Czech University of Life Sciences Prague

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Diploma Thesis

Comparison of gender inequality between Czech Republic and Germany

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DIPLOMA THESIS ASSIGNMENT

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Economics Policy and Administration
Business Administration

Thesis title

Causes of increasing income inequality

Objectives of thesis

The main objective of this study is to examine the island of gender equality between men and women, comparing Czech and German.

Research hypotheses:
- Gender-based inequality is present in Germany and Czech Republic, and it can be observed in differences in wages between men and women.
- Link between gender and childcare affects men and women differently, resulting in less hours of paid work performed by women.
- Link between gender and education affects men and women differently, resulting in men being more educated.

Methodology

This thesis will be divided into three parts.

The first part is a theoretical one and will be based on literature search. It will define the current state of knowledge in the field of gender inequality.

The second part will rely on the theoretical part and it is the key component of the thesis. The author will use method of quantitative research such as statistical methods. The research will use secondary sources of information. (UN, EUROSTAT,etc.)

The final part will conclude the results of the previous parts and discuss it with another author. The most important part will consist of partial conclusions outcome and finding.

The proposed extent of the thesis

60 – 80 pages

Keywords

Gender, inequality, Germany, Czech Republic.

Recommended information sources

Orloff, A. (1993). Gender and the social rights of citizenship: the comparative analysis of gender relations and welfare states. American Sociological Review , 58, 303-328.

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Declaration

I declare that I have worked on my diploma thesis titled " Comparison of gender inequality between Czech Republic and Germany" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 02.04.2020 Shely Davidov

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I would like to thank doc. Ing. Irena Benešová, Ph.D., and all the University staff and lecturers, for their advice and support during my work on this thesis.

Comparison of gender inequality between Czech Republic and Germany

Abstract

This study was designed to examine the wage related gender gap between men and women on example and comparison of two countries: Germany and the Czech Republic. The research literature has discussed a gender equality and the existing phenomenon of gender gap and the relatively modern shift in the labor market that came with women entering it. The gender gap is still present in most developing countries, but it can be seen that great efforts are being made to close these gaps and achieve full equality between men and women. This study examines three main research hypotheses: gender-based inequality is present in Germany and Czech Republic, and it can be observed in differences in wages between men and women, link between gender and childcare affects men and women differently, resulting in lower employment rate in women, there is no significant difference between levels of attainment of tertiary education between women of similar age groups in Germany and Czech Republic.

In order to test the hypotheses in the study we used data from Eurostat, which provides reliable statistics, the data collected were examined in statistical form in SPSS. The results of the study show that the three research hypotheses were confirmed.

Keywords: Gender gap, men, women, education, wages, inequality, Czech Republic, Germany, child rearing.

Srovnání genderové nerovnosti mezi Českou republikou a Německem

Abstrakt

Tato studie byla navržena tak, aby prozkoumala rozdíly mezi muži a ženami související s mzdami na příkladu a srovnání dvou zemí: Německa a České republiky. Ve vědecké literatuře se hodně diskutuje genderová rovnost spolu s existujícím jevem genderové mezery a relativně moderním posunu na trhu práce v případě žen. Rozdíl mezi muži a ženami je stále přítomen ve většině rozvojových zemí, ale je patrné, že je vyvíjeno velké úsilí o odstranění těchto mezer a dosažení plné rovnosti mezi muži a ženami. Tato studie zkoumá tři hlavní výzkumné hypotézy: 1) genderová nerovnost je přítomna v Německu a České republice a lze ji pozorovat v rozdílech v odměňování mužů a žen, 2) propojení mezi pohlavím a péčí o děti ovlivňuje muže a ženy odlišně, což má za následek nižší míru zaměstnanosti u žen, 3) neexistuje rozdíl v terciárním vzdělávání žen v Německu a České republice s ohledem na věkovou strukturu.

Pro testování hypotéz ve studii jsme použili data z Eurostatu, který poskytuje spolehlivé statistiky, pro provedení analýz byl použit program SPSS. Výsledky studie ukazují, že byly potvrzeny tři hypotézy výzkumu.

Klíčová slova: Gender gap, muži, ženy, vzdělání, mzdy, nerovnost, Česká republika, Německo, výchova dětí.

Table of Contents

1. Introduction

Women currently account for about 50% of the world's population. But when it comes to equality between men and women, the world is far from being an equal playing field (Erhel, 2013). Gender inequality is reflected in various aspects of everyday life (from domestic violence to wage inequality in the workplace) and limits opportunities for women in the economy and politics (Kim, 2013). In some countries gender-based discrimination that started at birth was quite common, when female children were considered unwanted and aborted. It continues in later stages of life, in vital areas such as access to education, participation in the labor market and life expectancy (Ellingsæter, 2013). Because of that, a number of indicators that capture gender-based inequality during different life stages can be observed from the data of different historical periods (Erhel, 2013).

In the 2000s, the average years of women education in the developing countries increased and now stand at 6.5 years. In the 2000s women's life expectancy at birth, 71 years, was 18 years higher than the average in the 1950s. At the end of the 20th century, an average woman is expected to live a longer than in the 19th century and marry later than compared to the average marrying age in the past. Women are also much more educated now than in the past. It can also be seen that the man's condition improved during the 20th century, primarily in education, with the time spend on education rising from 3.64 years in the 1950s to 7.64 years in the 2000s (Mandel & Semyonov, 2005). Increase of life expectancy is less impressive for men. In-depth analysis of life expectancy data, marital age ratios and number of years of schooling over the years and according to countries and regions shows that there has been a positive development in the equality of women's status over the years (Mandel, 2012).

Regarding voting rights, the world has come a long way. In 1913, only New Zealand, Australia, Finland and Norway gave women the right to vote. The significant improvement wasn't made until 1950, when there were more countries allowing women to vote than those still prohibiting. The two significant breakthroughs occurred after Second World War (Lewis J. , 1992). All western countries, except Switzerland, granted women the right to vote until 1950, while in most African and Middle Eastern countries this essential right every citizen

must have was denied to women. In 2011, Saudi Arabia, the last country without women's suffrage, promised to grant this right in the coming elections in 2015. Thus, 122 years after the first state (New Zealand) granted women the right to vote, equal rights in this index were achieved in all parts of the world (Mandel & Semyonov, 2005).

Another interesting point is the relationship between indicators of gender equality and economic development in the country. Over the past two decades, many researchers and policymakers have begun to attribute greater importance to gender equality as one of the main drivers of economic development (Mandel & Semyonov, 2005). One of the studies shows that the ban on polygamy reduces the birth rate by 40%, increases the rate of savings by 70% and increases per capita output by 170%. However, most of the leading studies in the field provide evidence of international comparison rather than evidence of development over time. The question arises, therefore, is there a positive correlation between gender equality and economic development, i.e., a change in GDP per capita, when examining the data of the entire 20th century? (Presser, 1994). The analysis shows that the relationship between different indices of gender equality and per capita GDP is different from one another and changes over time, for example, the ratio between inequality in life expectancy and per capita GDP is positive and strong throughout the period, while the relationship between the numerical ratio and the per capita GDP became negative in the 1940s. Looking at the relationship between the index of overall equality and GDP, it appears that the relationship becomes stronger after the 1970s, a change that is put in motion, at least in part, by improving equality in education and activity of women's parliamentary movement (Kim, 2013).

Today, gender inequality is seen in many areas, such as education, the labor market, occupational segregation, wages, childcare, domestic violence, equality of rights, recognition and more. All these and other areas influence the sense of equality of women in relation to men. It is important to understand that the behavior of men and women in these areas differs significantly from state to state. Part-time work culture is not common in many countries (Mandel, 2012). In southern Europe, women are much more likely to work full time, although it is common for them to stop doing so once they have children. Scandinavian countries have a culture where both men and women are responsible for childcare, and where it can be observed that both men and women continue to work part-time for more than 30 hours a

week (Fraser, 1994). Such differences show that the context in which people grow up and live their lives undoubtedly influences the way they decide how to use their time. Moreover, changes in gender cultures and economic trends have also affected the amount of time men and women spend on paid work and household jobs. However, it seems that it differs in each country (Kamo, 1988).

Almost daily data are published about the gaps between men and women in the labor market: wage difference, the presence or absence of women in position of power at organizations, and even data about sexual harassment (Hook, 2006). Women have weak position in the labor market and derive less benefits from their presence and activity in the organizations in which they work (Poortman & Van der Lippe, 2009). Women also describe the ways in which their places of employment often create an offensive and hostile workspace, which leads to women feeling inferior on a daily basis (Van der Lippe & Van Dijk, 2002).

2. Review of the Literature

Since the mid-20th century, there has been a growing awareness of the importance of women's participation in the labor market. As a result, the policy has focused mainly on the ability of women to combine childcare and home-based work with paid work (Lewis & Campell, 2010). This policy was based on the "breadwinner and half" model, according to which the main breadwinners in the household is men and women are perceived as secondary breadwinners and primary caregivers in children (Van lancker, 2013). The economic need to raise the participation rate of women in the paid labor market has led to the development of several measures that will make it easier for women to combine paid domestic work: childcare frameworks, tax benefits for working mothers, paid maternity leave for working mothers and protective legislation to protect the rights of women at work (Ellingsæter, 2013). This policy increased occupational segregation between women and men and strengthened the trend in which women in most of the countries are concentrated in the public sector, in therapeutic occupations and in services such as teaching, clerical, occupational care and sales, as well as the multiplicity of women's employment in part-time positions. The concentration of women in occupations and jobs that can be combined with raising children together with women being perceived as secondary earners has legitimized the fact that women earn lower wages (Lewis & Campell, 2010). The various employment tracks and shorter working hours of many working women contributed to the fact that gender wage gaps were not thoroughly examined and were not perceived as discrimination or as an infringement of equality (Mandel & Semyonov, 2005).

In the last decade, society has become aware that the same policy that enabled high rates of employment of women created specialized areas of female employment that facilitated wage gaps and occupational segregation. Efforts by international organizations such as the European Union and the Organization for Economic Co-operation and Development (OECD) to deal with occupational segregation of women and gender wage gaps began, requiring an in-depth examination of wage differentials per month and hour in the public and private sectors (OECD , 2012). In addition, a critical examination of the impact of tools that were developed to encourage the employment of women and their integration into the labor market and their wage levels began. Understanding that the "breadwinner and half" model must

transform into a model of "two earners - two breadwinners" (Kim, 2013). Employers should support the integration of both parents. Strategies have been developed to deal with the gender division of labor both in the labor market and in household, for example: initiatives to end occupational segregation by integrating women into male occupations and to a lesser extent, on the contrary, the integration of men in women's professions; educational programs for dealing with gender stereotypes and professional choices of girls and boys from school age. Eliminating gender wage gaps touches on the roots of gender division of labor at home and in the labor market; therefore, it is a comprehensive and long-term process (Lewis & Campell, 2010). The experience accumulated over the last decade in dealing with gender wage gaps indicates that this requires the recruitment and participation of all sectors involved in the labor market - the state, workers' organizations and employers and civil society organizations (Johansson, 2010). A policy is also required that includes a variety of measures and relates to the labor market, the division of gender work at home, the patterns of acquiring education and vocational training (England, 2005).

In recent decades, various countries have been working to reduce gender wage gaps. Valuable lessons were learned from what has been done in the field in the last decade. Since the 2000's, the European Union and the OECD have been working on reducing wage gaps by placing the issue as a target for their member countries. Most of these countries have established bodies that deal with wage gaps as part of the state apparatus (OECD, 2007). Despite the long-standing preoccupation with gender inequality, the development of a policy aimed directly at reducing wage gaps by gender is in its infancy. Therefore, it is difficult to present conclusive and consistent results of such or other measures taken in different countries (Johansson, 2010).

The strategies for narrowing the wage gaps were divided into four categories: the first category includes measures to expose gender gaps and to recognize them as a social problem. In this area, there has been considerable progress in terms of the scope of data collection and publication to the public, legislation requiring the breakdown of wage data by gender that help create more equal opportunities, for example wage calculators developed for businesses allow women to compare their salaries to men’s with same qualities (Fuwa, 2004).

The second category deals with efforts to make labor relations partners - employees, employers and their organizations - take decisive actions to reduce wage gaps. These are initiatives to change employment norms such as flexible working hours and the creation of mechanisms that will ensure that the gender wage gap is considered when signing collective agreements and recruiting women and men for various positions. The main strategies are to oblige employers in legislation to take steps to reduce gaps, develop and distribute voluntary programs for employers who wish to act on this matter, union activity and wage differentials in collective agreements (Folbre & Nelson, 2000).

The third category relates to the adjustment of the existing family benefits within the framework of the welfare state - most of which have been developed historically for mothers in order to motivate them to go to work - to both parents, to change and modernize the distribution of gender work both at home and in the labor market. Maternity leave, childcare frameworks, family financial support and tax benefits must be considered. The direction of the action in recent years is to encourage a policy that allows for a balanced home-work for both parents and incentives for fathers to take part in childcare (Fuwa, 2004).

The fourth category includes efforts to reduce occupational segregation in the labor market and constitutes a major factor in wage gaps. These efforts are aimed at changing gender stereotypes and employment choices of men and women from school age, promoting initiatives to recruit women for male occupations, and vice versa, to provide professional training that encourages this and to break the glass ceiling, i.e. to promote women to senior positions (England, 2005).

But it is important to understand what gender is:

What is a defined classification?

Defined classification is the attribution of feminine or masculine characteristics to social phenomena of various types, with the female classification being considered as inferior and masculine as the superior. This classification is presented as natural and eternal.

Gender research explores how gender images, gender views in a particular society are created. Society tends to present the definitions as natural, holy, originating from God (Eve and Adam).

2.1. The influence of economic, political and cultural circumstances

How can we explain the difference in the usage of time between countries? Day has only 24 hours for everyone. This means that people must make certain decisions about how they use their time. It is assumed that these choices are influenced by individual's personal opportunities and limitations. Policy and context have influence on the ways with which people make choices as well as the role of economic circumstances and cultural influences (Evertsson & Nermo, 2004). The impact of individual factors such as human capital, the presence of partner and finally children is also significant. 'Equal use of time' is useful concept. Gender capital is a complex concept that includes a multitude of different characteristics. During discussions of gender equality questions about whether or not time spent on paid work and housework is rewarded equally among genders and if total time women and men have is the same must be asked (Lewis J. , 2002; Evertsson & Nermo, 2004).

Historical studies show that women worked the same hours a week doing household activities and services to family members as paid workers did their formal work. Also, personal characteristics affect the economic and sociological inequality between spouses. Children are negatively impacted by the number of women's working hours (Van lancker, 2013). Having children means that one must spend more time at home. However, raising children cost money, thus parents have to do more paid work. On average in the new household economy one out of two parents who has the most earning potential will specialize in paid work, while the other will take on the household work. Since women, even highly educated women, usually earn less than their spouses, are often the ones who will take care of children and will spend less time on paid work (Greenstein, 2000). Moreover, mothers are still seen as the primary caregivers and social norms encourage women, not men, to spend less time on paid work when they become mothers. For these reasons, the presence of children is associated with fewer hours of paid work for women, and more paid working hours for men. Women spend more time on housework. Single person is only responsible for their own wellbeing

(Ferree, 1991). When he or she gets married, a household of two people is created. Due to economies of scale, the household of two people involves less household jobs than two households of two individuals (Van der Lippe & Van Dijk, 2002). However, consistent with the arguments as seen in the previous paragraph, one can expect that specialization will occur and that most likely the woman will take most of the housework (Geist, 2005). The effects of economies of scale specialization at paid work move in the opposite direction. It is assumed that the incentives to specialize are stronger than economies on a scale. This means that a married woman will spend more time on housework than a single woman, and for married and single men, the opposite is true (Orloff, 1993). The bulk of the burden of housework is taken by women, at the expense of earning wages, while married men will perform more paid work and will have less household responsibilities. Human capital constitutes of all the knowledge and skills that increase the individual productivity in the labor market. Women try to use their human capital stock as effectively as they can. Education is often considered one of the most important form of human capital. For more educated men and women it is appealing to devote more relative time to paid employment, as the benefits in terms of money and status can be high (Uunk, Kalmijn, & Muffels, 2005).

Scandinavian countries belong to the socio-democratic cluster, characterized by extensive government services, equal rights for men and women, and livelihood support (Unnk, Kalmijn, & Muffels, 2004). The large size of the services sector in those countries allows households to outsource housework, so that there are fewer restrictions on women and they can spend more time in the labor market. The conservative cluster contains a group of Western European countries, such as Belgium, Holland and Germany (Fuwa, 2004). In this type of welfare state, the breadwinner's ideology is central, there are tax incentives aimed at encouraging male breadwinner and housewife model, the cost of women to participate in paid work are generally high, and outsourcing possibilities are limited compared to the social democratic regime. The third type of welfare state is liberal, like England: the duties of men and women are the same, but the government is passive when it comes to guiding women's paid work (Van der Lippe & Van Dijk, 2002).

Nevertheless, in the Mediterranean countries which belonged to the former communist bloc there is little government intervention, full-time work for men and women in the past was central - and still is. Given these characteristics of the various types of welfare, women in Social-democratic regimes spend more time on paid activities and less on household work than their counterparts in Liberal, Conservative, and Mediterranean regimes (Erhel, 2013). Time-use of men and women in democratic-social systems is presumably more equal. In Conservative countries and aven more so in Mediterranean ones, men spend less time on household activities and women spend less time on paid work than in other countries. In the past men and women of communist countries devoted more time to paid work than in other regimes. This fairly rough classification of countries does less justice than different dimensions of typology (Erhel, 2013). For example: is it mainly cultural differences between countries that influence cost-benefit considerations between men and women? Is the amount of their domestic work, or whether such considerations exist within the framework (Often) of child-rearing or outsourcing options influenced by national culture? Additional insight into clear macro factors relevant to time use of educated men and women is needed. Three kind of influences are distinguished: economic circumstances, social policy and cultural influences. Since these types of effects are linked with each other, attention is paid to their mutual dependence and changes overtime (Mandel, 2012).

2.2. Economic circumstances

It is expected that economic circumstances will have a strong effect. In general, in countries with developed economies, men and women are more stimulated to spend time on paid work because it also pays off in terms of status and career. In other words, these countries have incentives for women to be financially independent (Kamo, 1988). In relation to the individual level, different effects can be expected, given the economic development. On one hand we can expect that the positive effect of highly developed economy over hours of paid work will hold less true for women with children than for women without children. The liberating effect of a developed economy will apply mainly to women without children and to a lesser extent to women with children (Rosenfeld & Birkelund, 1995). On the other hand, there is a need for more income when there are children in the household, and just this can incentivize women to work longer hours. If women work longer hours, they may also want

to outsource some of their home tasks. For men the expectation would be that men with or without children in countries with good economic conditions work many hours, given that in many countries (to a large extent or less) men are still the main breadwinners in the household (Stier & Lewin-Epstein, 2000). Also, whether or not married men and women live together may be important in this respect. It is expected that in countries with high economic development, it is less necessary for women to earn income too - after all, the economic circumstances are such that there is a little need for additional income at the household level (Folbre & Nelson, 2000). Therefore, the negative impact on paid labor for married women is strengthened in countries with high economic development, and in situations when income is lowered women do not additional means to spend on outsourcing of household tasks (Geist, 2005). Given their human capital, it is more advantageous for men and women with higher educational level to spend more time on paid work and less time on domestic work. Negotiating processes between spouses will play a role here as well, as (Lewis & Giullari, 2005) show in their game a theoretical analysis of the division of labor between the sexes.

2.3. Social Policy

One of the crucial features of social policy is the attention that is being paid to social spending on childcare. This kind of social policy influences the presence and role of women in the labor market. Childcare programs that allow women to increase the time they spend at paid work may also reduce the time they spend on housework because when more income is available certain household tasks may be outsourced (Ellingsæter, 2013). Focus is put specifically on public facilities for childcare. No matter what arrangements are made outside the government facilities, these are after all a more personalized strategy in response to minimal government support (England, 2005). It is expected that in countries where public expenditure on children are large, women generally perform more paid work, and that the time use of men and women (both for wages and for housework) will be more balanced. This applies primarily to women with children. In other words, it is expected that children's negative impact on paid working hours (at a macro level) will be reduced for women in countries with this type of policy (Stier & Lewin-Epstein, 2001).

2.4. Cultural influences

Some countries encourage a more equal division of wage and household tasks between men and women is more encouraged. In Denmark, for example, it is unusual for a woman to not have a job, whereas in Spain it is strange for a man to be involved in housework. In this sense distinct household cultures may be linked to the cultures of motherhood and fatherhood. Uunk *et al*. (2005) find that gender role values play a mixed role. They positively influence women's participation in the work, but do not affect the effect of child care on some working mothers. Fuwa (2004), too, shows that women who live in less egalitarian countries have a more traditional division of tasks. Typology of Hofstede (2001) on national cultures helps to classify a country in terms of assessing roles to be assigned to men and women. The masculine-feminine dimension can be described as the extent to which gender roles are clearly visible in society: masculinity refers to men who are required to be firm, tough, and materially successful, while women should be modest and friendly. In the other extreme, the roles between men and women are fully congruent with society and are more feminine (Hofstede, 2001).

According to the theory of 'gender production', household and paid works are means of 'production', 'display' and 'confirmation' of gender identities. The gender perspective assumes that certain behavior is believed to be usually male or female. The influence of culture in the country on the time use of men and women depends on normative expectations. The greatest inequality in the use of time is in wage and domestic work Thus; "masculine" states will apply mainly to men and women who have long-term relationships with a spouse (Hook, 2006). Time-use of unmarried individuals is focused primarily on paid work, while household tasks are usually outsourced. For married men and women, when living together and/or having children, other expectations apply, depending on the levels of masculinity or femininity or culture. The expectation is that the difference in paid work hours between single men and married/cohabiting women will be greater in masculine countries. It fits, after all, with the norms and values that govern this type of culture. The positive effect of marriage or cohabitation on hours on housework is also expected to be greater for women in such countries. Regarding education, it is expected that highly educated men are stimulated

to work overtime in more masculine countries. The expected positive impact of education on paid female work time will be weakened in a male context (Presser, 1994).

2.5. Organizations are key arenas for gender change

In modern society, since the Industrial Revolution, the social environment is an organizational environment, and most of our lives are conducted in different organizational environments and as part of them. The organizational milieu is the center through which we experience social reality, shape identities and receive and realize opportunities, in a wide variety of organizations, in the public sphere and in the private sphere - the family, kindergarten, neighborhood park, supermarket, school, university, army and religious institutions. (Stier & Lewin-Epstein, 2000) We work or strive to work. This makes the organizations a critical gender arena. It can be said that organizations are the arena in which gender is created, shaped and occurs. To understand gender as the social translation of biological differences into identities, attitudes and power relations, translation that takes place largely within and through organizations must be examined. In fact, as Joan Acker claims, Gender is an organizing principle of the organizations themselves (Mandel, 2012).

For this reason, organizations are considered as a central arena for action to promote gender change. To change the reality, the power relations and the everyday experience of women, that occur within organizations and are shaped by them, change must happen within the organizations themselves (Poortman & Van der Lippe, 2009).

A long tradition of feminist study has succeeded in clearly identifying the mechanisms of power and social order which establish the place and identity of women in various social arenas. The existing theoretical approaches offer various explanations as to the sources of power, control, and exclusion that women experience (Hofstede, 2001).

There are various focal points for struggle and social change in relation to them (see, for example). Poortman and Van der Lippe (2009) The theories point to large powers, sometimes abstract forces that shape the place and status of women, such as lack of rights, economic exploitation, patriarchy, or sexualization of power relations. The reference to "large powers"

as a focus for social action to change and to promote gender equality suffers from several shortcomings. First, the large power is in most cases abstract and intangible, and therefore elusive and difficult to identify in everyday life - how can one meet socialization? Where is the social structure? Second, the large powers can be perceived as deterministic and embracing, and therefore there is a crippling imbalance between its great power and agent's ability to act (Unnk, Kalmijn, & Muffels, 2004). Finally, because of differences in approaches and even differences between different feminist movements, the large power makes it difficult to create a broad common denominator for action. In light of all this, it is difficult for women who are not professional social activists to mobilize and act in the struggle for equality: paralysis, evasiveness and disagreements make it difficult to create a clear and agreed focus for change. Following the broad philosophical tradition (Kamo, 1988; Uunk, Kalmijn, & Muffels, 2005) the term "exclusionary gender practice" was proposed as a concrete focus for action on gender change. EGP - Exclusionary Gendered Practice is defined as a constant and recurring pattern of actions across organizations, situations, times and factors, which routinely produce differences between men and women, creating hierarchies that place men in positions of superiority relative to women (Uunk, Kalmijn, & Muffels, 2005).

The gender differences created by practice can be expressed in a variety of ways, such as the absence of or presence of women in reputable and prestigious spheres of social and professional life, differences in the division of roles, powers or tasks, differences in the way and content of the work itself, the distribution of responsibility, authority and power and spatial location, communication during social situations and interactions, use of equipment and means. These differences between men and women turn ostensibly neutral organizational practices to gender practices (Unnk, Kalmijn, & Muffels, 2004).

However, in order for gender practice to be considered exclusionary, it must be understood that the differences that are created have hierarchical implications and consequences (Johansson, 2010). The hierarchical implications can also be expressed in a variety of dimensions: limited or restricted opportunities, reduced rewards, power or prestige, limited autonomy and influence, inability to realize potential, feelings of difficulty, discomfort,

embarrassment, distress, frustration or humiliation and internalization of weakened, inferior, damaged or inappropriate identity (Ferree, 1991).

Following (Unnk, Kalmijn, & Muffels, 2004) and on the basis of the experience we have accumulated, we can say that the gender stereotyped practices should be sought at all levels and expressions of the organization: they exist on the structural level - rules and formal laws, work arrangements and organizational processes; they exist on the cultural level as symbols and informal rules, they exist in interpersonal relations and in the scenarios that guide daily interactions between people in the organization, and they exist at the level of internalized identities and internal representations of femininity and masculinity, aspirations and perceptions of opportunities and self .

It is assumed that these practices are the material that gender is made of, because gender is designed and generated through hierarchical distinctions between men and women who engage in concrete and daily organizational practices. In the sense of nature, these practices are the translation of the great, abstract and theoretical forces into the everyday life of men and women (Van lancker, 2013). In everyday life we do not encounter patriarchy, rights, sexualization, private and public figures, but rather the ways in which these are expressed in concrete, fixed, transparent and obvious practices. Gender exclusion is the object that must be identified and changed in social action for gender change to affect organizations. In this sense, gender exclusion is the basic building block in any move or effort to promote gender equality in organizations. Therefore, gender change is a change that includes the abolition or removal of exclusionary gender practice in favor of an alternative, inclusive and egalitarian practice. Accumulated experience of women with which they easily identify in a carried, positive and rich manner is often undermined by the culture of the environment they are surrounded with. This identification enables action for change that is concrete and focused in a realistic context. It makes it possible to map concrete agents, forces and processes that can be mobilized, and which can be influenced in order to achieve gender change (Hofstede, 2001). The identification of practices also enables women to connect and mobilize more easily in a joint action for change and to identify more with it. The focus on gender-based practices also makes it possible to avoid the differences and conflicts that sometimes exist between advocates of different feminist approaches. Building on these practices promotes

solidarity, cooperation, and the creation of a common denominator between agency and change around concrete practices in which each can find its own theory and interpretation. Focusing on practice does not eliminate the importance of theoretical and ideological study, but deliberately reduces or neutralizes it so that a common basis for solidarity action can be created within the agency of change (Evertsson & Nermo, 2004; Fraser, 1994; Ellingsæter, 2013).

2.6. Women are the agency of change

More and more, it is argued that men should participate fully as partners in gender equality movement in order for it to succeed. Criticism is also voiced against feminism that it "forgot the men" in the struggle for equality. Understanding that the processes of change involve altering and disrupting power relations around the "natural" facts of the organization, and since women are usually in a weakened or inferior position compared to men in organizations, women can and should be the main agent that will bring change in organizations. This does not mean that men have no role in processes of change; on the contrary, men should be recruited and influenced. But there are several reasons why women should take the initiative, motivation, responsibility, and actual management of the change process (Presser, 1994).

First, women should be the agency with the understanding that the processes of change are a clear and vital interest of women as a social group in the organization. Second, because the ability to read and understand the power relations comes from the experience and the daily experience of women in the organization, it is this perspective that needs to guide, motivate, and lead the change. Thirdly, experience shows that many of the successful processes of change were based on women's ability to mobilize the strength and action of other women to force change. However, men can and must be full partners in the processes of change by being critical players in networks that strengthen and change the black boxes. Therefore, a successful change process also involves the ability to share, recruit, and activate male actors, groups, and institutions to gain the power necessary to change the balance of power around practices (Johansson, 2010; England, 2005).

2.7. Other factors for the emergence of women's history Political factors

Feminism - a movement that fights for full equality of women in all areas of life, the demand to see women in a society as equals (Geist, 2005).

There is a connection between historical writing about women and the development of feminism, for example, the emergence of the second wave of feminism. The first wave was active in the late 19th century and early 20th century. The struggle was for the right to vote for women, and for their right to own property. Women's property was considered to be the property of the father or husband; women had no right to own property of their own. For example, estates in England passed from father to son and women had no rights to it (Kim, 2013).

The second wave appears in the 1960s and expands the field of struggle. Once the right to vote has been achieved, the struggle spreads to other areas such as work, equal pay, sexuality, equality in the family. The second wave expands the struggle for women's equality both in the private and public spheres. And continues until the 1980s (Daniels, 1987).

The emergence of the second wave of feminism also makes a decisive contribution to the development of historical writing about women, not only in historical research.

The study of women's history has evolved throughout the Western world, at the university and in academia. Women's history has also focused on personal experiences and on their activities in the public sphere (Geist, 2005).

Criticism of women's history begins to be heard, the claim being that the very existence of women's history is pushing them into something marginal. Critics say that there is a separation between the history of women and history of men and women are pushed aside, and do not really affect the history of humankind. The opposite result has been achieved, instead of women taking up an important place in human society, they are marginalized. The

proposal was to explore the history of women in combination with the history of men and thus create a whole historical story (Van lancker, 2013).

The American historian Natalie Zimon Davis says there is a parallel interest in the history of both women and men. Combining both of them will give the whole historical story. In order to understand the role of the sexes in society we must understand both the history of women and the history of men and cannot focus on one sex, otherwise we may miss the overall picture (Rosenfeld & Birkelund, 1995).

Gender attributes different aspects to women and men based on their biological gender and mental, cognitive and biological characteristics. Gender determines how women should behave and how men should behave. The prevailing beliefs is that the biological structure of women determines their behavior in society, their mental skills, and that they have to be feminine and act out of emotion, which makes them weak. The men, on the other hand, believed to be strong; the biological structure determines their behavior, their IQ and that they are motivated by logic (Folbre & Nelson, 2000).

Social and Cultural Construction - Construction is a creation to create something new that is not committed in reality.

2.8. The connection between social and cultural construction and gender

Gender is a fundamental component of social relations based on visible differences between the sexes, gender is a major way to mark power relations in society.

The argument is that gender relations in society are an expression of the power relations of rulers and ruled. Gender relations in today's society are not entirely based on concrete truths, but instead are based on a fictious assumptions that benefit ruling class – men. This system serves men and keeps them in a position of power (Hofstede, 2001).

Gender perceptions or expectations shape the identity of men and women, male children are raised to believe that they must be strong, manly rulers and the female children grow up expected to be beautiful, weak and feminine. Gender perceptions determine the social hierarchy on all layers and they give gender superiority to men (Ellingsæter, 2013).

Gender perceptions perpetuate patriarchy – the male rule.

Gender research examines how gender relations have developed in a particular society. Gender research explores the past from the perspective of gender identity throughout history. The study of gender can teach us about the status of women. What was the treatment of women in dictatorships? Or in different forms of government (Stier & Lewin-Epstein, 2000).

2.9. Research rationale

In the past thirty years there has been a steady rise in the number of women participating in the labor market. This increase is due to changes that began in the 1960s in the division of family roles, the distribution of a more egalitarian burden that allowed the continued education of the female population, and eventually led educated women to seek their place in the labor market (Erhel, 2013).

In contrast to the processes presented so far, there are phenomena and assumptions that are deeply embedded in society and make it difficult for women to break the "glass ceiling" and lead to the continued oppression of women. This situation leads the woman being at a crossroads forced to choose her employment life and her family, given the fact the choosing career will require paying high social cost (Erhel, 2013).

Society perceives man in two variables, one is his innate sexuality and the other is his self-definition. Accordingly, sociologists have been asked to distinguish in which way and how they choose to define a person and defining a person according to their own definition makes easier to identify a person's gender (Folbre & Nelson, 2000).

The three characteristics of gender work are: assigning tasks by gender, providing a higher assessment of the performance of men over women, and the social influence of employers and colleagues over an individual (Erhel, 2013).

The company creates and maintains the difference in treatment of men and women in several different ways. The first is an ideology in which the company believes that the status quo must be maintained in the roles of man and woman, second is the communication between employees and employers and third is the provision of affirmative or negative reinforcement adapted to a specific gender (Van der Lippe & Van Dijk, 2002).

"Natural roles" for women and men vary between countries according to their placement and perceived value in society, when a certain role is identified by the company as important and rewarding it will be classified as a masculine role and when it is considered as an easy role it is associated with women (Mandel, 2012). The managers divide the tasks and roles in the organization according to "Those that are defined as men earn higher wages" and "Those performing female roles" receive lower wages even if a man works in a female role. In contrast, a woman who works in a "masculine" position will not necessarily have compatible salary to a man in the same position (Johansson, 2010).

From a young age, girls learn that they have to deal with "feminine roles" and to get a lower salary for their work. They learn this through the process of socialization that they are subjected to and internalize their purpose from "socializing agents".

3. Aim and Methodology

3.1. Aim

The main purpose of this work is to **examine the inequality between men and women**. In order to examine the gender-based inequality we thoroughly examined existing research literature and compared various studies available in the field. Research literature shows that gender inequality exists from the dawn of history and continues to this day. Although many countries support gender equality and even enact laws that help alleviate the damage that inequality brings to our society, discrepancies and discrimination can still be seen in many areas of our life.

Germany and Czech Republic were chosen as a focus of this study. Germany is a one of the most developed countries of Europe and a global leader, and it puts massive amounts of effort into mitigating harmful effects of gender inequality. Czech Republic went through drastic changes in the past twenty years, its history is deeply intertwined with Germany's and it is one of their closest neighbors. Comparison between these two countries provides invaluable insight into the global development of the gender equality.

After examining the research literature three subjects that can affect gender inequality were highlighted: women's education, childcare and wages in return for their work. Therefore, these three issues were examined in this study. Examination of these three subjects and their interactions can show the gaps in development of the measures these countries use to achieve gender equality.

3.2. Methodology

First, studies focused on gender inequality were examined: focusing on explaining what gender inequality is and the history and evolution of equal rights movements. This led to an examination of the various regulations implemented by countries that are striving to reduce gender inequality.

One way to examine gender inequality is to conduct a survey of respondents, but this kind of data tends to show only a limited view and not the big picture, therefore statistical information from a database that includes a large amount of data was used. EUROSTAT website which provides reliable data about different subjects in a variety of fields was used as a source of data for this research.

Eurostat is a statistical office of the European Union and its main purpose is to provide high quality data and statistics to Europe. While developing innovation and excellence. All data examined were from 2006 to 2014. This is the newest data in the system.

To test hypotheses in the study, we used the data of:

- Structure of earnings survey: monthly earnings [earn_ses_monthly]
- Structure of earnings survey: hourly earnings [earn_ses_hourly]
- Population by educational attainment level, sex and age (%) - main indicators [edat_lfse_03]
- Employment rate of adults by sex, age groups, educational attainment level, number of children and age of youngest child (%) [lfst_hheredch]

Each of the files was adjusted to fit the research needs and downloaded irrelevant data on countries not examined in this study.

After adjusting the files for research purposes, a process of data analysis and research hypotheses began. Two-way ANOVA analysis was performed to test the study hypotheses. Compiled with the help of SPSS statistical software.

Analysis of variance allows us to test questions about difference between groups. It is used when there is a quantitative dependent variable and two categorical independent variables. Unlike separate tests of one-way analysis that examine the effect of variable A and variable B on the dependent variable, two-way variance analysis allows us to examine the interaction between the factors. Interaction is the effect of one dependent variable on the relationship between a dependent variable and another independent variable.

The variables examined in this study are:

- Independent Variable: ender, country (Czechia, Germany)
- Dependent Variable: earnings, hour paid, employment rate, education percentage, tertiary education percentage.

After analyzing the data, trends were discovered that can be used to confirm or disprove research hypotheses. Then the results of the study were compared with the research literature.

3.3. Research hypotheses

- Gender-based inequality is present in Germany and Czech Republic, and it can be observed in differences in wages between men and women.
- Link between gender and childcare affects men and women differently, resulting in lower employment rate in women.
- There is no difference in women´s tertiary education between Germany and Czech Republic with regards to age structure.

4. Practical part

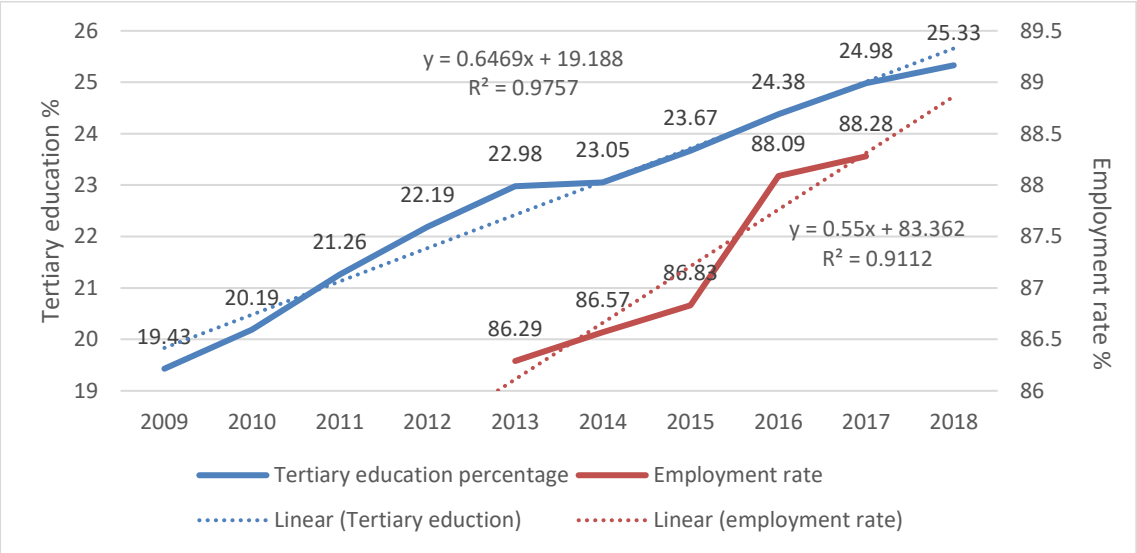
First presented descriptive statistics of the main research variables. Table 1 shows the minimum, maximum, mean and standard deviation of the research variables collected from Eurostat data in Germany and Czech Republic between 2009-2018.

Table 1 – descriptive statistics of the main research variables in Germany and Czech Republic between 2009-2018

Variable	Min	Max	Mean	Std
Monthly earnings in Euro	400.00	3172.00	1486.43	982.77
Monthly hours paid	122.00	172.00	157.21	18.02
Tertiary education percentage	13.10	27.00	21.10	4.05
Employment rate	64.30	100.00	87.21	7.65

As shown in table 1, the mean of monthly earnings was 1486.43 Euro, the mean of monthly hours paid was 157.21, the mean education percentage was 21.10%, and the mean employment rate was 87.21%. the next graphs show how these variables change in time during those years:

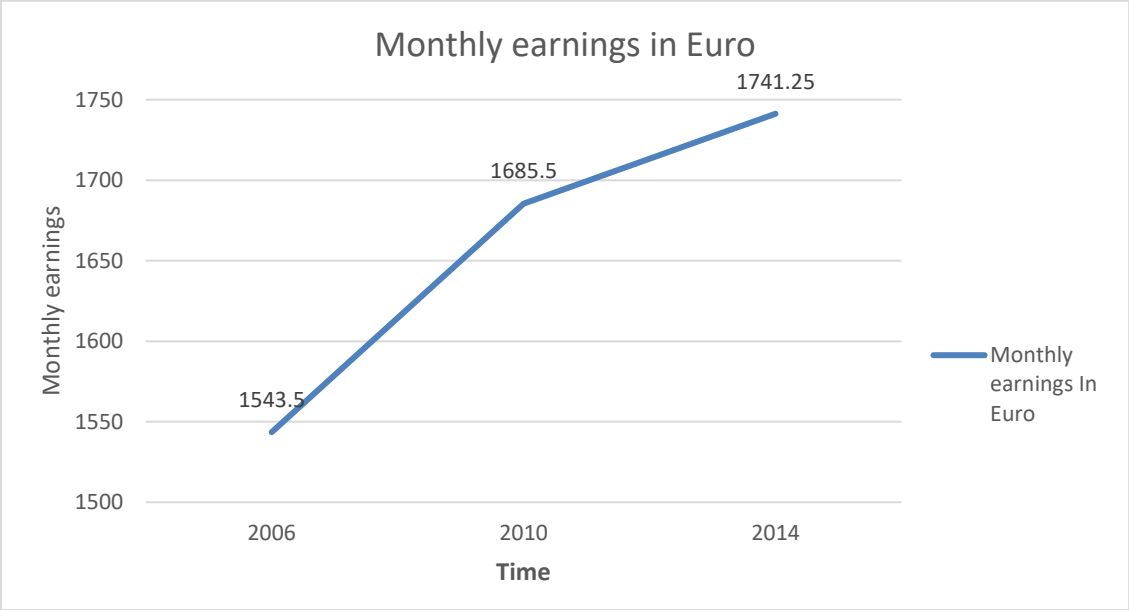
Figure 1 – Change in tertiary education percentage and employment rate in Germany and Czech Republic between 2009-2018



Source: Employment rate of adults by sex, age groups, educational attainment level, number of children and age of youngest child (%) [lfst_hheredch]

As shown in figure 1, there has been a mild increase in tertiary education percentage and employment rate during those years (employment rate data are only available in Eurostat between 2013-2017).

Figure 2 – Change in monthly earnings in Germany and Czech Republic between 2006-2014



Source: Structure of earnings survey: monthly earnings [earn_ses_monthly]

As shown in figure 2, there has been an increase in monthly earnings between 2006-2014.

Figure 3 – Change in monthly hours paid in Germany and Czech Republic between 2006-2014

Source: Structure of earnings survey: hourly earnings [earn_ses_hourly]

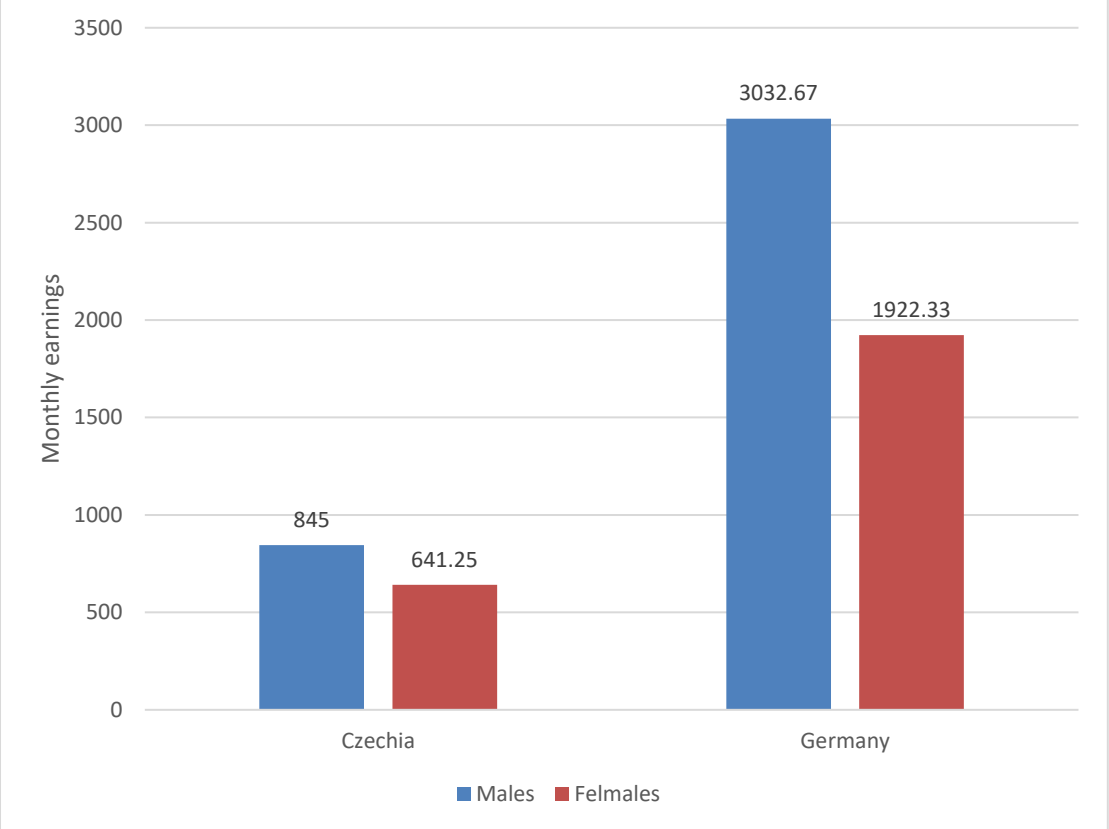
As shown in figure 3, there has been a decrease in monthly hours paid between 2006-2014.

The next section presents the statistical analysis of the research hypotheses.

First hypothesis: gender-based inequality is present in Germany and Czech Republic, and it can be observed in differences in wages between men and women.

In order to test the hypothesis, two-way ANOVA was performed, with monthly earnings (in euro) as a dependent variable, and Gender (men/women) and country (Czechia/Germany) as independent variables. Results are shown in figure 4:

Figure 4 - Monthly earnings (in euro)



Source: Structure of earnings survey: monthly earnings [earn_ses_monthly]

Table 2 – results of two-way ANOVA analysis of monthly earning by country, gender and their interaction

Variable	df	F	p
Country	1,10	332.512	<.001
Gender	1,10	47.21	<.001
Interaction Country*Gender	1,10	22.71	<.01

As shown in figure 4 and table 2,

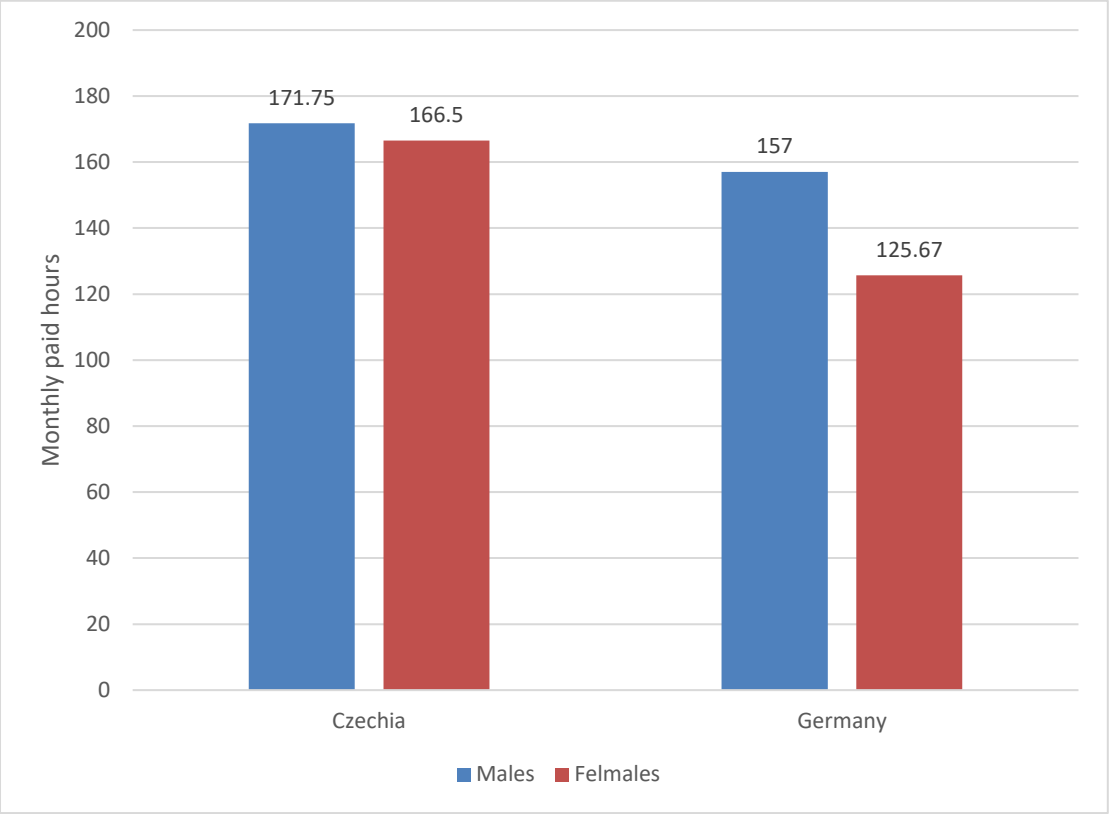
Results show main effect for country ($F(1,10)=332.512$, $p<.001$). Earning in Germany ($M=2477.50$, $SD=615.24$) are significantly higher than earnings in Czechia ($M=743.12$, $SD=223.57$).

There was also significant main effect for gender ($F(1,10)=47.21$, $p<.001$). men ($M=1782.57$, $SD=1183.39$) earn more than women ($M=1190.29$, $SD=698.28$).

The interaction between country and gender was also significant ($F(1,10)=22.71$, $p<.01$), meaning that the gender differences are different in Czechia and in Germany. Simple effects showed that while there was no significant difference in Czechia between men ($M=845.00$, $SD=641.25$) and women ($M=641.25$, $SD=183.59$) ($t(6)=1.366$; $p>.05$), in Germany men ($M=3032.67$, $SD=127.12$) earn significantly more than women ($M=1922.33$, $SD=74.14$) ($t(4)=13.068$; $p<.001$).

To further test the first hypothesis, another two-way ANOVA was performed, with hours paid per month as a dependent variable, and Gender (men/women) and country (Czechia/Germany) as independent variables. Results are shown in figure 5:

Figure 5 - Monthly hours paid



Source: Structure of earnings survey: monthly earnings [earn_ses_monthly]; Structure of earnings survey: hourly earnings [earn_ses_hourly]

Table 3 – results of two-way ANOVA analysis of Hours paid by country, gender and their interaction

Variable	df	F	p
Country	1,10	596.206	<.001
Gender	1,10	258.270	<.001
Interaction Country*Gender	1,10	131.291	<.001

As shown in figure 5 and Table 3,

Results show main effect for country ($F(1,10)=596.206$, $p<.001$). Hours paid in Czechia ($M=169.12$, $SD=2.95$) are significantly higher than hours paid in Germany ($M=141.33$, $SD=17.39$).

There was also significant main effect for gender ($F(1,10)=258.270$, $p<.001$). men ($M=165.43$, $SD=8.08$) work more than women ($M=149.00$, $SD=21.92$).

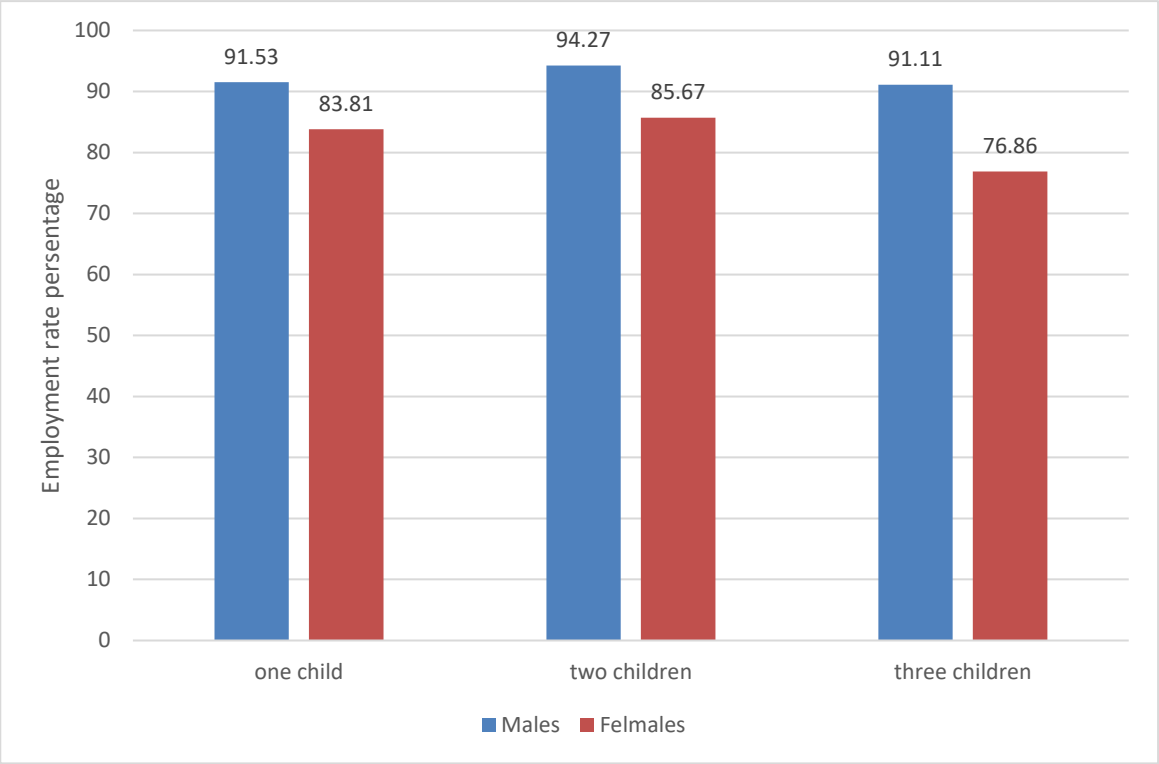
The interaction between country and gender was also significant ($F(1,10)=131.291$, $p<.001$), meaning that the gender differences are different in Czechia and in Germany. Simple effects showed that although the difference between paid hours of men in Czechia ($M=171.75$, $SD=.50$) were significantly higher than women ($M=166.50$, $SD=1.29$) ($t(6)=7.584$; $p<.001$), this difference is much higher in Germany, where men ($M=157.00$, $SD=3.00$) work significantly more than women ($M=125.67$, $SD=3.21$) ($t(4)=12.343$; $p<.001$).

These results show gender-based inequality both in Germany and in Czech Republic, demonstrated in wage differences and hours paid, therefore the first hypothesis was supported.

Second hypothesis: link between gender and childcare affects men and women differently, resulting in lower employment rate in women.

In order to test this hypothesis, two-way ANOVA was performed, with employment rate as a dependent variable, and Gender (men/women) and number of children (one/two/three children) as independent variables. Results are shown in figure 6:

Figure 6 – Employment rate



Source: Employment rate of adults by sex, age groups, educational attainment level, number of children and age of youngest child (%) [lfst_hheredch]

Table 4 – results of two-way ANOVA analysis of employment rate by gender, number of children and their interaction

Variable	df	F	p
Gender	1,114	123.601	<.001
Number of children	2,114	14.445	<.001
Interaction Gender*Number of children	2,114	4.982	<.01

As shown in figure 6 and table 4,

Results show main effect for gender ($F(1,114)=123.601$, $p<.001$). Employment rate of men ($M=92.31$, $SD=2.64$) is higher than women's ($M=82.12$, $SD=7.64$).

There is also main effect of number of children ($F(2,114)=14.445$, $p<.001$). Scheffe's posthoc revealed significant differences between employment rate of three-child parents ($M=83.99$,

SD= 10.28) and both two-child (M=89.97, SD=5.78) and one-child (M=87.67, SD=4.57) parents (both p's<.05). there was no significant difference between one and two-child parents (p>.05).

The interaction between number of children and gender was also significant (F(2,114)=4.982, p<.01), meaning that the effect of childcare on employment rate is different by gender.

Simple effects analysis found significant differences in employment rate among men (F(2,57)=11.440, p<.001). Scheffe's posthoc show that employment rate of two-child fathers (M=94.27, SD=1.72) is significantly higher than both one-child (M=91.53, SD=1.58) and three child (M=91.15, SD=3.15) fathers (p<.05), while there was no significant difference between the latter two (p>.05).

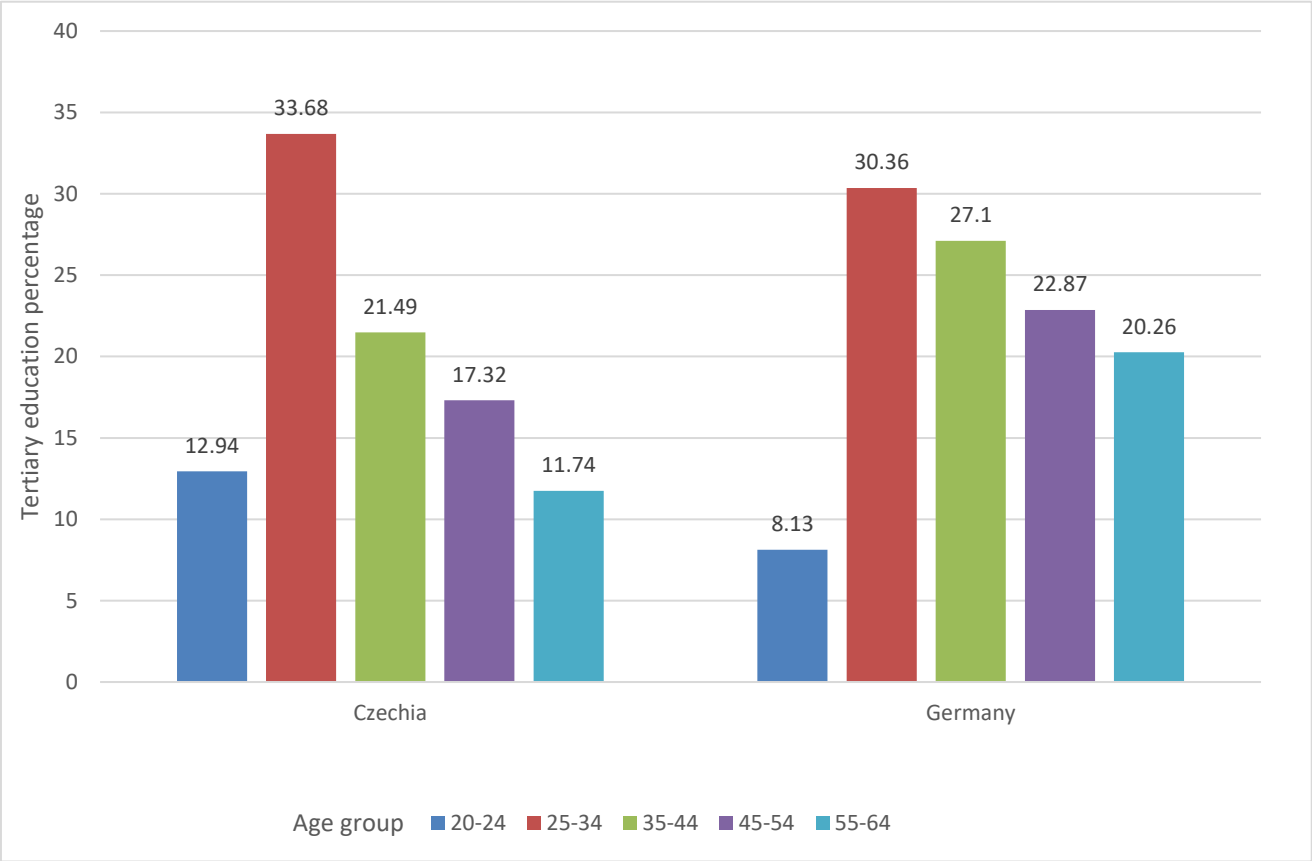
Among women, there were also significant differences in employment rate according to number of children (F(2,57)=9.518, p<.001), while Scheffe's post hoc show that employment rate of three-child mothers (M=76.86, SD=10.01) is significantly lower than both two-child (M=85.67, SD=5.17) and one-child (M=83.81, SD=2.99) mothers (both p's<.05), and employment rate of one-child mother is also lower than employment rate of two-child mothers (p<.05).

These results show significant decrease in women's employment rate with three children, while such a decrease is not observed in men. Therefore, our second hypothesis was supported.

Third hypothesis: There is no difference in women´s tertiary education between Germany and Czech Republic with regards to age structure.

In order to test this hypothesis, two-way ANOVA was performed, with tertiary education percentage as a dependent variable, and Gender (men/women) and age (five age groups) as independent variables. Results are shown in figure 7:

Figure 7 – Tertiary education percentage



Source: Population by educational attainment level, sex and age (%) - main indicators [edat_lfse_03]

Table 5 – results of two-way ANOVA analysis of tertiary education percentage by country, age group and their interaction

Variable	df	F	p
Country	1,180	14.316	<.001
Age group	4,90	143.151	<.001
Interaction Country*Age group	2,114	19.094	<.01

As shown in figure 7 and table 5,

Results show main effect of country ($F(1,180)=14.316$, $p<.001$). Tertiary education percentage of women in Germany ($M=21.74$, $SD=9.47$) is significantly higher than those of women in Czechia ($M=19.43$, $SD=8.88$).

There is also main effect of age group ($F(4,90)=143.151$, $p<.001$). Scheffe's post hoc revealed significant differences among all aged groups (all p's<.05). The highest tertiary education percentage were among 25-34 age group ($M=32.02$, $SD=4.95$), followed by 35-44 ($M=24.29$, $SD=4.64$), 45-54 ($M=20.09$, $SD=3.28$), 55-64 ($M=16.00$, $SD=4.74$) and 20-24 ($M=10.53$, $SD=3.06$).

However, significant interaction was found between country and age group ($F(4,90)=19.094$, $p<.001$), meaning that the tertiary education percentage with regard to age group is different and Germany and Czechia.

simple effects show that while in the two youngest age groups, tertiary education percentage are higher in Czechia (significant only in the 20-24 group, $M=12.94$, $SD=2.35$, vs. $M=8.13$, $SD=1.21$, $t(13.445)=5.764$; $p<.001$), in the other 3 age groups, tertiary education percentage are higher in Germany. In 35-44 age group, tertiary education percentage in Germany ($M=27.10$, $SD=1.73$) is higher than in Czechia ($M=21.49$, $SD=4.99$) significantly ($t(11.108)=3.355$; $p<.01$), as in 45-54 age group ($M=22.87$, $SD=11.13$ vs. 17.32, $SD=2.07$, $t(13.936)=7.452$; $p<.001$), and in 55-64 age group ($M=20.26$, $SD=1.10$ vs. $M=11.74$, $SD=2.41$, $t(12.601)=10.163$; $p<.001$).

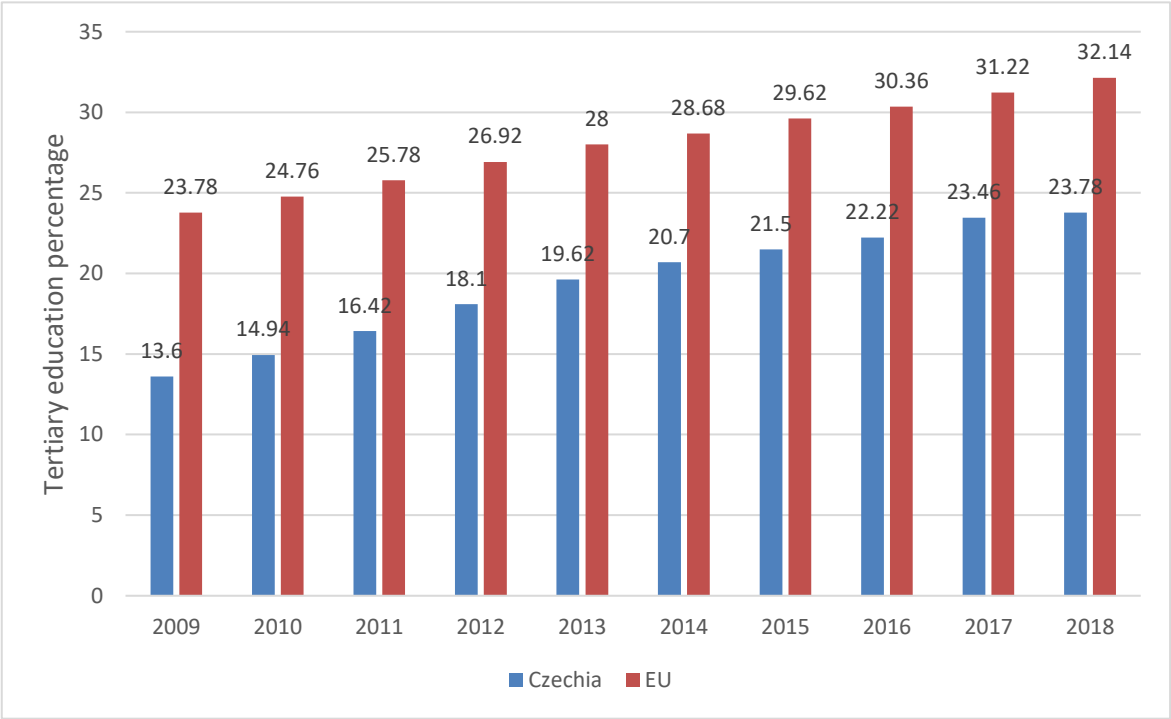
These results reject the null hypothesis assuming no difference in women´s tertiary education between Germany and Czech Republic with regards to age structure. Therefore, the alternative hypothesis, assuming difference in women´s tertiary education between Germany and Czech Republic with regards to age structure, was supported.

Additional tests:

Difference between Czech Republic and EU average and its development in time.

In addition to hypothesis tests, another empirical examination was performed: a comparison between tertiary education percentage in Czech Republic and EU average, and its development in time. Results are shown in figure 5:

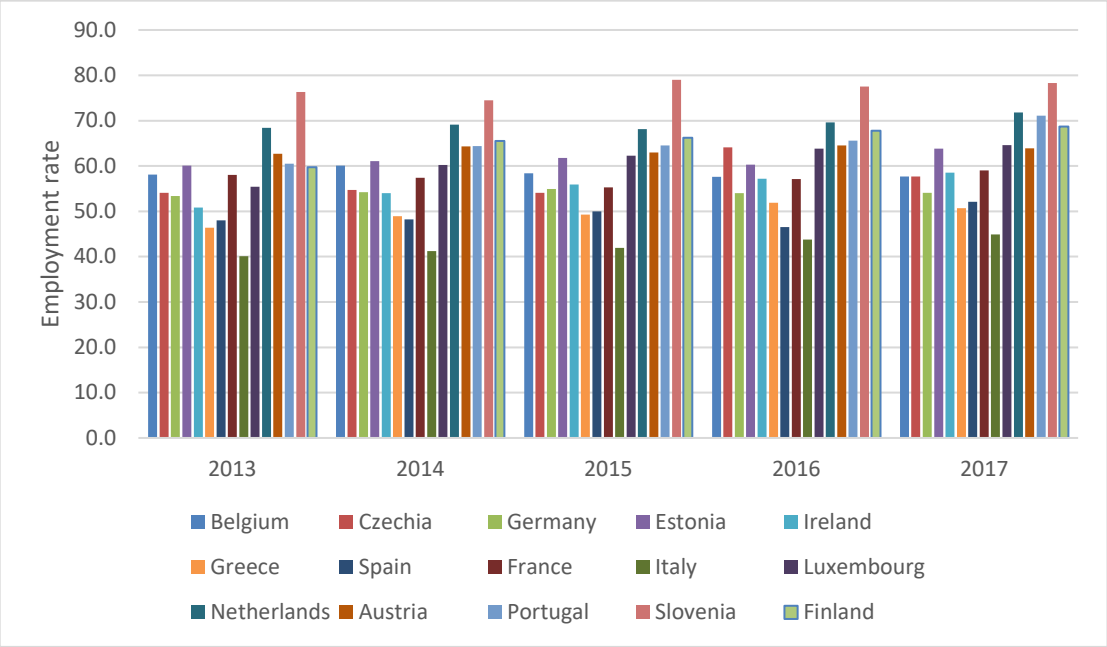
Figure 8 – Tertiary education percentage time development



Source: Population by educational attainment level, sex and age (%) - main indicators [edat_lfse_03]

As seen in figure 8, there is a systematic increase in women's Tertiary education percentage, both in EU average and in Czechia. Tertiary education percentage increased in Czechia from 13.6% in 2009 to 23.78% in 2018, while in that period the total average in the EU increased from 23.79% in 2009 to 32.14% in 2018. Yet, in every single year, the EU average is significantly higher than in Czechia (all p's>.05). Finally, we present an overview of employment rate in 15 European countries, and its development in time. Results are shown in figure 9:

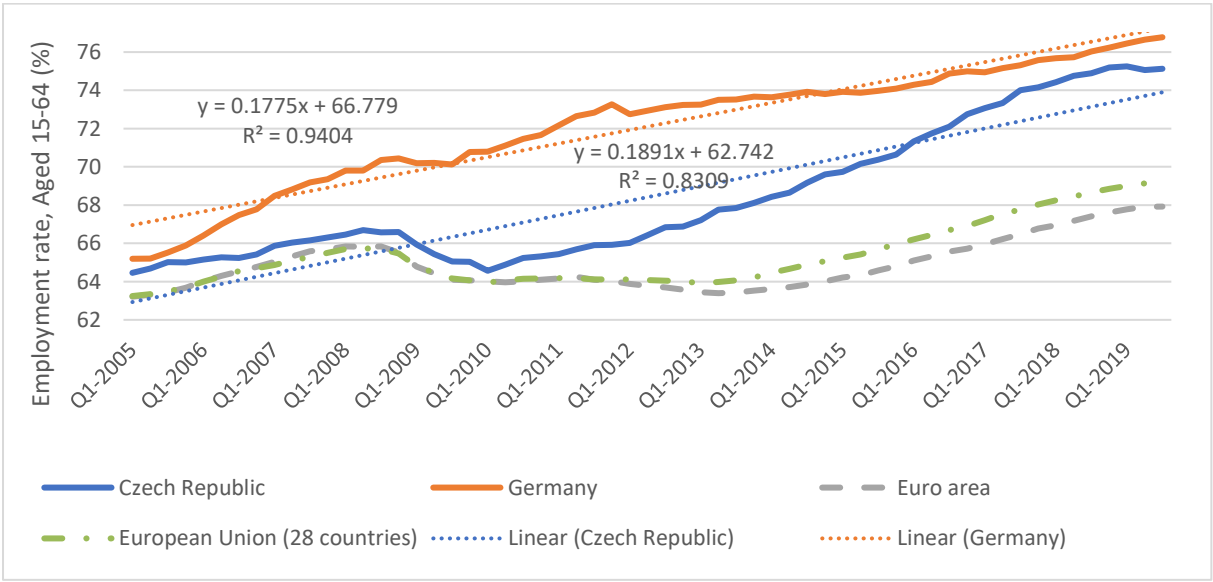
Figure 9 – Employment rate time development by country



Source: https://stats.oecd.org/viewhtml.aspx?datasetcode=STLABOUR&lang=en#

Shown in the figure 9 are developments in employment rates in several European countries during the 2013 – 2017 period. As shown in figure 9,the highest employment rates between 2013 – 2017 are observed in Slovenia, while the lowest are in Italy.

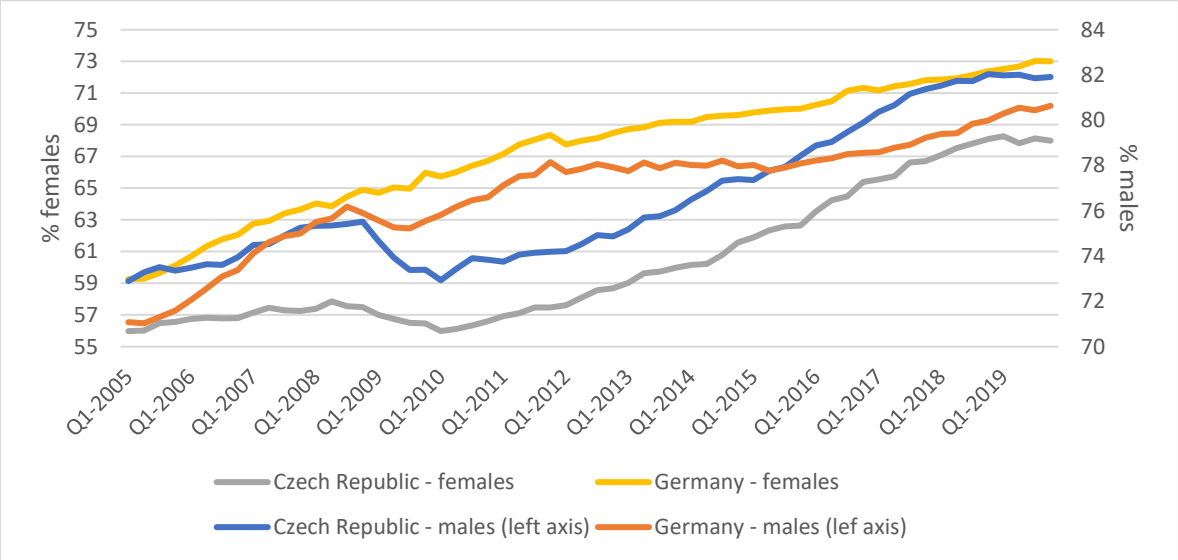
Figure 10 – Employment rate, Aged 15-64, All persons



Source: https://stats.oecd.org/viewhtml.aspx?datasetcode=STLABOUR&lang=en#

Shown in the figure 10 are growths of employment rates for people of ages 15-64 in Germany and Czech Republic in comparison to the Euro area.

Figure 11 – Employment rate by gender (%) – Czech Republic and Germany



Source: https://stats.oecd.org/viewhtml.aspx?datasetcode=STLABOUR&lang=en#

Shown in the figure 11 are developments in employment rates by gender in Czech Republic and Germany in the period of 2005 till 2019.

5. Results and Discussion

Issues of women-men relationships are a very significant part of society's daily functioning, every aspect of it. There have always been unwritten "rules" and practices that relate to those relationships, and in recent years, the issue has become even more significant, due to the dramatic changes that have taken place in our global community (Bettio, 2015).

Until the 1960s, intergender relations and behaviors were mostly reflected in the social sphere of interactions, because it was in fact one of the only places where women and men came into contact outside of the family structure. The older of us probably remember the mannerisms of this era. The women were expected to be gentle, soft-spoken, unconfrontational and hidden behind their housework. Expressing their own opinions and feelings in public was frowned upon. The men, on the other hand, were in control of society, including social events, conversation and the like. This condescending attitude towards women can be observed in the so called "polite" practices of hand kissing, opening doors etc. (Bodine, 1975).

Social change began in the United States in the 1960s, when the gender revolution began. At this point, the status of women began to change, which became even more prominent in the 1970s, during the feminist revolution. These phenomena began, perhaps like most phenomena, in the United States, but eventually spread across various countries around the world. (Bodine, 1975)

The gender revolution has put women into the workforce and positions of power. Women ceased to function only in limited roles of mothers, wives, and houseworkers, and began to interact with the outside world in a more direct fashion expressing their opinion and demonstrating strength on social, political and public levels. At that point, it was only a matter of time before woman became a prominent power in the work force. Indeed, it didn't take long for the women to leave the house and work outside the home (Goffman, 1976).

Most women started out as low-level rentals and served as secretaries, salespeople and telephone operators. Social change was indeed evident, but the nature of the jobs held by

women during this period made men continue to emphasize their superiority, which was reflected in both the work environment and social life. In fact, at the time, there was still no difference in women- men relations in society and business. No matter the type of business, the men were still " superior " and as a result treated the women as inferior (Hanson & Pratt, 1991).

Another fundamental change occurred in the 80-s as women began to occupy positions of power in the business sector. The entry of women into senior positions was one of the most important steps to setting new boundaries. It changed the entire system of relations between women and men. This change in the status of women meant that there was no longer a place for antiquated and redundant practices that infantilized and subjugated women (Bettio, 2015).

It is important to understand that this social change has two implications: one - women's sense of her strength, power and worth. Women fought (and still continue to fight) for equal rights, and this change is a real proof that they can do any job a man does. If before that most women had an image a dainty and silent woman behind the man's broad shoulders imposed on them, then now no more. The women developed positions of power for themselves, and went to conquer the business world (NORRIS, 2019).

At the same time, men were forced to suddenly deal with this new situation, this radical shift in their everyday life. This was difficult for them to accept. Now their control of women was severely diminished, and they had to get used to not only working in the same environment with women, but also being prepared to deal with a situation where they had to work under female boss. Practices and behaviors are meant to enable convenient and easy ways to deal more with the complexities of societal interactions, and the separation between the social world and the business world was to set the allowable limits and taboos for each field, all in order to enable proper and fruitful relationship between the two sexes.

According to Susan Okin, theories of justice are in the state of crisis, and feminists were the first to point this out by demonstrating that there are many groups of people excluded from universal justice theories. But can any universal principle of justice theory be conceived if we are not fully considering all individuals across all groups, including their differences and unique experiences? (Okin, 1994)

So far, gender has been a problematic category, due to the mid-19th-century tendency of middle-class women to view label of a “woman” and feminity as something belonging only to women of their status and race (and not their maids, for example) (Boserup, 1970) Today the additional inputs, thoughts and experiences of middle-class and non-white feminists are being adequately represented so far.

Okin argues that feminist theory is intrinsically essentialist. And this is due to:

- Postmodern European thought,
- African-American feminism from the United States and the United Kingdom

There is a degree of skepticism in postmodernism when it comes to generalized claims, and the same is most definitely true for feminism. Therefore, in postmodernism key concepts of feminism such as "gender" and "woman" are unwelcomed because they have so far been overly inclusive without acknowledging the differences (Fuchs, 1988). So, for example, Julia Kristeva (an example of a post-modernist claim of feminism) claims that there is no cultural explanation or general cultural opposition (which is true of all cultures in BoZ) to gender inequality.

Spelman She claims that middle-class white women mistakenly believe that the sexism they experienced in some way are the same as the experiences of women whose race or status is different from theirs (this also borders on racial discrimination) (Spelman, 1988).

Okin statements are incompatible with Spelman claims, since the examples which Spelman uses to clarify her claims are archaic and irrelevant. Okin opposes Spelman and argues that gender identity is intrinsically dependent on class and race, but it ignores these effects when it is all considered together. You cannot talk about sex or gender without considering all the characteristics of a woman: status, her race, ethnicity, class and other characteristics of personality (Dasgupta, 1993; Okin, 1994; Spelman, 1988). Okin realized that this problem with feminism is non- essentialist, since it tends to alternate between cause and consequence because it does not address the differences in women’s experiences. It is Okin’s criticism of non-essentialist feminism, which is unjust when it comes to non-middle-class women and non-white women (Jaquette, 1982; Okin, 1994).

Okin builds the comparative critique, taking Western feminism's ideas of justice and inequality and applying them to non-western societies and examines how the basics of western feminism fare against the socioeconomic differences between western and non-western societies (Okin, 1994).

Why has the issue of gender inequality has been raised so often recently?

The society's neglect of dealing with the problem if gender inequality stems from the assumption that the only type of household has the man in charge. This neglect also stems from the failure to address directly the arguments related to gender differences, since women are taken for granted, so from this unjust point of view it logically follows that the gender inequality does not matter at all. This results in inequality within the household in terms of resources and power, and causes the appreciation of the woman's labor be limited only to a scale of a housework and child rearing (Dasgupta, 1993; Okin, 1994)

Why does it matter?

For Okin, the omission of women from gender justice theories is inappropriate for a number of reasons:

First, the woman is just as important as the man (Dasgupta, 1993).

- Equal opportunities for women (especially for households headed by women) are needed as this affects their children,
- There is an unjust gender distribution that exists in every type of economic class as the woman is responsible for the housework and this affects her ability to work full time. Therefore, the girls or women to whom gender inequality applies will suffer from this, are sent to work at an early age, and are unlikely to acquire adequate education and are more likely to die (starvation, sickness).
- Family is the first place to learn about justice and injustice. In developed countries the child learns that there is inequality between mother and father (gender inequality). In third world countries when food and luxury are provided to children by their gender, this affects their perception of justice.

It can be seen that gender inequality is a much deeper issue and presents more difficult challenges in third world countries, and should be addressed in a much stronger and urgent manner than in developed countries (Dasgupta, 1993).

What are the findings when we examine families and standards of justice, taking into account gender inequality?

Anglo - American feminists referring to gender inequality in the family unit talk about similar problems to those in a poor family unit in third world countries. Both have injustice (discrimination) and unequal opportunities for women to get jobs. Even when women are hired for work, they must work more hours than men, in order to reach the same wage (Okin, 1994). This prevents women from becoming less dependent on men, and therefore makes them the target of physical, mental and financial abuse from men present in their lives (often their domestic partners). Studies have found that working in position not related to housework can raise a woman's status in the family cell in third world countries and developed countries. In third world countries, although women work many hours, they are still dependent on a man (because household work is not paid and work outside the home pays too little (Lewis J. , 1992). There are (non-Western) countries where religion (for example caste in India) does not allow a woman to work for money, which is a denial of the freedom to do your best in order to gain better quality of life (Uunk, Kalmijn, & Muffels, 2005).

The theory of Differential Exit Potential by Albert Hirschman (Albert Hirschman), says that any factor that enhances the husband's exit options, or lowers the wife's exit options, adds strength to the family cell. At the same time, each factor that enhances a woman's exit options increases her strength in the family cell, placing her in a better bargaining position. Thus, after divorce, the economic situation of the woman and the family unit with her as head of a household usually deteriorates, while the man's economic situation improves. Therefore, a woman has fewer exit options, therefore she has fewer bargaining options on issues in the family cell. This is worse than in third world countries where women suffer from poverty and insignificant salaries, all the factors that increase their dependence on man, and very few women have power to bargain or any exit options (Dasgupta, 1993; Spelman, 1988; Okin, 1994)

What are the effects of legislations and government influence on the problem of gender inequality?

A thorough and in-depth examination of the dichotomy of the home and public spheres is needed. That is, as long as policy makers differentiate between home and farm, between housewives and work, women will continue to suffer from neglect and discrimination. When examining the dichotomy, attention is paid to inequality in the family unit, namely abuse or the provision of unequal food and healthcare for boys and girls (Okin, 1994).

Also, the object of the research should be the individual and not the household, as laws in third world countries are enacted from patriarchal male view that was never respectful or beneficial to a woman. This is even more important under the fact that most households in third world countries are headed by a woman (Okin, 1994).

According to John Rawls, the theory of justice must be improved and include women and their families in order to overcome the ignorance of man on the theory of justice. Therefore, all possible opinions should be considered when dealing with questions of justice theory, and in particular the opinions of the improvised people of lower status. Theory of justice must be universal in order to be worthy, even if there is a conflict between different parties involved. (Kamo, 1988). Taking into consideration opinions of people from low economic background can be challenging, simply because they often have internalized feelings and impressions of being unworthy of any improvements to their lifestyle. However, it would be ethically wrong to exclude these people in creating and establishing theories of justice and inequality. Reason to that being that social justice cannot be based on a small sample of the humanity, but must be based on our society as a whole (Fraser, 1994; Rawls, 1971).

We should not include standard solutions for women without considering their subjective characteristics (state, society, marital status). The conclusion is that gender is a very important category that is used to addressing the differences between women and men. However, as long as we caution and analyze the situation based on empirical facts, we can include gender inequality. That is, theories developed in the West can be generalized and applied to women of different cultures. For even under differences, place, class, race and culture we find that the characteristics of gender inequality are similar as well as the causes

and consequences of inequality, as opposed to the difference in the magnitude of differences in gender inequalities (Okin, 1994).

This study examined three main research hypotheses:

First assumption stated that gender-based inequality is present in Germany and Czech Republic, and that it can be observed in differences in wages between men and women. After examining the data, it can be seen that these results show gender-based inequality both in Germany and in the Czech Republic, demonstrated in wage differences and hours paid, therefore the first hypothesis was supported. This data corresponds to the literature in the field, and it shows that gender inequality still exists even in the most advanced countries in the world. Despite the fact that Germany is considered to be one of the most progressive countries in relation to gender equality we can still observe gender inequality in German labor market. Even there it still shows that women earn less than men. Today we can see strides in achieving non – gender related equality in many areas, such as education, labor market, employment, wages, child care, problem of domestic violence, issues of equal rights, recognition and more. All of these areas and others affect women's sense of equality in relation to men. It is important to understand that the behavior of men and women in these areas differs significantly from country to country. Part-time work practice is not common in many countries (Mandel, 2012) In Southern Europe, women are much more likely to work full time, although it is common to stop doing so once they have children. Scandinavian countries have a culture in which both men and women are responsible for childcare, and it can be seen that men assist in raising the children and both spouses continue to work (Fraser, 1994).

But it can still be seen that from the analysis of the data that income in Germany is significantly higher than in the Czech Republic, this can be explained by the use of local currency and increases in living expenses that are different between countries. And yet the men in Czech Republic and Germany still earn a lot more than women. Research literature also shows that even today men are far more profitable than women in the same market share. Even when it comes to performing the same roles in the same company most men will earn more. It has recently been announced that from next year, companies in France will have to report to the country about gender pay gaps that they have. Not only that - companies in which such gaps are discovered, will have to pay a fine equal to 1% of the salaries paid by

the Company (BBC News, 2018). From other countries (United States and Britain) have enacted laws to facilitate women to submit claims for wage discrimination. The leading country in the fight for gender equality Iceland was ranked the most equal in the world. Half of the Parliament of Iceland is made up of women, and according to law - women must fill 40 % of board seats (EUROPEAN COMMISSION, 2017).

Iceland has set itself the goal of eliminating wage gaps by 2022. To reach this goal, the state has passed a law requiring companies with more than 25 employees to prove equal pay between men or women. Companies that do not see appropriate permits will be fined. The revolution in the law is that it transfers the responsibility and duty of proof to the employer and in effect means that gender pay gaps - are a violation of the law (EUROPEAN COMMISSION, 2017).

Second hypothesis: link between gender and childcare affects men and women differently, resulting in lower employment rate in women. It can be seen that in the families with children men are those who work more hours than women, Data shows that when family has three children and more women will work significantly less than men. A significant decrease in the employment rate of women with three children, whereas no decrease was observed in men. Therefore, second hypothesis was supported. The research literature discussing the topic supports these findings. Because the main burden of child care falls on women and so these women work less in relation to men. The pay gap between women and men stems primarily from the gaps in working hours. Although women earn less, they also work fewer hours. Why is this happening? Many women "leave" the employment cycle after giving birth and return to it afterwards, when they have to start from scratch or alternatively - return to a previous place but within a shorter time frame (Eurostat, 2019).

In addition, the main working ages (25-35) are also the main parenting ages and so there is a basic conflict here. Ages which men spend to build their careers, while simply aging, are the same ages where most women give birth to children and/or feel pressured to due to those ages being the most fertile (Eurostat, 2019).

In this context, two things must be considered: First, more working hours does not necessarily equate to a better quality of the work. The trend today is to measure the employee according

to his output rather than the attendance. Because it is not at all certain that a mother who works 7.5 hours a day - produces fewer deliverables than her husband who works 9.

The other thing to remember is that there is a matter of choice here. Many women want (and choose) this lifestyle of raising children and a being a significant presence in their lives. This is a choice that has a severe consequence for woman's career. Does that mean this is the wrong choice? Not necessarily. But to no one's surplice it has implications.

Many parents see their salary change after the birth of their child, unequally so between women and men. First-time mothers see a 30% drop in salary immediately after returning to work after maternity leave. More expectant mothers (and also are more likely to do so) take a vacation to raise a family, reducing their work hours, and accepting a pay cuts in order work in a place that will allow them more family time (Hess, 2019).

In the US, mothers receive 71 cents for every dollar that fathers receive - a difference of $ 16,000 a year. On the other hand, working fathers earn about 20% more than men without children (Hess, 2019).

"An important step employers can take to support working parents is to allow flexibility for both mothers and fathers," Coliton says. "Although employers have made some progress in supporting working mothers, they may refrain from allowing fathers the same flexibility" (Technology Shout, 2020)

Big companies, like Netflix and Goldman Sachs, have set a precedent by giving longer paternity leave to new fathers, though a recent LinkedIn survey found that men still face difficulties when they want to take advantage of such benefit. One of the key challenges is that men feel there is no precedent in society for fathers taking longer leave to raise children, which means that business leaders must first set the tone.

Among the supporters of maternity leave with greater compensation is a co-founder of Reddit, Alexis Ohnian, who took a 16- week maternity leave with his wife, Serena Williams, when they gave birth to their daughter Alexis in 2017. He said then that if more fathers received paternity leave and were encouraged to do so, it would help to make it the norm and erase the stigma associated with women's maternity leave. Ohnian also supports the need to stop striving for as many work hours as possible. He mentions that in our current work culture

we are encouraged to sacrifice our mental and physical wellbeing and self-care for work, to work as hard as possible and as many hours as possible (Ohanian, 2019).

One basic thing needs to be understood. Wage disparities are just a symptom and in fact reflect on more fundamental inequalities, first being the division of problematic gender work at home and career. Most women are still "main parents" in the family unit. As long as the organizing principle in most households is that women are secondary earners - we will not see real change. It's easy for us to point an accusatory finger at the employer and the state, but the change can't be complete if we don't start it on a smaller scale, in our home.

Third hypothesis: There is no difference in women's tertiary education between Germany and Czech Republic with respect to age structure.

These results reject the null hypothesis assuming no difference in women's tertiary education between Germany and Czech Republic with respect to age structure. Therefore, the alternative hypothesis, assuming difference in women's tertiary education between Germany and Czech Republic with respect to age structure, was supported.

Over the many year's women have fought for the right to study and receive education just like men, seeing the obvious benefits of acquiring an education. Among other things, it positively affects the individual's chances of finding a permanent and profitable job (Lewis & Campell, 2010). Even if there is an economic crisis in the country, the chances of losing the job for people with higher education are significantly lower. It can be seen that the employment gap between women and men is narrowing with the rise in the level of education, but still at all levels of education the employment rates of men exceed those of women (Ellingsæter, 2013).

In economic terms, acquiring education is a financial investment, and the expected level of income over a lifetime is the expected profit. Although many women receive college education and sometimes more extensive than men, in many cases women are paid less than men in the same position. Gender disparities still exist even in the most advanced countries (Greenstein, 2000).

In conclusion, this study looked at the gender gaps while comparing Germany and the Czech Republic, it can be seen that even today, gender gaps still exist and affect many women.

Although there is a great deal of EU support for gender equality as well as legislation to encourage gender equality, but as the findings of the study show, the road goes a long way toward true gender equality.

6. Conclusions

For a very long-time women enjoyed fewer rights and freedoms. They were not allowed to vote, be financially independent and were considered the property of their fathers or husbands. In the mid-19th century, women began to demand equality. They demanded that they be given the right to participate in the elections, a right that was only for men. Women struggled and fought for an equal opportunity to purchase property, education and work, divorce their husbands and keep their children after the divorce. Only at the beginning of the twentieth century did women win the battle for the right to vote and the right to education. Thanks to the "women's liberation movement" many countries enacted laws prohibiting discrimination against women. But equality is not yet complete: Many countries in Asia, Africa and elsewhere do not yet have equal rights between women and men, and women are subject to various prohibitions, for example, they are not allowed to drive and are not allowed to go on the street without escort. The struggle for women's equality continues today around the world

The movement for women's equality is a modern phenomenon that began to gain momentum only in the early 20th century and centered around the Anglo-Saxon states at the beginning. The struggle for women was not an all-encompassing fight, but focused on specific issues such as the right to equality in education and employment, but above all, the struggle for women's suffrage. The first country to grant women the right to vote was New Zealand, where women were allowed to vote on the elections, but not to be elected in 1893.

Granting women suffrage was not a coincidence but a success of an organized female protest movement that had been operating in the country since the mid-1880s. One of the most prominent activists in the women's suffrage movement was Kate Shepherd, a local activist who soon became the leader of the struggle, being the leader of the local branch of the Christian Union for Abstinence (Women’s Christian Temperance Union).

"The Union " a women's organization whose original goal was to fight the ill effects of alcohol on the family institution and social morality, quickly became one of the leading organizations in the struggle to equalize women's rights in New Zealand. Such as comparing the divorce laws between the sexes, raising the consent age to have sex (which at that time

was 12), comparing the right to women's education, as well as providing relief, food and shelter for needy women.

At the head of this campaign, Shepherd raised the issue of women's suffrage and in 1887 succeeded in passing a bill in the local parliament recognizing the need to grant women suffrage. Starting in 1891, Shepherd initiated three petitions, the last of which, in 1893, signed more than 30,000 women across the state in a lawsuit to make the bill a real law.

Only after 6 years of vigorous political action by Shepherd and the "Union" was the bill passed in the New Zealand Parliament and the right to vote was given to women, for the first time in the entire world. Many New Zealand women took advantage of the new right they received just 6 weeks after by participating in the elections conducted in the country.

Heroic struggles such as the fight for women's suffrage in New Zealand took place elsewhere in the world during the 20th century, and especially in the Western world. In other parts of the world, the situation was slightly different, but there were also women's movements and protests to promote women's rights, where women shared their concerns about social and national struggles.

These are just a few examples of women's struggle for equal rights. Even today, despite the fact that in most countries' women have the right to vote, be elected, study and work, there are still dimensions in which we can see that women suffer from inequality. Especially when it comes to the work market or their personal lives. Women today still earn less than men in the same type of work, although women and men do the same work. Yes, so does the burden of raising children and housework usually falls on women.

When examining the possibilities that exist to address this inequality, it can be seen that governments encourage gender equality and even enact laws that should balance inequality. Many countries understand that gender equality helps the economy and even encourages women to go to work.

Employers bill to reduce pay gaps through legislation:

Reporting is an important and essential element in promoting transparency on gender pay gaps as well as raising the issue on the public agenda, but in itself it does not reduce it. The

second tier of legislation focuses on requiring employers to take steps to reduce pay gaps in their businesses. In countries such as Sweden, Finland, Norway, France, Spain, Australia and Belgium and the Ontario and Quebec provinces in Canada, employers not only report on wage gaps but are also required to formulate and implement gaps in the organization.

A major difficulty in billing employers in corrective action is the need to formulate an effective enforcement system, which can be learned from the Swedish case. In Sweden, there is relatively old legislation that requires employers to take steps to reduce gender pay gaps. According to Swedish law, if the company has more than 25 employees and above company is required to take several actions: to conduct a pay gap survey every three years; Prepare a plan to reduce gender gaps that includes goals and a timetable for their implementation; Make salary adjustments; Appoint a Commissioner to reduce gender pay gaps and report it to the Equal Employment Opportunity Commission. But even in Sweden, where there is social awareness about the need to reduce wage gaps, there is difficulty in enforcing.

Changing occupational norms:

One of the causes of pay gaps between women and men are occupational norms that have been formulated based on the assumption that the man is the main breadwinner and the woman is the primary caregiver for children. Norms such as long working hours, employee availability even outside working hours, and illegitimacy for absenteeism for childcare places women at a disadvantage in terms of being able to engage in certain occupations (especially professional and managerial occupations). Situations forcing women to take time off from work make they seem as less committed to career and less loyal to the workplace.

Norms and common measures that make family-friendly workplace are: the possibility to work part-time jobs, flexible working hours, the employer support in cases of child illness and days of maternity/paternity leave, remote work option. Less common norms are: work days tailored to school days and framed for children on vacations provided by the employer. Some of the measures have costs, but also benefit to the employer. Employers who lead such policies report fewer employee turnover, higher job satisfaction, fewer absences, and higher rates of mothers returning to their former jobs after maternity leave.

These are just some of the possible solutions for closing the gender gap, but adopting these processes is important and necessary to achieve gender equality. But it is important to clarify even today the gender gap exists and not only in women's wages, these are in many other aspects.

Research Limitations:

This study was performed using existing data from Eurostat. This data is not testable, so validating basic data taken for the purpose of conducting this research is not an easy task. Therefore, the findings of the study should be carefully considered. In addition, it is important to clarify that this study focused only on a small number of variables, but there may be other factors that were not addressed in this study and could influence the results of the study.

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8. Appendices

8.1. First hypothesis outputs

```
DESCRIPTIVES VARIABLES=Earnings HourPaid EducationPercentage EmploymentRate
  /STATISTICS=MEAN STDDEV MIN MAX.
```

Descriptive statistics of the variables relevant to all hypotheses-

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Earnings	14	400.00	3172.00	1486.4286	982.76648
HourPaid	14	122.00	172.00	157.2143	18.01785
EducationPercentage	40	13.10	27.00	21.1025	4.04858
EmploymentRate	120	64.30	100.00	87.2117	7.65177
Valid N (listwise)	0				

```
UNIANOVA Earnings BY Country Gender
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PLOT=PROFILE(Country*Gender)
  /EMMEANS=TABLES(Country) COMPARE ADJ(LSD)
  /EMMEANS=TABLES(Gender) COMPARE ADJ(LSD)
```

/EMMEANS=TABLES(Country*Gender)

/PRINT=DESCRIPTIVE

/CRITERIA=ALPHA(.05)

/DESIGN=Country Gender Country*Gender.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Country	1.00	Czechia	8
	2.00	Germany	6
Gender	1.00	Male	7
	2.00	Female	7

Average income by country and by gender:

Descriptive Statistics

Dependent Variable: Earnings

Country	Gender	Mean	Std. Deviation	N
Czechia	Male	845.0000	235.04184	4
	Female	641.2500	183.58899	4
	Total	743.1250	223.56746	8
Germany	Male	3032.6667	127.12330	3
	Female	1922.3333	74.14400	3
	Total	2477.5000	615.23581	6
Total	Male	1782.5714	1183.38707	7
	Female	1190.2857	698.27781	7

Total	1486.4286	982.76648	14

Tests of Between-Subjects Effects

Dependent Variable: Earnings

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12245625.345[a]	3	4081875.115	131.604	.000
Intercept	35562601.339	1	35562601.339	1146.574	.000
Country	10313337.054	1	10313337.054	332.512	.000
Gender	1480127.149	1	1480127.149	47.721	.000
Country * Gender	704480.006	1	704480.006	22.713	.001
Error	310164.083	10	31016.408		
Total	43488368.000	14			
Corrected Total	12555789.429	13			

a. R Squared = .975 (Adjusted R Squared = .968)

You can see that there are significant effects of state, gender, and state-gender interaction on wages.

Estimated Marginal Means

1. Country

Estimates

Dependent Variable: Earnings

Country	Mean	Std. Error	95% Confidence Interval

			Lower Bound	Upper Bound
Czechia	743.125	62.266	604.388	881.862
Germany	2477.500	71.899	2317.300	2637.700

You can see that wages in Germany are higher than wages in the Czech Republic (main effect of a country).

Pairwise Comparisons

Dependent Variable: Earnings

(I) Country	(J) Country	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Czechia	Germany	-1734.375*	95.113	.000	-1946.300	-1522.450
Germany	Czechia	1734.375*	95.113	.000	1522.450	1946.300

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: Earnings

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	10313337.054	1	10313337.054	332.512	.000
Error	310164.083	10	31016.408		

The F tests the effect of Country. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. Gender

Estimates

Dependent Variable: Earnings

Gender	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Male	1938.833	67.255	1788.980	2088.687
Female	1281.792	67.255	1131.938	1431.645

You can see that men's wages are higher than women's wages (main effect of gender).

Pairwise Comparisons

Dependent Variable: Earnings

(I) Gender	(J) Gender	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Male	Female	657.042*	95.113	.000	445.117	868.966
Female	Male	-657.042*	95.113	.000	-868.966	-445.117

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: Earnings

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	1480127.149	1	1480127.149	47.721	.000
Error	310164.083	10	31016.408		

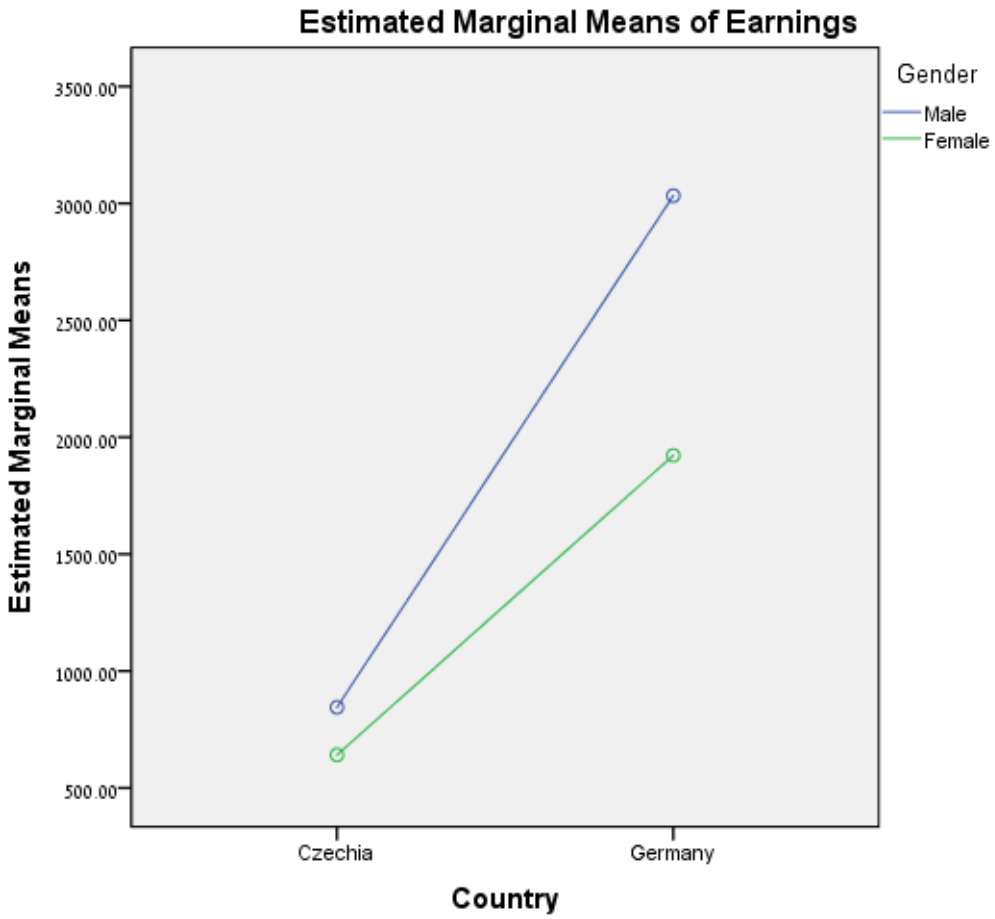
The F tests the effect of Gender. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

3. Country * Gender

Dependent Variable: Earnings

				95% Confidence Interval	
Country	Gender	Mean	Std. Error	Lower Bound	Upper Bound
Czechia	Male	845.000	88.057	648.796	1041.204
	Female	641.250	88.057	445.046	837.454
Germany	Male	3032.667	101.680	2806.110	3259.224
	Female	1922.333	101.680	1695.776	2148.890

Profile Plots



The interaction effect can be seen: in the Czech Republic the difference in wages between men and women is small, and in Germany there is a big advantage for men.

SORT CASES BY Country.

SPLIT FILE SEPARATE BY Country.

T-TEST GROUPS=Gender(1 2)

 /MISSING=ANALYSIS

 /VARIABLES=Earnings

 /CRITERIA=CI(.95).

T-Test

Analysis of simple effects by country

Country = Czechia

Group Statistics[a]

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Earnings	Male	4	845.0000	235.04184	117.52092
	Female	4	641.2500	183.58899	91.79449

a. Country = Czechia

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df					
Earnings	Equal variances assumed	.276	.618	1.366	6					
	Equal variances not assumed			1.366	5.668					

Independent Samples Test[a]

		t-test for Equality of Means				
		Sig. (2-tailed)	Mean Difference	Std. Error Difference		
Earnings	Equal variances assumed	.221	203.75000	149.12208		
	Equal variances not assumed	.224	203.75000	149.12208		

Independent Samples Test[a]

		t-test for Equality of Means	
		95% Confidence Interval of the Difference	
		Lower	Upper
Earnings	Equal variances assumed	-161.13859	568.63859
	Equal variances not assumed	-166.38860	573.88860

a. Country = Czechia

Country = Germany

Group Statistics[a]

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Earnings	Male	3	3032.6667	127.12330	73.39467
	Female	3	1922.3333	74.14400	42.80706

a. Country = Germany

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df					
Earnings	Equal variances assumed	1.092	.355	13.068	4					

	Equal variances not assumed			13.068	3.220				

Independent Samples Test[a]

		t-test for Equality of Means				
		Sig. (2-tailed)	Mean Difference	Std. Error Difference		
Earnings	Equal variances assumed	.000	1110.33333	84.96601		
	Equal variances not assumed	.001	1110.33333	84.96601		

Independent Samples Test[a]

		t-test for Equality of Means	
		95% Confidence Interval of the Difference	
		Lower	Upper
Earnings	Equal variances assumed	874.42988	1346.23679
	Equal variances not assumed	850.07248	1370.59419

a. Country = Germany

```
SPLIT FILE OFF.

UNIANOVA HourPaid BY Country Gender
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PLOT=PROFILE(Country*Gender)
  /EMMEANS=TABLES(Country) COMPARE ADJ(LSD)
  /EMMEANS=TABLES(Gender) COMPARE ADJ(LSD)
```

/EMMEANS=TABLES(Country*Gender)

/PRINT=DESCRIPTIVE

/CRITERIA=ALPHA(.05)

/DESIGN=Country Gender Country*Gender.

Univariate Analysis of Variance

Analysis of variance is similar only to the fact that the dependent variable time is working hours instead of wages.

Between-Subjects Factors

		Value Label	N
Country	1.00	Czechia	8
	2.00	Germany	6
Gender	1.00	Male	7
	2.00	Female	7

Descriptive Statistics

Dependent Variable: HourPaid

Country	Gender	Mean	Std. Deviation	N
Czechia	Male	171.7500	.50000	4
	Female	166.5000	1.29099	4
	Total	169.1250	2.94897	8
Germany	Male	157.0000	3.00000	3
	Female	125.6667	3.21455	3
	Total	141.3333	17.38582	6
Total	Male	165.4286	8.07996	7

	Female	149.0000	21.92411	7
	Total	157.2143	18.01785	14

Tests of Between-Subjects Effects

Dependent Variable: HourPaid

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4175.940[a]	3	1391.980	313.391	.000
Intercept	330460.720	1	330460.720	74400.162	.000
Country	2648.149	1	2648.149	596.206	.000
Gender	1147.149	1	1147.149	258.270	.000
Country * Gender	583.149	1	583.149	131.291	.000
Error	44.417	10	4.442		
Total	350249.000	14			
Corrected Total	4220.357	13			

a. R Squared = .989 (Adjusted R Squared = .986)

Here, too, there are three distinct effects: state, gender, and interaction.

Estimated Marginal Means

1. Country

Estimates

Dependent Variable: HourPaid

Country	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Czechia	169.125	.745	167.465	170.785

Germany	141.333	.860	139.416	143.250

More working hours in the Czech Republic (main effect of a country).

Pairwise Comparisons

Dependent Variable: HourPaid

(I) Country	(J) Country	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Czechia	Germany	27.792*	1.138	.000	25.256	30.328
Germany	Czechia	-27.792*	1.138	.000	-30.328	-25.256

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: HourPaid

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	2648.149	1	2648.149	596.206	.000
Error	44.417	10	4.442		

The F tests the effect of Country. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. Gender

Estimates

Dependent Variable: HourPaid

Gender	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Male	164.375	.805	162.582	166.168
Female	146.083	.805	144.290	147.877

More men's working hours (main effect of gender).

Pairwise Comparisons

Dependent Variable: HourPaid

(I) Gender	(J) Gender	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Male	Female	18.292*	1.138	.000	15.756	20.828
Female	Male	-18.292*	1.138	.000	-20.828	-15.756

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: HourPaid

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	1147.149	1	1147.149	258.270	.000
Error	44.417	10	4.442		

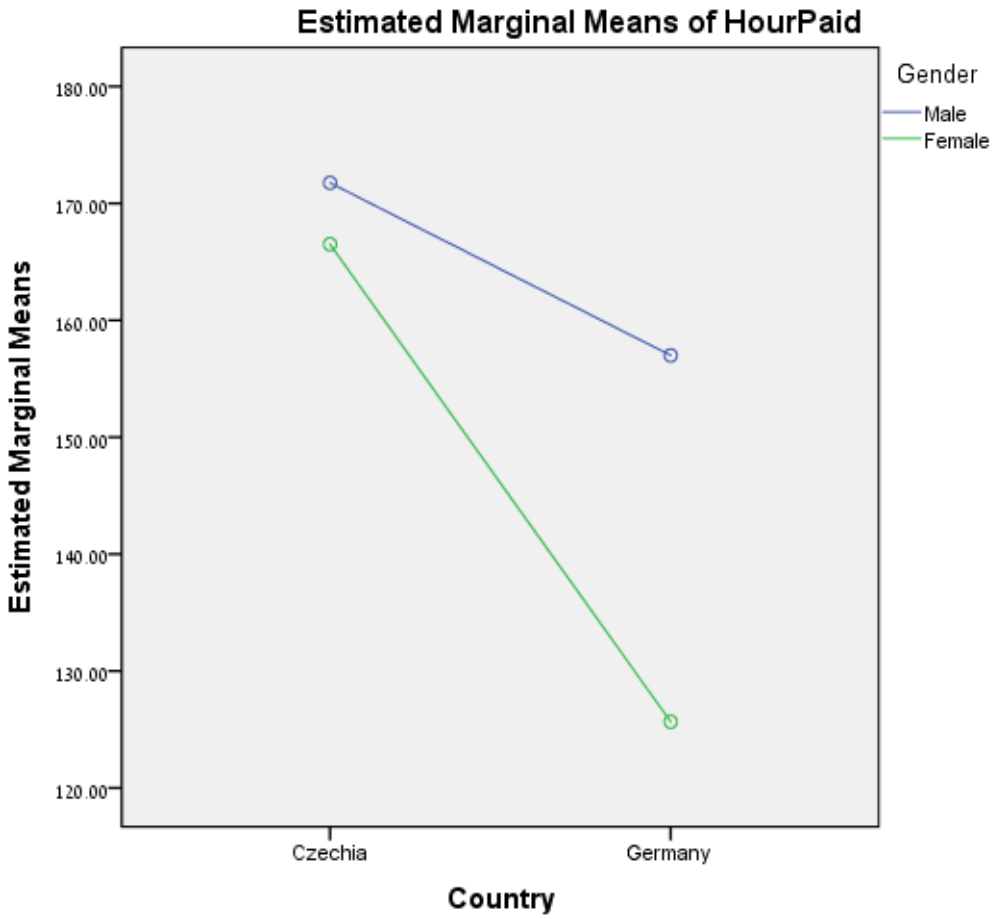
The F tests the effect of Gender. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

3. Country * Gender

Dependent Variable: HourPaid

Country	Gender	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Czechia	Male	171.750	1.054	169.402	174.098
	Female	166.500	1.054	164.152	168.848
Germany	Male	157.000	1.217	154.289	159.711
	Female	125.667	1.217	122.956	128.378

Profile Plots



Interaction effect: In the Czech Republic the difference in working hours between men and women is small, and in Germany the difference is greater.

```
SORT CASES  BY Country.

SPLIT FILE SEPARATE BY Country.

T-TEST GROUPS=Gender(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=HourPaid
  /CRITERIA=CI(.95).
```

T-Test

Country = Czechia

Group Statistics[a]

	Gender	N	Mean	Std. Deviation	Std. Error Mean
HourPaid	Male	4	171.7500	.50000	.25000
	Female	4	166.5000	1.29099	.64550

a. Country = Czechia

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df					
Hour Paid	Equal variances assumed	3.947	.094	7.584	6					
	Equal variances not assumed			7.584	3.880					

Independent Samples Test[a]

		t-test for Equality of Means				
		Sig. (2-tailed)	Mean Difference	Std. Error Difference		
HourPaid	Equal variances assumed	.000	5.25000	.69222		
	Equal variances not assumed	.002	5.25000	.69222		

Independent Samples Test[a]

	t-test for Equality of Means

		95% Confidence Interval of the Difference	
		Lower	Upper
HourPaid	Equal variances assumed	3.55620	6.94380
	Equal variances not assumed	3.30446	7.19554

a. Country = Czechia

Country = Germany

Group Statistics[a]

	Gender	N	Mean	Std. Deviation	Std. Error Mean
HourPaid	Male	3	157.0000	3.00000	1.73205
	Female	3	125.6667	3.21455	1.85592

a. Country = Germany

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df					
HourPaid	Equal variances assumed	.136	.731	12.343	4					
	Equal variances not assumed			12.343	3.981					

Independent Samples Test[a]

		t-test for Equality of Means				
		Sig. (2-tailed)	Mean Difference	Std. Error Difference		
HourPaid	Equal variances assumed	.000	31.33333	2.53859		
	Equal variances not assumed	.000	31.33333	2.53859		

Independent Samples Test[a]

		t-test for Equality of Means	
		95% Confidence Interval of the Difference	
		Lower	Upper
HourPaid	Equal variances assumed	24.28507	38.38159
	Equal variances not assumed	24.27183	38.39483

a. Country = Germany

8.2. Outputs a second hypothesis

```
UNIANOVA EmploymentRate BY Gender ChildrenNum ChildrenAge
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PRINT=DESCRIPTIVE
  /CRITERIA=ALPHA(.05)
  /DESIGN=Gender ChildrenNum ChildrenAge Gender*ChildrenNum Gender*ChildrenAge
    ChildrenNum*ChildrenAge Gender*ChildrenNum*ChildrenAge.
```

Univariate Analysis of Variance

The dependent variable is the percentage of employment (and not working hours as written in the hypothesis):

Between-Subjects Factors

		Value Label	N
Gender	1.00	Male	60
	2.00	Female	60
ChildrenNum	1.00		40
	2.00		40
	3.00		40
ChildrenAge	1.00	6 to 11 years	60
	2.00	over 12	60

Descriptive Statistics

Dependent Variable: EmploymentRate

Gender	ChildrenNum	ChildrenAge	Mean	Std. Deviation	N
Male	1.00	6 to 11 years	92.1700	1.44303	10
		over 12	90.9000	1.52242	10
		Total	91.5350	1.58389	20
	2.00	6 to 11 years	94.3800	1.56048	10
		over 12	94.1600	1.95346	10
		Total	94.2700	1.72447	20
	3.00	6 to 11 years	90.0300	2.00558	10
		over 12	92.2000	3.77948	10

		Total	91.1150	3.14814	20
	Total	6 to 11 years	92.1933	2.43168	30
		over 12	92.4200	2.86253	30
		Total	92.3067	2.63573	60
Female	1.00	6 to 11 years	82.5100	2.54840	10
		over 12	85.1200	2.93326	10
		Total	83.8150	2.99074	20
	2.00	6 to 11 years	84.1500	4.75517	10
		over 12	87.1900	5.35028	10
		Total	85.6700	5.16742	20
	3.00	6 to 11 years	73.8900	9.65533	10
		over 12	79.8400	9.92922	10
		Total	76.8650	10.00880	20
	Total	6 to 11 years	80.1833	7.67558	30
		over 12	84.0500	7.21506	30
		Total	82.1167	7.63849	60
Total	1.00	6 to 11 years	87.3400	5.34971	20
		over 12	88.0100	3.73700	20
		Total	87.6750	4.56743	40
	2.00	6 to 11 years	89.2650	6.27730	20
		over 12	90.6750	5.30579	20
		Total	89.9700	5.78115	40
	3.00	6 to 11 years	81.9600	10.70595	20
		over 12	86.0200	9.67828	20

	Total	83.9900	10.28102	40
Total	6 to 11 years	86.1883	8.27862	60
	over 12	88.2350	6.88666	60
	Total	87.2117	7.65177	120

Tests of Between-Subjects Effects

Dependent Variable: EmploymentRate

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4383.430[a]	11	398.494	16.655	.000
Intercept	912704.976	1	912704.976	38147.496	.000
Gender	3115.083	1	3115.083	130.198	.000
ChildrenNum	728.089	2	364.044	15.216	.000
ChildrenAge	125.665	1	125.665	5.252	.024
Gender * ChildrenNum	251.126	2	125.563	5.248	.007
Gender * ChildrenAge	99.372	1	99.372	4.153	.044
ChildrenNum * ChildrenAge	63.541	2	31.770	1.328	.269
Gender * ChildrenNum * ChildrenAge	.554	2	.277	.012	.988
Error	2583.974	108	23.926		
Total	919672.380	120			
Corrected Total	6967.404	119			

Three main effects can be seen: gender, number of children and children's age.

Two distinct interaction effects: gender and number of children, and gender and age of children.

a. R Squared = .629 (Adjusted R Squared = .591)

```
T-TEST GROUPS=Gender(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=EmploymentRate
  /CRITERIA=CI(.95).
```

T-Test

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
EmploymentRate	Male	60	92.3067	2.63573	.34027
	Female	60	82.1167	7.63849	.98612

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
EmploymentRate	Equal variances assumed	27.575	.000	9.768						
	Equal variances not assumed			9.768						

Independent Samples Test

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
EmploymentRate	Equal variances assumed	118	.000	10.19000			
	Equal variances not assumed	72.853	.000	10.19000			

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
EmploymentRate	Equal variances assumed	1.04318	8.12422	12.25578
	Equal variances not assumed	1.04318	8.11087	12.26913

```
ONEWAY EmploymentRate BY ChildrenNum
  /STATISTICS DESCRIPTIVES
  /MISSING ANALYSIS
  /POSTHOC=TUKEY ALPHA(0.05).
```

Oneway

Descriptives

EmploymentRate

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		

					Lower Bound	Upper Bound		
1.00	40	87.6750	4.56743	.72217	86.2143	89.1357		
2.00	40	89.9700	5.78115	.91408	88.1211	91.8189		
3.00	40	83.9900	10.28102	1.62557	80.7020	87.2780		
Total	120	87.2117	7.65177	.69851	85.8286	88.5948		

Descriptives

EmploymentRate

	Minimum	Maximum
1.00	80.00	95.90
2.00	78.80	97.50
3.00	64.30	100.00
Total	64.30	100.00

ANOVA

EmploymentRate

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	728.089	2	364.044	6.827	.002
Within Groups	6239.315	117	53.327		
Total	6967.404	119			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: EmploymentRate

Tukey HSD

(I) ChildrenNum	(J) ChildrenNum	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	
1.00	2.00	-2.29500	1.63290	.341	-6.1714	
	3.00	3.68500	1.63290	.066	-.1914	
2.00	1.00	2.29500	1.63290	.341	-1.5814	
	3.00	5.98000*	1.63290	.001	2.1036	
3.00	1.00	-3.68500	1.63290	.066	-7.5614	
	2.00	-5.98000*	1.63290	.001	-9.8564	

Multiple Comparisons

Dependent Variable: EmploymentRate

Tukey HSD

(I) ChildrenNum	(J) ChildrenNum	95% Confidence Interval
		Upper Bound
1.00	2.00	1.5814
	3.00	7.5614
2.00	1.00	6.1714
	3.00	9.8564
3.00	1.00	.1914
	2.00	-2.1036

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

EmploymentRate

Tukey HSD[a]

ChildrenNum	N	Subset for alpha = 0.05	
		1	2
3.00	40	83.9900	
1.00	40	87.6750	87.6750
2.00	40		89.9700
Sig.		.066	.341

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 40.000.

```
T-TEST GROUPS=ChildrenAge(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=EmploymentRate
  /CRITERIA=CI(.95).
```

T-Test

Group Statistics

	ChildrenAge	N	Mean	Std. Deviation	Std. Error Mean
EmploymentRate	6 to 11 years	60	86.1883	8.27862	1.06877
	over 12	60	88.2350	6.88666	.88906

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
EmploymentRate	Equal variances assumed	2.553	.113	-1.472						
	Equal variances not assumed			-1.472						

Independent Samples Test

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
EmploymentRate	Equal variances assumed	118	.144	-2.04667			
	Equal variances not assumed	114.215	.144	-2.04667			

Independent Samples Test

	t-test for Equality of Means	
	Std. Error Difference	95% Confidence Interval of the Difference

			Lower	Upper
EmploymentRate	Equal variances assumed	1.39021	-4.79967	.70634
	Equal variances not assumed	1.39021	-4.80061	.70728

```
UNIANOVA EmploymentRate BY Gender ChildrenNum
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PRINT=DESCRIPTIVE
  /CRITERIA=ALPHA(.05)
  /DESIGN=Gender ChildrenNum Gender*ChildrenNum.
```

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Gender	1.00	Male	60
	2.00	Female	60
ChildrenNum	1.00		40
	2.00		40
	3.00		40

Descriptive Statistics

Dependent Variable: EmploymentRate

Gender	ChildrenNum	Mean	Std. Deviation	N
Male	1.00	91.5350	1.58389	20
	2.00	94.2700	1.72447	20
	3.00	91.1150	3.14814	20

	Total	92.3067	2.63573	60
Female	1.00	83.8150	2.99074	20
	2.00	85.6700	5.16742	20
	3.00	76.8650	10.00880	20
	Total	82.1167	7.63849	60
Total	1.00	87.6750	4.56743	40
	2.00	89.9700	5.78115	40
	3.00	83.9900	10.28102	40
	Total	87.2117	7.65177	120

Tests of Between-Subjects Effects

Dependent Variable: EmploymentRate

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4094.298[a]	5	818.860	32.491	.000
Intercept	912704.976	1	912704.976	36214.594	.000
Gender	3115.083	1	3115.083	123.601	.000
ChildrenNum	728.089	2	364.044	14.445	.000
Gender * ChildrenNum	251.126	2	125.563	4.982	.008
Error	2873.106	114	25.203		
Total	919672.380	120			
Corrected Total	6967.404	119			

Analysis of variance only with the number of children (without the age of the children). - You can see that all effects are significant.

a. R Squared = .588 (Adjusted R Squared = .570)

```
UNIANOVA EmploymentRate BY Gender ChildrenAge
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PRINT=DESCRIPTIVE
  /CRITERIA=ALPHA(.05)
  /DESIGN=Gender ChildrenAge Gender*ChildrenAge.
```

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Gender	1.00	Male	60
	2.00	Female	60
ChildrenAge	1.00	6 to 11 years	60
	2.00	over 12	60

Descriptive Statistics

Dependent Variable: EmploymentRate

Gender	ChildrenAge	Mean	Std. Deviation	N
Male	6 to 11 years	92.1933	2.43168	30
	over 12	92.4200	2.86253	30
	Total	92.3067	2.63573	60
Female	6 to 11 years	80.1833	7.67558	30
	over 12	84.0500	7.21506	30

	Total	82.1167	7.63849	60
Total	6 to 11 years	86.1883	8.27862	60
	over 12	88.2350	6.88666	60
	Total	87.2117	7.65177	120

Tests of Between-Subjects Effects

Dependent Variable: EmploymentRate

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3340.120[a]	3	1113.373	35.606	.000
Intercept	912704.976	1	912704.976	29188.174	.000
Gender	3115.083	1	3115.083	99.620	.000
ChildrenAge	125.665	1	125.665	4.019	.047
Gender * ChildrenAge	99.372	1	99.372	3.178	.077
Error	3627.283	116	31.270		
Total	919672.380	120			
Corrected Total	6967.404	119			

a. R Squared = .479 (Adjusted R Squared = .466)

Analysis of variance only with the age of the children (without the number of children) - the significance of the interaction can be seen to disappear.

```
UNIANOVA EmploymentRate BY Gender ChildrenNum
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PLOT=PROFILE(Gender*ChildrenNum ChildrenNum*Gender)
```

/PRINT=DESCRIPTIVE

/CRITERIA=ALPHA(.05)

/DESIGN=Gender ChildrenNum Gender*ChildrenNum.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Gender	1.00	Male	60
	2.00	Female	60
ChildrenNum	1.00		40
	2.00		40
	3.00		40

Descriptive Statistics

Dependent Variable: EmploymentRate

Gender	ChildrenNum	Mean	Std. Deviation	N
Male	1.00	91.5350	1.58389	20
	2.00	94.2700	1.72447	20
	3.00	91.1150	3.14814	20
	Total	92.3067	2.63573	60
Female	1.00	83.8150	2.99074	20
	2.00	85.6700	5.16742	20
	3.00	76.8650	10.00880	20
	Total	82.1167	7.63849	60

Total	1.00	87.6750	4.56743	40
	2.00	89.9700	5.78115	40
	3.00	83.9900	10.28102	40
	Total	87.2117	7.65177	120

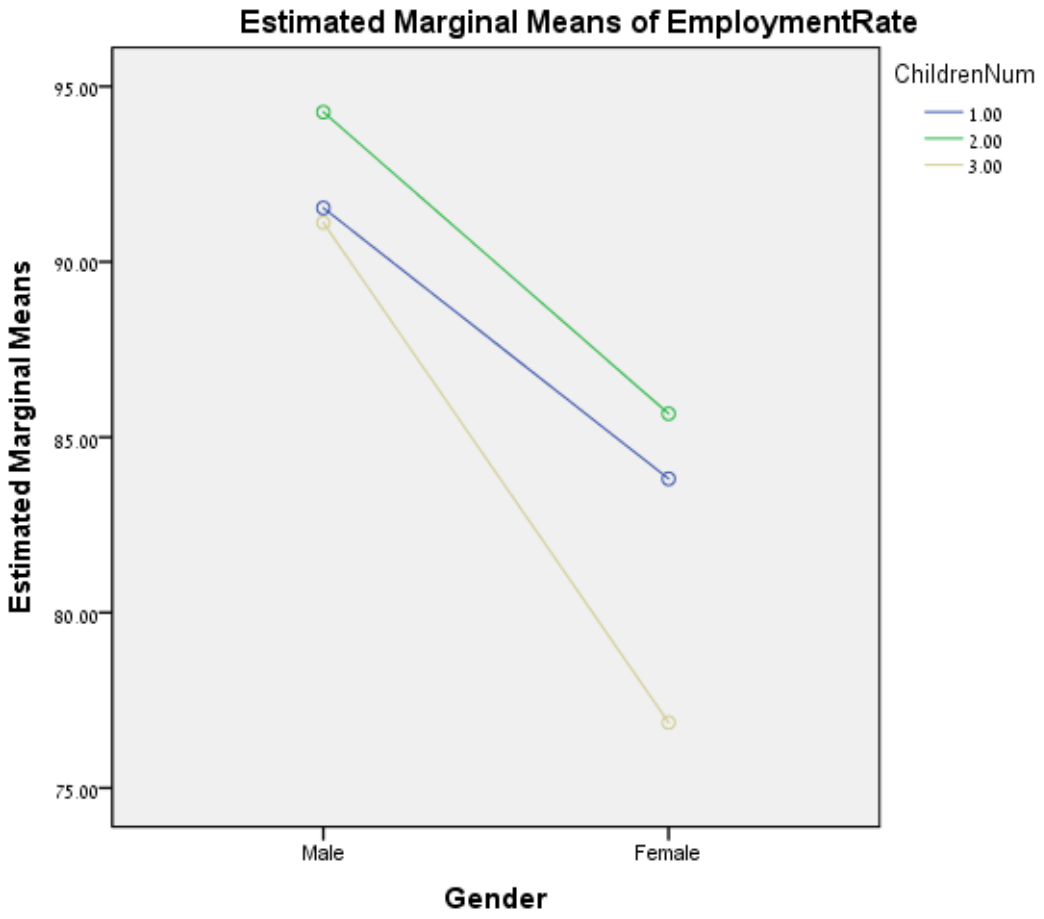
Tests of Between-Subjects Effects

Dependent Variable: EmploymentRate

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4094.298[a]	5	818.860	32.491	.000
Intercept	912704.976	1	912704.976	36214.594	.000
Gender	3115.083	1	3115.083	123.601	.000
ChildrenNum	728.089	2	364.044	14.445	.000
Gender * ChildrenNum	251.126	2	125.563	4.982	.008
Error	2873.106	114	25.203		
Total	919672.380	120			
Corrected Total	6967.404	119			

a. R Squared = .588 (Adjusted R Squared = .570)

Profile Plots



To simplify things, it is best to focus on the number of children (without the age of the children). You can see in the graph what you want to show in the hypothesis: You can see that the appearance of the third child significantly reduces the employment rates of women, and among men the third child does not matter.

8.3. Outputs a third hypothesis and more data

```
UNIANOVA EducationPercentage BY Country Gender
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PLOT=PROFILE(Country*Gender Gender*Country)
  /EMMEANS=TABLES(Country) COMPARE ADJ(LSD)
  /EMMEANS=TABLES(Gender) COMPARE ADJ(LSD)
  /EMMEANS=TABLES(Country*Gender)
```

/PRINT=DESCRIPTIVE

/CRITERIA=ALPHA(.05)

/DESIGN=Country Gender Country*Gender.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Country	1.00	Czechia	20
	2.00	Germany	20
Gender	1.00	Male	20
	2.00	Female	20

Descriptive Statistics

Dependent Variable: EducationPercentage

Country	Gender	Mean	Std. Deviation	N
Czechia	Male	17.3600	2.15726	10
	Female	18.9600	3.63079	10
	Total	18.1600	3.02035	20
Germany	Male	26.2600	.76187	10
	Female	21.8300	1.34334	10
	Total	24.0450	2.50882	20
Total	Male	21.8100	4.82950	20
	Female	20.3950	3.04414	20

Total	21.1025	4.04858	40

Tests of Between-Subjects Effects

Dependent Variable: EducationPercentage

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	457.257[a]	3	152.419	30.150	.000
Intercept	17812.620	1	17812.620	3523.511	.000
Country	346.332	1	346.332	68.508	.000
Gender	20.022	1	20.022	3.961	.054
Country * Gender	90.902	1	90.902	17.981	.000
Error	181.993	36	5.055		
Total	18451.870	40			
Corrected Total	639.250	39			

a. R Squared = .715 (Adjusted R Squared = .692)

The dependent variable is the percentage of education

One can see that there is a distinct effect of state, and a distinct effect of state-gender interaction. But the main effect of gender did not reach significance (almost reached).

Estimated Marginal Means

1. Country

Estimates

Dependent Variable: EducationPercentage

Country	Mean	Std. Error	95% Confidence Interval

			Lower Bound	Upper Bound
Czechia	18.160	.503	17.140	19.180
Germany	24.045	.503	23.025	25.065

Pairwise Comparisons

Dependent Variable: EducationPercentage

(I) Country	(J) Country	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Czechia	Germany	-5.885*	.711	.000	-7.327	-4.443
Germany	Czechia	5.885*	.711	.000	4.443	7.327

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: EducationPercentage

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	346.332	1	346.332	68.508	.000
Error	181.993	36	5.055		

The F tests the effect of Country. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. Gender

Estimates

Dependent Variable: EducationPercentage

Gender	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Male	21.810	.503	20.790	22.830
Female	20.395	.503	19.375	21.415

Pairwise Comparisons

Dependent Variable: EducationPercentage

(I) Gender	(J) Gender	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
Male	Female	1.415	.711	.054	-.027	2.857
Female	Male	-1.415	.711	.054	-2.857	.027

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: EducationPercentage

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	20.022	1	20.022	3.961	.054
Error	181.993	36	5.055		

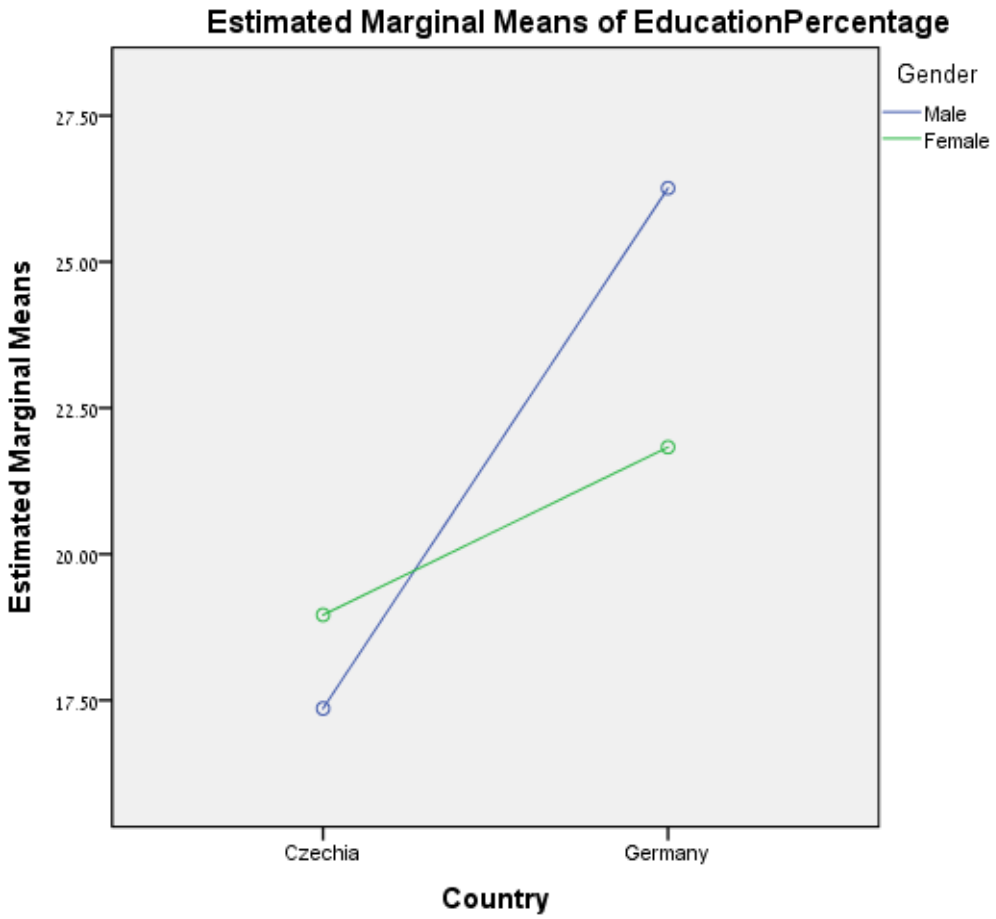
The F tests the effect of Gender. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

3. Country * Gender

Dependent Variable: EducationPercentage

Country	Gender	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Czechia	Male	17.360	.711	15.918	18.802
	Female	18.960	.711	17.518	20.402
Germany	Male	26.260	.711	24.818	27.702
	Female	21.830	.711	20.388	23.272

Profile Plots



You can see the definite interaction:

In the Czech Republic, the difference in the percentage of education between men and women is small, and even tends to favor women. In contrast, in Germany, there is a big difference in favor of men.

```
UNIANOVA TetiaryEducationPercentage BY Country Age
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /POSTHOC=Age(TUKEY SCHEFFE)
  /PLOT=PROFILE(Country*Age Age*Country)
  /EMMEANS=TABLES(Country) COMPARE ADJ(LSD)
  /EMMEANS=TABLES(Age) COMPARE ADJ(LSD)
  /EMMEANS=TABLES(Country*Age)
```

/PRINT=DESCRIPTIVE

/CRITERIA=ALPHA(.05)

/DESIGN=Country Age Country*Age.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Country	2.00	Czechia	50
	3.00	Germany	50
Age	1.00	20-24	20
	2.00	25-34	20
	3.00	35-44	20
	4.00	45-54	20
	5.00	55-64	20

Descriptive Statistics

Dependent Variable: TetiaryEducationPercentage

Country	Age	Mean	Std. Deviation	N
Czechia	20-24	12.9400	2.34625	10
	25-34	33.6800	6.38641	10
	35-44	21.4900	4.99988	10
	45-54	17.3200	2.06656	10
	55-64	11.7400	2.41118	10
	Total	19.4340	8.87844	50
Germany	20-24	8.1300	1.20743	10

	25-34	30.3600	2.21219	10
	35-44	27.1000	1.72305	10
	45-54	22.8700	1.12945	10
	55-64	20.2600	1.10172	10
	Total	21.7440	7.85535	50
Total	20-24	10.5350	3.06376	20
	25-34	32.0200	4.95364	20
	35-44	24.2950	4.64004	20
	45-54	20.0950	3.27615	20
	55-64	16.0000	4.73620	20
	Total	20.5890	8.42048	100

Tests of Between-Subjects Effects

Dependent Variable: TetiaryEducationPercentage

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6180.879[a]	9	686.764	73.700	.000
Intercept	42390.692	1	42390.692	4549.122	.000
Country	133.402	1	133.402	14.316	.000
Age	5335.761	4	1333.940	143.151	.000
Country * Age	711.715	4	177.929	19.094	.000
Error	838.659	90	9.318		
Total	49410.230	100			
Corrected Total	7019.538	99			

a. R Squared = .881 (Adjusted R Squared = .869)

Estimated Marginal Means

1. Country

Estimates

Dependent Variable: TetiaryEducationPercentage

Country	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Czechia	19.434	.432	18.576	20.292
Germany	21.744	.432	20.886	22.602

Pairwise Comparisons

Dependent Variable: TetiaryEducationPercentage

(I) Country	(J) Country	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Czechia	Germany	-2.310*	.611	.000	-3.523	-1.097
Germany	Czechia	2.310*	.611	.000	1.097	3.523

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: TetiaryEducationPercentage

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	133.403	1	133.403	14.316	.000
Error	838.659	90	9.318		

The F tests the effect of Country. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. Age

Estimates

Dependent Variable: TetiaryEducationPercentage

Age	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
20-24	10.535	.683	9.179	11.891
25-34	32.020	.683	30.664	33.376
35-44	24.295	.683	22.939	25.651
45-54	20.095	.683	18.739	21.451
55-64	16.000	.683	14.644	17.356

Pairwise Comparisons

Dependent Variable: TetiaryEducationPercentage

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
20-24	25-34	-21.485*	.965	.000	-23.403	-19.567

	35-44	-13.760*	.965	.000	-15.678	-11.842
	45-54	-9.560*	.965	.000	-11.478	-7.642
	55-64	-5.465*	.965	.000	-7.383	-3.547
25-34	20-24	21.485*	.965	.000	19.567	23.403
	35-44	7.725*	.965	.000	5.807	9.643
	45-54	11.925*	.965	.000	10.007	13.843
	55-64	16.020*	.965	.000	14.102	17.938
35-44	20-24	13.760*	.965	.000	11.842	15.678
	25-34	-7.725*	.965	.000	-9.643	-5.807
	45-54	4.200*	.965	.000	2.282	6.118
	55-64	8.295*	.965	.000	6.377	10.213
45-54	20-24	9.560*	.965	.000	7.642	11.478
	25-34	-11.925*	.965	.000	-13.843	-10.007
	35-44	-4.200*	.965	.000	-6.118	-2.282
	55-64	4.095*	.965	.000	2.177	6.013
55-64	20-24	5.465*	.965	.000	3.547	7.383
	25-34	-16.020*	.965	.000	-17.938	-14.102
	35-44	-8.295*	.965	.000	-10.213	-6.377
	45-54	-4.095*	.965	.000	-6.013	-2.177

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: TetiaryEducationPercentage

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	5335.761	4	1333.940	143.151	.000
Error	838.659	90	9.318		

The F tests the effect of Age. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

3. Country * Age

Dependent Variable: TetiaryEducationPercentage

				95% Confidence Interval	
Country	Age	Mean	Std. Error	Lower Bound	Upper Bound
Czechia	20-24	12.940	.965	11.022	14.858
	25-34	33.680	.965	31.762	35.598
	35-44	21.490	.965	19.572	23.408
	45-54	17.320	.965	15.402	19.238
	55-64	11.740	.965	9.822	13.658
Germany	20-24	8.130	.965	6.212	10.048
	25-34	30.360	.965	28.442	32.278
	35-44	27.100	.965	25.182	29.018
	45-54	22.870	.965	20.952	24.788
	55-64	20.260	.965	18.342	22.178

Post Hoc Tests

Age

Multiple Comparisons

Dependent Variable: TetiaryEducationPercentage

	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	20-24	25-34	-21.4850*	.96532	.000	-24.1723	-18.7977
		35-44	-13.7600*	.96532	.000	-16.4473	-11.0727
		45-54	-9.5600*	.96532	.000	-12.2473	-6.8727
		55-64	-5.4650*	.96532	.000	-8.1523	-2.7777
	25-34	20-24	21.4850*	.96532	.000	18.7977	24.1723
		35-44	7.7250*	.96532	.000	5.0377	10.4123
		45-54	11.9250*	.96532	.000	9.2377	14.6123
		55-64	16.0200*	.96532	.000	13.3327	18.7073
	35-44	20-24	13.7600*	.96532	.000	11.0727	16.4473
		25-34	-7.7250*	.96532	.000	-10.4123	-5.0377
		45-54	4.2000*	.96532	.000	1.5127	6.8873
		55-64	8.2950*	.96532	.000	5.6077	10.9823
	45-54	20-24	9.5600*	.96532	.000	6.8727	12.2473
		25-34	-11.9250*	.96532	.000	-14.6123	-9.2377
		35-44	-4.2000*	.96532	.000	-6.8873	-1.5127
		55-64	4.0950*	.96532	.001	1.4077	6.7823
	55-64	20-24	5.4650*	.96532	.000	2.7777	8.1523
		25-34	-16.0200*	.96532	.000	-18.7073	-13.3327
		35-44	-8.2950*	.96532	.000	-10.9823	-5.6077

		45-54	-4.0950*	.96532	.001	-6.7823	-1.4077
Scheffe	20-24	25-34	-21.4850*	.96532	.000	-24.5210	-18.4490
		35-44	-13.7600*	.96532	.000	-16.7960	-10.7240
		45-54	-9.5600*	.96532	.000	-12.5960	-6.5240
		55-64	-5.4650*	.96532	.000	-8.5010	-2.4290
	25-34	20-24	21.4850*	.96532	.000	18.4490	24.5210
		35-44	7.7250*	.96532	.000	4.6890	10.7610
		45-54	11.9250*	.96532	.000	8.8890	14.9610
		55-64	16.0200*	.96532	.000	12.9840	19.0560
	35-44	20-24	13.7600*	.96532	.000	10.7240	16.7960
		25-34	-7.7250*	.96532	.000	-10.7610	-4.6890
		45-54	4.2000*	.96532	.002	1.1640	7.2360
		55-64	8.2950*	.96532	.000	5.2590	11.3310
	45-54	20-24	9.5600*	.96532	.000	6.5240	12.5960
		25-34	-11.9250*	.96532	.000	-14.9610	-8.8890
		35-44	-4.2000*	.96532	.002	-7.2360	-1.1640
		55-64	4.0950*	.96532	.002	1.0590	7.1310
	55-64	20-24	5.4650*	.96532	.000	2.4290	8.5010
		25-34	-16.0200*	.96532	.000	-19.0560	-12.9840
		35-44	-8.2950*	.96532	.000	-11.3310	-5.2590
		45-54	-4.0950*	.96532	.002	-7.1310	-1.0590

Based on observed means.

The error term is Mean Square(Error) = 9.318.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

TetiaryEducationPercentage

	Age	N	Subset 1	Subset 2	Subset 3	Subset 4	Subset 5
Tukey HSD[a,b]	20-24	20	10.5350				
	55-64	20		16.0000			
	45-54	20			20.0950		
	35-44	20				24.2950	
	25-34	20					32.0200
	Sig.		1.000	1.000	1.000	1.000	1.000
Scheffe[a,b]	20-24	20	10.5350				
	55-64	20		16.0000			
	45-54	20			20.0950		
	35-44	20				24.2950	
	25-34	20					32.0200
	Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

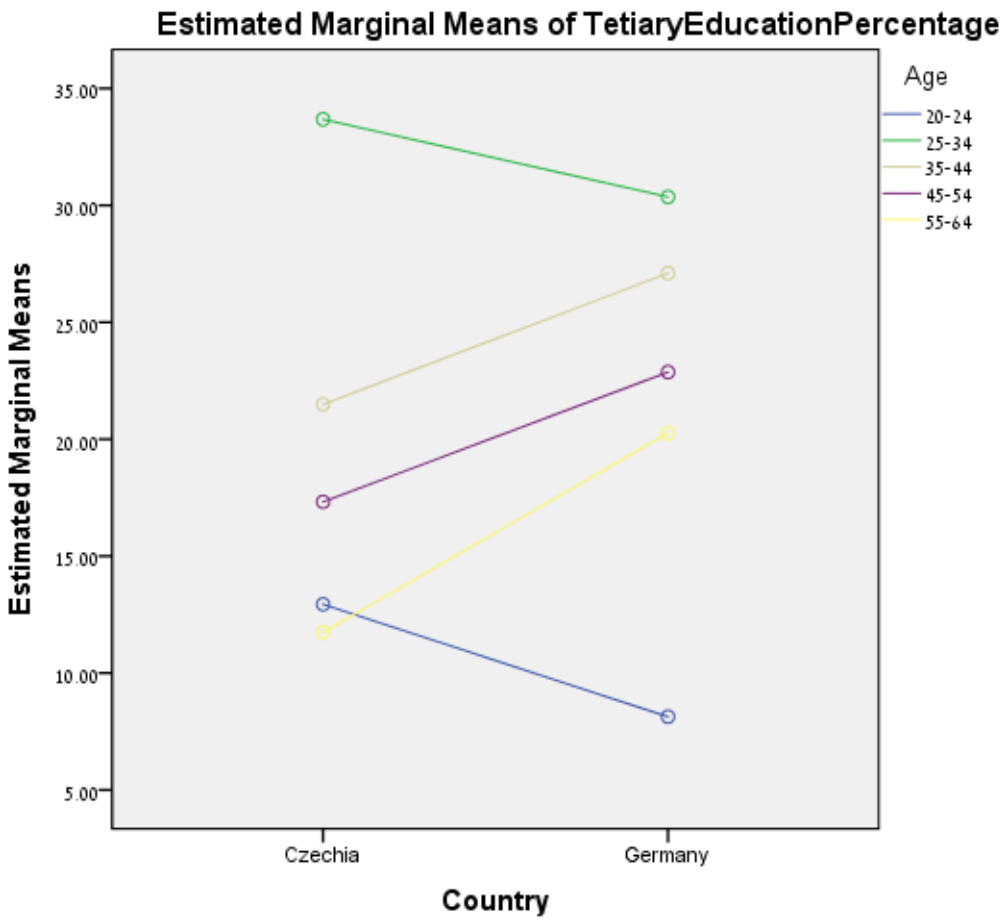
Based on observed means.

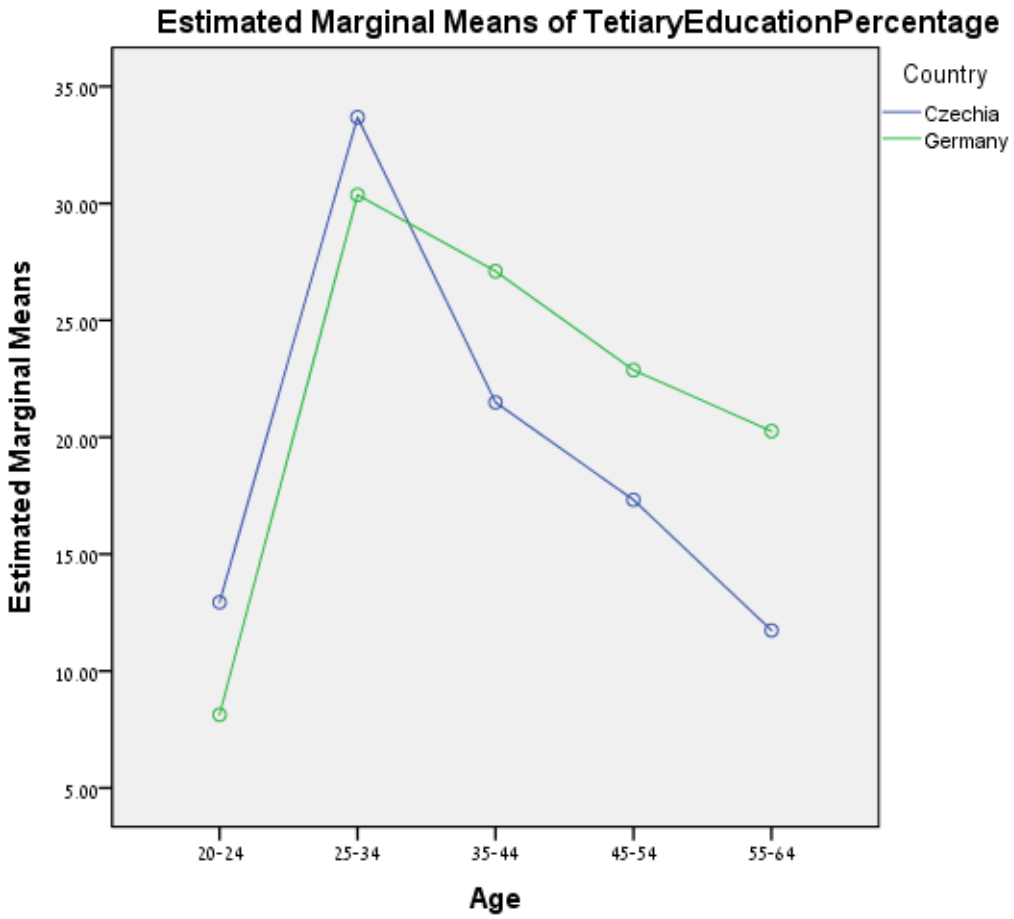
The error term is Mean Square(Error) = 9.318.

a. Uses Harmonic Mean Sample Size = 20.000.

b. Alpha = .05.

Profile Plots





SORT CASES BY Age.

SPLIT FILE SEPARATE BY Age.

T-TEST GROUPS=Country(2 3)

/MISSING=ANALYSIS

/VARIABLES=TetiaryEducationPercentage

/CRITERIA=CI(.95).

T-Test

Age = 20-24

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	Czechia	10	12.9400	2.34625	.74195

	Germany	10	8.1300	1.20743	.38182

a. Age = 20-24

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	6.289	.022	5.764						
	Equal variances not assumed			5.764						

Independent Samples Test[a]

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
TetiaryEducationPercentage	Equal variances assumed	18	.000	4.81000			
	Equal variances not assumed	13.455	.000	4.81000			

Independent Samples Test[a]

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	
TetiaryEducationPercentage	Equal variances assumed	.83443	3.05692	
	Equal variances not assumed	.83443	3.01349	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	6.56308
	Equal variances not assumed	6.60651

a. Age = 20-24

Age = 25-34

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	Czechia	10	33.6800	6.38641	2.01956
	Germany	10	30.3600	2.21219	.69956

a. Age = 25-34

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	8.341	.010	1.553						
	Equal variances not assumed			1.553						

Independent Samples Test[a]

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
TetiaryEducationPercentage	Equal variances assumed	18	.138	3.32000			
	Equal variances not assumed	11.129	.148	3.32000			

Independent Samples Test[a]

	t-test for Equality of Means	

		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	
TetiaryEducationPercentage	Equal variances assumed	2.13729	-1.17028	
	Equal variances not assumed	2.13729	-1.37749	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	7.81028
	Equal variances not assumed	8.01749

a. Age = 25-34

Age = 35-44

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	Czechia	10	21.4900	4.99988	1.58110
	Germany	10	27.1000	1.72305	.54488

a. Age = 35-44

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	11.024	.004	-3.355						
	Equal variances not assumed			-3.355						

Independent Samples Test[a]

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
TetiaryEducationPercentage	Equal variances assumed	18	.004	-5.61000			
	Equal variances not assumed	11.108	.006	-5.61000			

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	1.67235	-9.12348	
	Equal variances not assumed	1.67235	-9.28646	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	-2.09652
	Equal variances not assumed	-1.93354

a. Age = 35-44

Age = 45-54

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	Czechia	10	17.3200	2.06656	.65350
	Germany	10	22.8700	1.12945	.35716

a. Age = 45-54

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	6.100	.024	-7.452						
	Equal variances not assumed			-7.452						

Independent Samples Test[a]

		t-test for Equality of Means						
		df	Sig. (2-tailed)	Mean Difference				
TetiaryEducationPercentage	Equal variances assumed	18	.000	-5.55000				
	Equal variances not assumed	13.936	.000	-5.55000				

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	.74474	-7.11463	
	Equal variances not assumed	.74474	-7.14799	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	-3.98537
	Equal variances not assumed	-3.95201

a. Age = 45-54

Age = 55-64

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	Czechia	10	11.7400	2.41118	.76248
	Germany	10	20.2600	1.10172	.34839

a. Age = 55-64

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	6.681	.019	-10.163						
	Equal variances not assumed			-10.163						

Independent Samples Test[a]

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
TetiaryEducationPercentage	Equal variances assumed	18	.000	-8.52000			
	Equal variances not assumed	12.601	.000	-8.52000			

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	.83831	-10.28121	
	Equal variances not assumed	.83831	-10.33689	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	-6.75879
	Equal variances not assumed	-6.70311

a. Age = 55-64

```
T-TEST GROUPS=Country(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=TetiaryEducationPercentage
  /CRITERIA=CI(.95).
```

T-Test

Year = 2009.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	23.7800	8.48569	3.79492
	Czechia	5	13.6000	5.67847	2.53949

a. Year = 2009.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	1.308	.286	2.229						
	Equal variances not assumed			2.229						

Independent Samples Test[a]

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
TetiaryEducationPercentage	Equal variances assumed	8	.056	10.18000			
	Equal variances not assumed	6.984	.061	10.18000			

Independent Samples Test[a]

	t-test for Equality of Means	

		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	
TetiaryEducationPercentage	Equal variances assumed	4.56622	-.34973	
	Equal variances not assumed	4.56622	-.62241	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	20.70973
	Equal variances not assumed	20.98241

a. Year = 2009.00

Year = 2010.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	24.7600	8.73086	3.90456
	Czechia	5	14.9400	6.43257	2.87673

a. Year = 2010.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	.931	.363	2.025						
	Equal variances not assumed			2.025						

Independent Samples Test[a]

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
TetiaryEducationPercentage	Equal variances assumed	8	.077	9.82000			
	Equal variances not assumed	7.354	.081	9.82000			

Independent Samples Test[a]

	t-test for Equality of Means	

		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	
TetiaryEducationPercentage	Equal variances assumed	4.84987	-1.36381	
	Equal variances not assumed	4.84987	-1.53708	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	21.00381
	Equal variances not assumed	21.17708

a. Year = 2010.00

Year = 2011.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	25.7800	9.08609	4.06342
	Czechia	5	16.4200	7.63656	3.41517

a. Year = 2011.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	.470	.513	1.763						
	Equal variances not assumed			1.763						

Independent Samples Test[a]

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
TetiaryEducationPercentage	Equal variances assumed	8	.116	9.36000			
	Equal variances not assumed	7.770	.117	9.36000			

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	5.30799	-2.88026	
	Equal variances not assumed	5.30799	-2.94363	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	21.60026
	Equal variances not assumed	21.66363

a. Year = 2011.00

Year = 2012.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	26.9200	9.37774	4.19385
	Czechia	5	18.1000	8.91824	3.98836

a. Year = 2012.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	.236	.640	1.524						
	Equal variances not assumed			1.524						

Independent Samples Test[a]

		t-test for Equality of Means						
		df	Sig. (2-tailed)	Mean Difference				
TetiaryEducationPercentage	Equal variances assumed	8	.166	8.82000				
	Equal variances not assumed	7.980	.166	8.82000				

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	5.78752	-4.52605	
	Equal variances not assumed	5.78752	-4.53190	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	22.16605
	Equal variances not assumed	22.17190

a. Year = 2012.00

Year = 2013.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	28.0000	9.63691	4.30976
	Czechia	5	19.6200	8.79016	3.93108

a. Year = 2013.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	.376	.557	1.437						
	Equal variances not assumed			1.437						

Independent Samples Test[a]

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
TetiaryEducationPercentage	Equal variances assumed	8	.189	8.38000			
	Equal variances not assumed	7.933	.189	8.38000			

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	5.83330	-5.07162	
	Equal variances not assumed	5.83330	-5.09133	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	21.83162
	Equal variances not assumed	21.85133

a. Year = 2013.00

Year = 2014.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	28.6800	9.90616	4.43017
	Czechia	5	20.7000	8.96660	4.00999

a. Year = 2014.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	.409	.540	1.335						
	Equal variances not assumed			1.335						

Independent Samples Test[a]

		t-test for Equality of Means						
		df	Sig. (2-tailed)	Mean Difference				
TetiaryEducationPercentage	Equal variances assumed	8	.218	7.98000				
	Equal variances not assumed	7.922	.219	7.98000				

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	5.97548	-5.79949	
	Equal variances not assumed	5.97548	-5.82319	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	21.75949
	Equal variances not assumed	21.78319

a. Year = 2014.00

Year = 2015.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	29.6200	10.27653	4.59580
	Czechia	5	21.5000	10.37401	4.63940

a. Year = 2015.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	.086	.777	1.243						
	Equal variances not assumed			1.243						

Independent Samples Test[a]

		t-test for Equality of Means						
		df	Sig. (2-tailed)	Mean Difference				
TetiaryEducationPercentage	Equal variances assumed	8	.249	8.12000				
	Equal variances not assumed	7.999	.249	8.12000				

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	6.53034	-6.93900	
	Equal variances not assumed	6.53034	-6.93924	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	23.17900
	Equal variances not assumed	23.17924

a. Year = 2015.00

Year = 2016.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	30.3600	10.24319	4.58090
	Czechia	5	22.2200	10.36904	4.63718

a. Year = 2016.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	.065	.805	1.249						
	Equal variances not assumed			1.249						

Independent Samples Test[a]

		t-test for Equality of Means					
		df	Sig. (2-tailed)	Mean Difference			
TetiaryEducationPercentage	Equal variances assumed	8	.247	8.14000			
	Equal variances not assumed	7.999	.247	8.14000			

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	6.51828	-6.89119	
	Equal variances not assumed	6.51828	-6.89158	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	23.17119
	Equal variances not assumed	23.17158

a. Year = 2016.00

Year = 2017.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	31.2200	10.40779	4.65450
	Czechia	5	23.4600	10.80315	4.83131

a. Year = 2017.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	.005	.947	1.157						
	Equal variances not assumed			1.157						

Independent Samples Test[a]

		t-test for Equality of Means						
		df	Sig. (2-tailed)	Mean Difference				
TetiaryEducationPercentage	Equal variances assumed	8	.281	7.76000				
	Equal variances not assumed	7.989	.281	7.76000				

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	6.70865	-7.71018	
	Equal variances not assumed	6.70865	-7.71392	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	23.23018
	Equal variances not assumed	23.23392

a. Year = 2017.00

Year = 2018.00

Group Statistics[a]

	Country	N	Mean	Std. Deviation	Std. Error Mean
TetiaryEducationPercentage	EU	5	32.1400	10.73070	4.79892
	Czechia	5	23.7800	11.05970	4.94605

a. Year = 2018.00

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t						
TetiaryEducationPercentage	Equal variances assumed	.000	.991	1.213						
	Equal variances not assumed			1.213						

Independent Samples Test[a]

		t-test for Equality of Means						
		df	Sig. (2-tailed)	Mean Difference				
TetiaryEducationPercentage	Equal variances assumed	8	.260	8.36000				
	Equal variances not assumed	7.993	.260	8.36000				

Independent Samples Test[a]

	t-test for Equality of Means		
	Std. Error Difference	95% Confidence Interval of the Difference	

			Lower	
TetiaryEducationPercentage	Equal variances assumed	6.89152	-7.53187	
	Equal variances not assumed	6.89152	-7.53439	

Independent Samples Test[a]

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
TetiaryEducationPercentage	Equal variances assumed	24.25187
	Equal variances not assumed	24.25439

a. Year = 2018.00