio"/>					
Are you avoiding to get involved when important issues arise?	<input type="radio"/>					
Do you think things need to go wrong before you take actions?	<input type="radio"/>					
Do you avoid to make decisions?	<input type="radio"/>					

## EVALUATION 'HUMAN CAPITAL AND THE OCCUPATION OF TOP

### Coaching and Leadership Behavior

IN CASE YOU ARE NOT LEADING PEOPLE IN YOUR ACTUAL JOB PLEASE THINK ABOUT PROJECT LEADERSHIP OR INFORMAL LEADERSHIP WHEN FILLING QUESTION 22. INFORMAL LEADERSHIP WITHOUT HIERARCHICAL AUTHORITY MAY EXIST WHEN WORKING IN TEAMS, WHEN FULFILLING CORSSFUNCTIONAL TASKS OR WHEN WORKING IN A MATRIX ORGANIZATION.

#### 22. Please indicate one answer for each line

	not at all	sometimes	often	very often	all the time	not applicable
Are you delegating tasks to your followers?	<input type="radio"/>					
Are you involving people in decision making?	<input type="radio"/>					
Are you empowering your followers?	<input type="radio"/>					
Are you portraying an optimistic future through an idealized vision to your followers?	<input type="radio"/>					
Are you challenging followers to think of innovative solutions?	<input type="radio"/>					
Are you aware of your followers' needs and interests to facilitate self-realization of your followers?	<input type="radio"/>					
Are you setting high standards and are you acting as a role model?	<input type="radio"/>					
Are you setting goals and are you developing a plan for achieving the goals?	<input type="radio"/>					
Are you mentoring and developing people?	<input type="radio"/>					
Do you easily lead people even if you don't have hierarchical authority?	<input type="radio"/>					
Are you developing people to become better in their job?	<input type="radio"/>					
Are you clarifying responsibilities of your followers?	<input type="radio"/>					
Are you making decisions based on consensus?	<input type="radio"/>					

#### 23. Please add any comment

THANK YOU FOR COMPLETING THIS SURVEY!

## Appendix 4: Correlation Tests and Logistic Regression Model

### Fisher Test Top Level Business Position and Gender

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.836 <sup>a</sup>	1	.175		
Continuity Correction <sup>b</sup>	1.526	1	.217		
Likelihood Ratio	1.826	1	.177		
Fisher's Exact Test				.188	.109
Linear-by-Linear Association	1.831	1	.176		
N of Valid Cases	342				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 42,35.

### Pearson Test Number of Children and Gender

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	35.302 <sup>a</sup>	4	.000
Continuity Correction			
Likelihood Ratio	35.837	4	.000
Linear-by-Linear Association	31.658	1	.000
N of Valid Cases	342		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 2,08.

### Pearson Test Salary and and Gender

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.747 <sup>a</sup>	2	.000
Continuity Correction			
Likelihood Ratio	26.318	2	.000
Linear-by-Linear Association	13.397	1	.000
N of Valid Cases	342		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 16,61.

## Logistic Regression Model Key Influencing Factors – female

### Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	169.597 <sup>a</sup>	.273	.396
2	153.335 <sup>a</sup>	.330	.479
3	143.313 <sup>a</sup>	.362	.526

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

### Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	.000	3	1.000
2	5.108	8	.746
3	5.339	8	.721

### Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
	q0018_pract			22.378	4	.000			
Step 1 <sup>a</sup>	q0018_pract(1)	-21.346	12710.133	.000	1	.999	.000	.000	.
	q0018_pract(2)	-4.348	1.076	16.317	1	.000	.013	.002	.107
	q0018_pract(3)	-.836	.454	3.393	1	.065	.433	.178	1.055
	q0018_pract(4)	.417	.583	.510	1	.475	1.517	.484	4.756
	Constant	.143	.379	.143	1	.706	1.154		
Step 2 <sup>b</sup>	q0018_pract			20.818	4	.000			
	q0018_pract(1)	-20.431	12516.453	.000	1	.999	.000	.000	.
	q0018_pract(2)	-3.888	1.094	12.632	1	.000	.020	.002	.175
	q0018_pract(3)	-.619	.482	1.650	1	.199	.539	.210	1.384
	q0018_pract(4)	.965	.654	2.174	1	.140	2.624	.728	9.460
	q0020_pract			13.243	3	.004			
	q0020_pract(1)	-1.553	.717	4.690	1	.030	.212	.052	.863
	q0020_pract(2)	-2.759	.880	9.827	1	.002	.063	.011	.356
	q0020_pract(3)	-1.041	.439	5.616	1	.018	.353	.149	.835
	Constant	.818	.472	3.004	1	.083	2.266		
	q0009			8.739	4	.068			
Step 3 <sup>c</sup>	q0009(1)	18.637	28113.219	.000	1	.999	124177452.156	.000	.
	q0009(2)	19.547	28113.219	.000	1	.999	308446036.421	.000	.

q0009(3)	17.741	28113.219	.000	1	.999	50677624.561	.000	.
q0009(4)	19.903	28113.219	.000	1	.999	440197534.499	.000	.
q0018_pract			22.920	4	.000			
q0018_pract(1)	-20.324	12585.117	.000	1	.999	.000	.000	.
q0018_pract(2)	-4.065	1.117	13.236	1	.000	.017	.002	.153
q0018_pract(3)	-.685	.511	1.793	1	.181	.504	.185	1.374
q0018_pract(4)	1.278	.701	3.328	1	.068	3.590	.909	14.171
q0020_pract			14.649	3	.002			
q0020_pract(1)	-1.889	.752	6.305	1	.012	.151	.035	.661
q0020_pract(2)	-3.057	.981	9.704	1	.002	.047	.007	.322
q0020_pract(3)	-1.223	.465	6.921	1	.009	.294	.118	.732
Constant	-17.742	28113.219	.000	1	.999	.000		

a. Variable(s) entered on step 1: q0018\_pract.

b. Variable(s) entered on step 2: q0020\_pract.

c. Variable(s) entered on step 3: q0009.

## Logistic Regression Model Key Influencing Factors – male

### Model Summary

Step	-2 Log-Likelihood	R-Quadrat acc	
		R-Quadrat acc Cox & Snell	Nagelkerke
1	144,557 <sup>a</sup>	,230	,319
2	139,234 <sup>a</sup>	,258	,358

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

### Hosmer-Lemeshow-Test

Schritt	Chi-Quadrat	df	Sig.
1	,000	3	1,000
2	3,413	8	,906

## Appendix 5: Statistical Data Syntax

\*\*\*\*\*

\*

\*\* Preparation data record

\*\*\*\*\*

\*

\*\*\*\*\*

\*\* Usage of own formatting

\*\*\*\*\*

```
SET TLook='C:\Styles\Tabellen-Stil\neu.stt' TABLERENDER=light SUMMARY=None  
ROWSBREAK=100 TOLERANCE=1 TFit=Both CELLSBREAK=10000.
```

```
SET CTemplate='C:\Styles\Grafiken-Stil\balken_english.sgt' TOLERANCE=1 TFit=Both  
CELLSBREAK=10000.
```

\*\*\*\*\*

\*\* Definition Top Level

\*\*\*\*\*

```
RECODE q0011 (SYSMIS=SYSMIS) (MISSING=SYSMIS) (3 thru 4=1) (ELSE=0) INTO  
Category.  
EXECUTE.
```

```
RECODE q0012 (SYSMIS=SYSMIS) (MISSING=SYSMIS) (1 thru 3=0) (4 thru 5=1) INTO  
Report.  
EXECUTE.
```

```
RECODE q0013(SYSMIS=SYSMIS) (MISSING=SYSMIS) (1 thru 2=0) (3=1) INTO Salary.  
EXECUTE.
```

```
RECODE q0014(SYSMIS=SYSMIS) (MISSING=SYSMIS) (1 thru 3=0) (4 thru 5=1) (6=0)  
INTO Competence.  
EXECUTE.
```

```
compute top_level_pre= Category+ Report + Salary + Competence.  
EXECUTE.
```

\*\* Check frequencies

```
FREQUENCIES VARIABLES=top_level_pre  
/ORDER=ANALYSIS.
```

\*\* Summary of the two highest categories

```
RECODE top_level_pre(SYSMIS=SYSMIS) (MISSING=SYSMIS) (0 thru 2=0) (3 thru 4=1)
INTO top_level.
EXECUTE.
```

```
Value Labels top_level
0 'not top level'
1 'top level'.
```

```
FREQUENCIES VARIABLES=top_level
  /BARCHART PERCENT
  /ORDER=ANALYSIS.
```

```
*****
** Fundamental Academic Knowledge
*****
```

```
RELIABILITY
  /VARIABLES=q0005_fund q0016_0001_fund q0016_0002_fund q0016_0003_fund
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
```

```
** Aggregation doesn't make sense
```

```
*****
** Interpersonal Skills
*****
```

```
RELIABILITY
  /VARIABLES=q0016_0004_inter
q0016_0005_inter
q0016_0006_inter
q0016_0007_inter
q0016_0008_inter
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
```

```
** Aggregation makes sense
```

```
Compute interpersonal_skill= MEAN(q0016_0004_inter,
q0016_0005_inter,
q0016_0006_inter,
q0016_0007_inter,
q0016_0008_inter).
EXECUTE.
```

\*\*\*\*\*

**\*\*Conceptual Skills**

\*\*\*\*\*

RELIABILITY

```
/VARIABLES=q0015_conc
q0016_0009_conc
q0016_0010_conc
q0016_0011_conc
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/SUMMARY=TOTAL.
```

\*\* Aggregation doesn't make sense

\*\*\*\*\*

**\*\*Practical Skills**

\*\*\*\*\*

```
RECODE q0022_0001_pract (SYSMIS=SYSMIS) (MISSING=SYSMIS) (6=1) INTO
pract_temp.
EXECUTE.
```

RELIABILITY

```
/VARIABLES=q0017_0001_pract
q0017_0002_pract
q0017_0003_pract
q0018_pract
q0019_pract
q0020_pract
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/SUMMARY=TOTAL.
```

RELIABILITY

```
/VARIABLES=q0017_0001_pract
q0017_0002_pract
q0018_pract
q0019_pract
q0020_pract
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/SUMMARY=TOTAL.
```

RELIABILITY

```
/VARIABLES=q0017_0001_pract
q0017_0002_pract
```

```
q0018_pract
q0020_pract
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/SUMMARY=TOTAL.
```

\*\* Aggregation doesn't make sense

\*\*\*\*\*

\*\* Transactional Leadership Skills

\*\*\*\*\*

RELIABILITY

```
/VARIABLES=q0021_0001_transact
q0021_0002_transact
q0021_0003_transact
q0021_0004_transact
q0021_0005_transact
q0021_0006_transact
q0021_0007_transact
q0021_0008_transact
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/SUMMARY=TOTAL.
```

\*\* Aggregation makes sense

```
Compute Transactional_Leadership_Skills= Mean(q0021_0001_transact,
q0021_0002_transact,
q0021_0003_transact,
q0021_0004_transact,
q0021_0005_transact,
q0021_0006_transact,
q0021_0007_transact,
q0021_0008_transact).
Execute.
```

\*\*\*\*\*

\*\* Laissez-Faire Leadership Skills

\*\*\*\*\*

RELIABILITY

```
/VARIABLES=q0021_0009_laissez
q0021_0010_laissez
q0021_0011_laissez
q0021_0012_laissez
q0021_0013_laissez
```

```
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/SUMMARY=TOTAL.
```

\*\* Aggregation makes sense

```
Compute Laissez_faire_Leadership_Skills= Mean(q0021_0009_laissez,
q0021_0010_laissez,
q0021_0011_laissez,
q0021_0012_laissez,
q0021_0013_laissez).
Execute.
```

\*\*\*\*\*

\*\* Transformational Leadership Skills

\*\*\*\*\*

#### RELIABILITY

```
/VARIABLES=q0022_0002_transf
q0022_0003_transf
q0022_0004_transf
q0022_0005_transf
q0022_0006_transf
q0022_0007_transf
q0022_0008_transf
q0022_0009_transf
q0022_0010_transf
q0022_0011_transf
q0022_0012_transf
q0022_0013_transf
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/SUMMARY=TOTAL.
```

```
Compute Transformational_Leadership_Skills= Mean(q0022_0002_transf,
q0022_0003_transf,
q0022_0004_transf,
q0022_0005_transf,
q0022_0006_transf,
q0022_0007_transf,
q0022_0008_transf,
q0022_0009_transf,
q0022_0010_transf,
q0022_0011_transf,
q0022_0012_transf,
q0022_0013_transf).
Execute.
```

\*\*\*\*\*

\*

\*\* Deskriptive Analysis

\*\*\*\*\*

\*

FREQUENCIES VARIABLES=q0001 q0002 q0003 q0004 q0008 q0009 q0010 q0012 q0013  
q0014  
/BARCHART PERCENT  
/ORDER=ANALYSIS.

\*\*\*\*\*

\*

\*\* Testing of the Hypotheses

\*\*\*\*\*

\*

\*\* For comparison reasons hypotheses are tested separately for men and women

SORT CASES BY q0004.  
SPLIT FILE LAYERED BY q0004.

\*\*\*\*\*

\*\* Hypothesis 1

\*\*\*\*\*

NPAR TESTS

/M-W= q0005\_fund q0016\_0001\_fund q0016\_0002\_fund q0016\_0003\_fund BY top\_level(0 1)  
/MISSING ANALYSIS.

LOGISTIC REGRESSION VARIABLES top\_level

/METHOD=ENTER q0005\_fund q0016\_0001\_fund q0016\_0002\_fund q0016\_0003\_fund  
/CONTRAST (q0005\_fund)=Indicator  
/CONTRAST (q0016\_0001\_fund)=Indicator  
/CONTRAST (q0016\_0002\_fund)=Indicator  
/CONTRAST (q0016\_0003\_fund)=Indicator  
/PRINT=GOODFIT CI(95)  
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

\*\*\*\*\*

\*\* Hypothesis 2

\*\*\*\*\*

T-TEST GROUPS=top\_level(0 1)  
/MISSING=ANALYSIS  
/VARIABLES=interpersonal\_skill  
/CRITERIA=CI(.95).

\*\*\*\*\*

\*\* Hypothesis 3

\*\*\*\*\*

NPART TESTS

/M-W= q0015\_conc  
q0016\_0009\_conc  
q0016\_0010\_conc  
q0016\_0011\_con BY top\_level(0 1)  
/MISSING ANALYSIS.

LOGISTIC REGRESSION VARIABLES top\_level

/METHOD=ENTER q0015\_conc q0016\_0009\_conc q0016\_0010\_conc q0016\_0011\_con  
/CONTRAST (q0015\_conc)=Indicator  
/CONTRAST (q0016\_0009\_conc)=Indicator  
/CONTRAST (q0016\_0010\_conc)=Indicator  
/CONTRAST (q0016\_0011\_con)=Indicator  
/PRINT=GOODFIT CI(95)  
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

\*\*\*\*\*

\*\* Hypothesis 4

\*\*\*\*\*

NPART TESTS

/M-W= q0017\_0001\_pract  
q0017\_0002\_pract  
q0017\_0003\_pract  
q0018\_pract  
q0019\_pract  
q0020\_pract BY top\_level(0 1)  
/MISSING ANALYSIS.

LOGISTIC REGRESSION VARIABLES top\_level

/METHOD=ENTER q0017\_0001\_pract q0017\_0002\_pract q0017\_0003\_pract q0018\_pract  
q0019\_pract  
q0020\_pract q0022\_0001\_pract  
/CONTRAST (q0017\_0001\_pract)=Indicator  
/CONTRAST (q0017\_0002\_pract)=Indicator  
/CONTRAST (q0017\_0003\_pract)=Indicator  
/CONTRAST (q0018\_pract)=Indicator  
/CONTRAST (q0019\_pract)=Indicator  
/CONTRAST (q0020\_pract)=Indicator  
/CONTRAST (q0022\_0001\_pract)=Indicator  
/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

\*\*\*\*\*

\*\* Hypothesis 5

\*\*\*\*\*

T-TEST GROUPS=top\_level(0 1)  
/MISSING=ANALYSIS  
/VARIABLES=Transformational\_Leadership\_Skills  
Transactional\_Leadership\_Skills  
Laissez\_faire\_Leadership\_Skills  
/CRITERIA=CI(.95).

LOGISTIC REGRESSION VARIABLES top\_level  
/METHOD=ENTER Transformational\_Leadership\_Skills Laissez\_faire\_Leadership\_Skills  
Transactional\_Leadership\_Skills  
/PRINT=GOODFIT CI(95)  
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

SPLIT FILE OFF.

\*\*\*\*\*

\*

\*\* Extended logistic regression to find out most important influencing factors

\*\*\*\*\*

\*

LOGISTIC REGRESSION VARIABLES top\_level  
/METHOD=FSSTEP(COND) q0001 q0002 q0003 q0004 q0008 q0009 q0010 q0005\_fund  
q0016\_0001\_fund q0016\_0002\_fund q0016\_0003\_fund interpersonal\_skill q0015\_conc  
q0016\_0009\_conc  
q0016\_0010\_conc q0016\_0011\_con q0006\_pract q0007\_pract q0017\_0001\_pract  
q0017\_0002\_pract  
q0017\_0003\_pract q0018\_pract q0019\_pract q0020\_pract q0022\_0001\_pract  
Transactional\_Leadership\_Skills Laissez\_faire\_Leadership\_Skills  
/CONTRAST (q0001)=Indicator  
/CONTRAST (q0002)=Indicator  
/CONTRAST (q0003)=Indicator  
/CONTRAST (q0004)=Indicator  
/CONTRAST (q0008)=Indicator  
/CONTRAST (q0009)=Indicator  
/CONTRAST (q0010)=Indicator  
/CONTRAST (q0005\_fund)=Indicator  
/CONTRAST (q0016\_0001\_fund)=Indicator  
/CONTRAST (q0016\_0002\_fund)=Indicator  
/CONTRAST (q0016\_0003\_fund)=Indicator

```

/CONTRAST (q0015_conc)=Indicator
/CONTRAST (q0016_0009_conc)=Indicator
/CONTRAST (q0016_0010_conc)=Indicator
/CONTRAST (q0016_0011_con)=Indicator
/CONTRAST (q0006_pract)=Indicator
/CONTRAST (q0007_pract)=Indicator
/CONTRAST (q0017_0001_pract)=Indicator
/CONTRAST (q0017_0002_pract)=Indicator
/CONTRAST (q0017_0003_pract)=Indicator
/CONTRAST (q0018_pract)=Indicator
/CONTRAST (q0019_pract)=Indicator
/CONTRAST (q0020_pract)=Indicator
/CONTRAST (q0022_0001_pract)=Indicator
/PRINT=GOODFIT CI(95)
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

```

```

*****
** Cross-tab level / number children /range Sex
*****

```

CROSSTABS

```

/TABLES= top_level q0009 q0013 BY q0004
/FORMAT=AVALUE TABLES
/STATISTICS=CHISQ
/CELLS=COUNT
/COUNT ROUND CELL
/BARCHART.

```

```

*****
** Large model for all
*****

```

LOGISTIC REGRESSION VARIABLES top\_level

```

/METHOD=FSSTEP(COND) q0004 q0008 q0009 q0005_fund
q0016_0001_fund q0016_0002_fund q0016_0003_fund interpersonal_skill q0015_conc
q0016_0009_conc
q0016_0010_conc q0016_0011_con q0006_pract q0007_pract q0017_0001_pract
q0017_0002_pract
q0017_0003_pract q0018_pract q0019_pract q0020_pract q0022_0001_pract
Transactional_Leadership_Skills Laissez_faire_Leadership_Skills
/CONTRAST (q0004)=Indicator
/CONTRAST (q0008)=Indicator
/CONTRAST (q0009)=Indicator
/CONTRAST (q0005_fund)=Indicator
/CONTRAST (q0016_0001_fund)=Indicator
/CONTRAST (q0016_0002_fund)=Indicator
/CONTRAST (q0016_0003_fund)=Indicator

```

```

/CONTRAST (q0015_conc)=Indicator
/CONTRAST (q0016_0009_conc)=Indicator
/CONTRAST (q0016_0010_conc)=Indicator
/CONTRAST (q0016_0011_con)=Indicator
/CONTRAST (q0006_pract)=Indicator
/CONTRAST (q0007_pract)=Indicator
/CONTRAST (q0017_0001_pract)=Indicator
/CONTRAST (q0017_0002_pract)=Indicator
/CONTRAST (q0017_0003_pract)=Indicator
/CONTRAST (q0018_pract)=Indicator
/CONTRAST (q0019_pract)=Indicator
/CONTRAST (q0020_pract)=Indicator
/CONTRAST (q0022_0001_pract)=Indicator
/PRINT=GOODFIT CI(95)
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

```

```

*****
** Large model only for women
*****

```

```

USE ALL.
COMPUTE filter_$=(q0004=2).
VARIABLE LABELS filter_$ 'q0004=2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

```

```

LOGISTIC REGRESSION VARIABLES top_level
/METHOD=FSSTEP(COND) q0008 q0009 q0005_fund
q0016_0001_fund q0016_0002_fund q0016_0003_fund interpersonal_skill q0015_conc
q0016_0009_conc
q0016_0010_conc q0016_0011_con q0006_pract q0007_pract q0017_0001_pract
q0017_0002_pract
q0017_0003_pract q0018_pract q0019_pract q0020_pract q0022_0001_pract
Transactional_Leadership_Skills Laissez_faire_Leadership_Skills
/CONTRAST (q0008)=Indicator
/CONTRAST (q0009)=Indicator
/CONTRAST (q0005_fund)=Indicator
/CONTRAST (q0016_0001_fund)=Indicator
/CONTRAST (q0016_0002_fund)=Indicator
/CONTRAST (q0016_0003_fund)=Indicator
/CONTRAST (q0015_conc)=Indicator
/CONTRAST (q0016_0009_conc)=Indicator
/CONTRAST (q0016_0010_conc)=Indicator
/CONTRAST (q0016_0011_con)=Indicator
/CONTRAST (q0006_pract)=Indicator

```

```
/CONTRAST (q0007_pract)=Indicator
/CONTRAST (q0017_0001_pract)=Indicator
/CONTRAST (q0017_0002_pract)=Indicator
/CONTRAST (q0017_0003_pract)=Indicator
/CONTRAST (q0018_pract)=Indicator
/CONTRAST (q0019_pract)=Indicator
/CONTRAST (q0020_pract)=Indicator
/CONTRAST (q0022_0001_pract)=Indicator
/PRINT=GOODFIT CI(95)
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

```
FILTER OFF.
USE ALL.
EXECUTE.
```

```
*****
** Large model only for men
*****
```

```
USE ALL.
COMPUTE filter_$=(q0004=1).
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
```

```
LOGISTIC REGRESSION VARIABLES top_level
/METHOD=FSSTEP(COND) q0008 q0009 q0005_fund
q0016_0001_fund q0016_0002_fund q0016_0003_fund interpersonal_skill q0015_conc
q0016_0009_conc
q0016_0010_conc q0016_0011_con q0006_pract q0007_pract q0017_0001_pract
q0017_0002_pract
q0017_0003_pract q0018_pract q0019_pract q0020_pract q0022_0001_pract
Transactional_Leadership_Skills Laissez_faire_Leadership_Skills
/CONTRAST (q0008)=Indicator
/CONTRAST (q0009)=Indicator
/CONTRAST (q0005_fund)=Indicator
/CONTRAST (q0016_0001_fund)=Indicator
/CONTRAST (q0016_0002_fund)=Indicator
/CONTRAST (q0016_0003_fund)=Indicator
/CONTRAST (q0015_conc)=Indicator
/CONTRAST (q0016_0009_conc)=Indicator
/CONTRAST (q0016_0010_conc)=Indicator
/CONTRAST (q0016_0011_con)=Indicator
/CONTRAST (q0006_pract)=Indicator
/CONTRAST (q0007_pract)=Indicator
/CONTRAST (q0017_0001_pract)=Indicator
```

```
/CONTRAST (q0017_0002_pract)=Indicator  
/CONTRAST (q0017_0003_pract)=Indicator  
/CONTRAST (q0018_pract)=Indicator  
/CONTRAST (q0019_pract)=Indicator  
/CONTRAST (q0020_pract)=Indicator  
/CONTRAST (q0022_0001_pract)=Indicator  
/PRINT=GOODFIT CI(95)  
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

```
FILTER OFF.  
USE ALL.  
EXECUTE.
```