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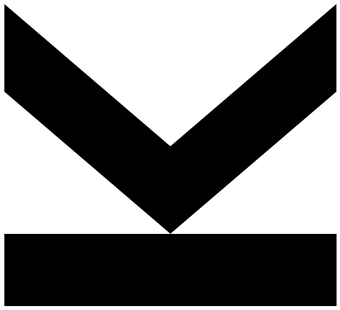
Social determinants of health in different welfare state environments

A comparison of men and women in Austria and Sweden



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SWORN DECLARATION

I hereby declare under oath that the submitted Master's Thesis has been written solely by me without any third-party assistance, information other than provided sources or aids have not been used and those used have been fully documented. Sources for literal, paraphrased and cited quotes have been accurately credited.

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ABSTRACT

Health is not only the result of medical and lifestyle factors; also a whole range of social conditions and resources determine a person's state of health. This thesis asks what effects different welfare state environments have on the importance of social determinants of health and how this varies between men and women.

Austria, a corporatist welfare regime, and Sweden, a social democratic welfare regime, serve as representative for their respective regime types and are compared. The first part compares selected policy areas relevant for the working-age population (sickness, family, employment and tertiary education). The second part analyses the association of income, education and employment status with the subjective health status of Austrians and Swedes aged 20 to 65 via a chi-square test and binary logistic regression based on data derived from the European Social Survey Round 7.

The social policy landscape of Austria and Sweden still resembles the characteristics and normative value systems originally assigned by welfare regime theory. People in lower socioeconomic groups face health disadvantages in both countries. Chi-square statistics found that there is a significant difference of subjective health between men and women in Sweden, however, not in Austria. Logistic regression for Austria showed there is health inequality due to education and employment status for men and women, whereas health inequality due to income is only significant for women. In Sweden, health inequality in the male sample was only due to employment status, while health inequality in the female sample could be found with regard to income and education level.

Health inequality is a problem in both countries and not restricted to one particular regime type. Despite Sweden's gender-egalitarian policies and generally high population health, the gender difference in health is larger than in Austria. Thus, the results of this work add to the manifestation of a "public health puzzle" discussed by public health scholars.

Since the problem of health inequality is found to be more evident in the gender dimension than in the cross-country dimension, it is suggested to focus further research on the lowest socioeconomic groups and the different reality of life of men and women to fully understand and reduce health inequalities with regard to the full spectrum of health determinants.

Key words: social determinants of health, welfare state regimes, health inequality, social policy.

Social determinants of health in different welfare state environments: A comparison of men and women in Austria and Sweden

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1. Introduction

Where and how did you grow up?

Where and how do you live?

Where and how do you work?

Where and how do you grow old?

In the field of public health research it is agreed that the answers to these four questions are of crucial importance for the state of our health. While an illness can of course cause negative effects on our health, there are many other factors which either enforce or lower the possibility of a healthy life. These are the so-called “causes of the causes” or social determinants of health (Marmot, 2007, p. 1153).

Lower social classes might be more exposed to the risk of being born in the “wrong” place or family, suffering from bad working and living conditions or lacking social security. Thus, the health of those people might be greatly affected by the safety net (or lack thereof) offered by welfare programmes and the particular design of social policy in a country. Therefore, the welfare state might be the factor that regulates distribution of quality of health throughout different social classes. Apart from the economic benefits that good population health offers for a country, it is also seen as “right and just” to establish fairly distributed quality of health (Marmot, 2007, pp. 1153–1161).

Many studies also concluded that especially women are vulnerable to the effects of social determinants of health. Frequently women report poorer self-rated health and have worse health outcomes than their male counterparts (Espelt et al., 2008; Hosseinpoor et al., 2012; Palencia et al., 2014). Self-perceived health statistics reported by Eurostat speak of a literal gender health gap. In 2014 in all 28 European countries, men were more likely to report very good or good health than women (Eurostat, 2016).

Against this backdrop, the research question in this thesis is: *What effect, if any, do different welfare state environments have on the importance of social determinants of health and how does it vary between men and women?* The main hypothesis of this thesis is that *the welfare state in its redistributional role has an influence on what kind of social determinants are relevant for the health of men and women, which can moreover vary in different welfare state types.*

The argument behind this thesis is that *welfare state characteristics and policies create a certain environment that can either reduce or amplify the effects of unfortunate life circumstances and with it their effect on health.*

A comparison of different welfare state regimes is drawn in this thesis by examining Austria, which is representative of a corporatist welfare regime, and Sweden, which is representative of a social democratic welfare regime. The research approach comprises a comparative analysis of various social policy fields in the different welfare environments of Austria and Sweden as well as a quantitative analysis of survey data provided by the European Social Survey in 2015 (ESS Round 7) concerning subjective health of men and women with regard to selected social health determinants. This approach for cross-national research is based on the method explained by Kohn (1987) where the nation, in this case Austria and Sweden, is treated as context. As a consequence, the nations used in this study serve as "vehicles for investigating the context" (Kohn, 1987, p. 715) in which different welfare state characteristics influence the manifestation of social determinants of health.

The research question investigated in this thesis is relevant due to three reasons: The first reason is the need for equity. Quality of health should not only be equally distributed throughout social classes but also between genders. The second reason is the problem to clarify how social determinants are shaped by different welfare states. For example how education or paid employment is supported or prevented because of more or less encouraging policies. The third reason is that the welfare state is a big player when it comes to redistribution. Thus, it is important to know what the main determinants for people's health are and how the welfare state might contribute to improving the health of both men and women.

This thesis is structured in the following manner. Chapter 2 provides the theoretical background to this research. It describes the concept of social determinants of health, what they mean and how they become visible. Moreover, the theory of welfare state regimes by Esping-Andersen (1990), which serves as basis for the comparison of Austria and Sweden, is explained. In addition, the missing gender perspective in Esping-Andersen's work will be discussed and supplemented by the perspective of family policy models. In Chapter 3, a literature review offers an overview of the current discussion in this field. The fourth chapter moves more towards the core of this work and offers a thorough comparison of selected policy fields in the different welfare state representatives, Austria and Sweden. Chapter 5 explains the methods used in the quantitative part of the thesis, introducing the analytical sample, the variables and a precise description of the statistical method of the chi-square test for association and binary logistic regression. In Chapter 6, the results of the statistical

analysis are illustrated and explained. These results are discussed in Chapter 7 and the initial research question is answered. Finally, Chapter 8 offers final remarks concerning the strengths and limitations of this thesis.

2. Theoretical Background

This chapter provides the theoretical background on which the research hypothesis about the power of the welfare state to mediate social determinants of health is based. It explains the idea of social determinants of health, introduces the welfare state classification used in this thesis and expands the missing gender perspective by including family policy models.

2.1. Social determinants of health

What is commonly understood as social determinants of health are non-medical and non-lifestyle factors that affect people's health (Marmot & Wilkinson, 2005; Raphael, 2003, p. 36). According to the Ottawa Charter for Health Promotion by The World Health Organization (WHO) the prerequisites for health are as follows: "The fundamental conditions and resources for health are peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity". Moreover, they add that "improvement in health requires a secure foundation in these basic prerequisites" (World Health Organization, 1986).

Studies have shown that there are considerable differences in health and life expectancy when comparing, for instance, different parts of a city in the same country, more precisely when comparing rich to poor areas. These differences can be found within countries but also between countries. To gain a better understanding for the causes of these differences and, subsequently, to find a way to prevent them, it is necessary to take a closer look at the social determinants of health (Marmot & Wilkinson, 2005, p. 20).

Figure 1 illustrates the influence of health determinants as explained by Dahlgren and Whitehead (1991). According to this illustration, which is commonly known as the "Rainbow Model", one major determinant is layered above the other. The outer layer called "General socioeconomic, cultural and environmental conditions" represents the major structural environment in which people live. The layer beneath it stands for the material and social conditions that people are facing. These living and working conditions range from agriculture and food production, education and work environment to factors such as unemployment, water and sanitation, healthcare services and housing. The next layer, "Social and

community networks", accounts for the importance of support from family, friends and neighbours as well as the local community. The lower layer illustrates individual lifestyle factors such as choice of food, smoking and drinking habits and so on. In the core of this model there is the individual person, with features such as sex, age and constitutional factors.

What distinguishes the core from the outer layers is the fact that individual features such as sex, age and genetic predisposition may still play an important role for health but compared to the outer layers, they are fixed factors where there is only little control from external influence (Dahlgren & Whitehead, 1991, p. 11).

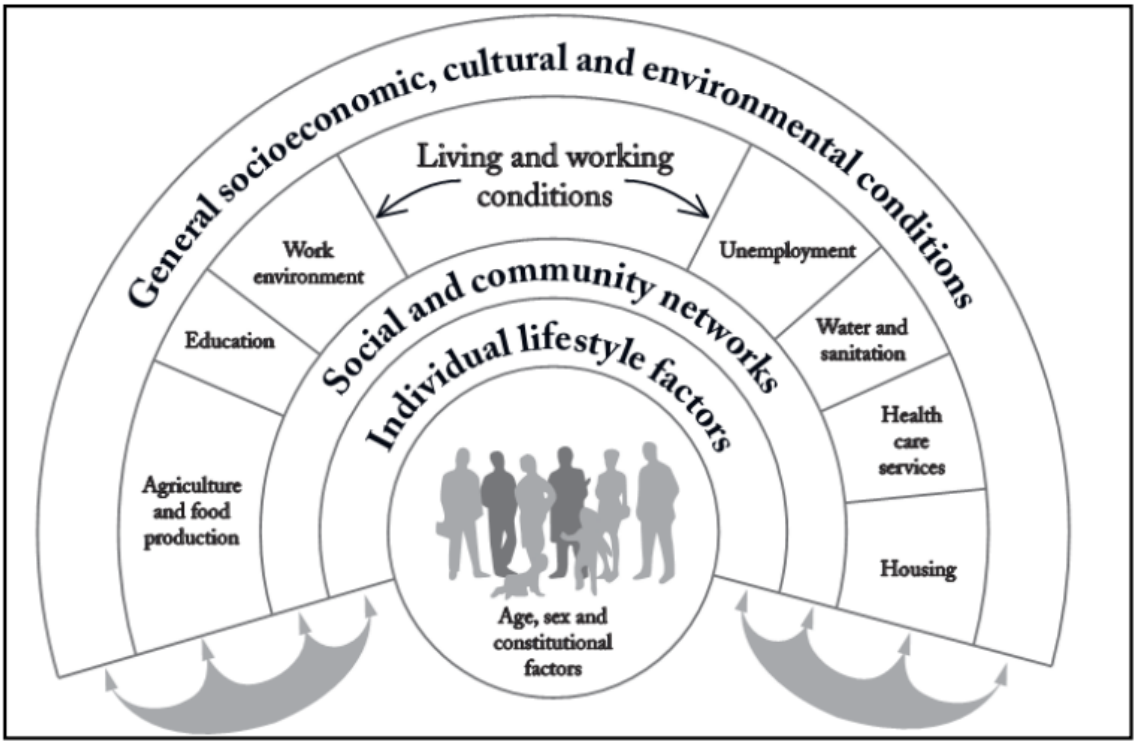

Figure 1: The Rainbow Model of determinants of health (figure taken from Dahlgren & Whitehead 1991)

Each of those four layers of influence offers potential for policy interventions. The first and outer layer can be influenced by long-term structural changes, for example economic strategies, changes in taxation, or trade and environmental regulations. Policy intervention for layer two can aim at the improvement of living and working conditions through emphasizing health in public as well as business strategies. Interventions at this level include above all, action at national, regional or local level in the form of welfare benefits, health services, food and nutrition policies and employment policies, thus challenging especially the social security sector, health care sector, agricultural and labour sector. In the third layer,

interventions could aim at helping to strengthen mutual support in social and community networks. Policy interventions at level four may focus on prevention of risky behaviour by health education and empowerment with special attention to the groups with the unhealthiest lifestyles.

The authors, however, stress that policies for improvement of health can be adapted to any of the four layers. In fact, interventions would be most successful if they would focus attention on several layers at once, thereby improving the impact of a policy and reducing social inequity (Dahlgren & Whitehead, 1991, pp. 12–13).

2.1.1. Health inequality and health inequity

In public health literature, there are often references to the terms health inequality and health inequity. Both terms describe differences in health, but the underlying reasons are of a different nature. Inequality is used for describing measurable quantities, whereas inequity has a political meaning.

Health inequality is used to describe “differences, variations, and disparities in the health achievements of individuals and groups”. So, the term is only descriptive and does not imply a moral judgement. For instance, the better health of young people compared to older people could be described as health inequality (Kawachi, 2002, p. 647). Health inequity, however, is considered unfair and the result of injustice, such as health inequalities between socioeconomic groups or races. It expresses “a moral commitment to social justice”. Moreover, health inequity is regarded as the kind of inequality that is unnecessary or avoidable (Kawachi, 2002, pp. 647–648).

The problem with the distinction between inequality and inequity is the underlying normative judgment. What is considered as unjust depends to a great extent on one’s ideas and theories of justice, one’s perceptions of society and one’s understanding of the origins of health inequality. Consequently, the identification of health inequalities cannot be achieved by scientific standards alone; it is also a matter of normative judgement of what is considered unjust and unfair. A popular example to illustrate these different perceptions is the question of the importance of individual responsibility. The first group would not consider health inequalities as unjust since they claim that every individual can make his or her own choices, for instance starting to smoke, and is therefore responsible for their outcomes. The second group, who argue that health is widely determined by social factors, would regard the choices people make a result of the unfair circumstances they live in (Kawachi, 2002, p. 648).

Empirical evidence supports the theory of social determinants of health and the existence of a social gradient in health behaviours. Thus, investment in one’s health is not always freely

chosen, because of the relevance of early life course influences and contextual factors. The former refers to influences that might appear already when a person is growing up that render them unable to make informed choices and subsequently determine health as an adult. The latter stresses that health risks can be the result of the micro and macro environment one lives in or the behaviour of fellow human beings. In order to reduce and finally overcome inequities in health it is important to analyse inequalities with a focus on social group differences, for example due to social class or race (Kawachi, 2002, p. 648).

In this thesis the term health inequality is used since it is the commonly used expression in the literature when describing differences in health due to socioeconomic reasons. However, it should be understood in the sense of health equity due to its political implications.

2.1.2. The social gradient in health and the causes of the causes

The social gradient in health means that people in lower socioeconomic positions have worse health and, conversely, people in higher social positions have better health. This can be observed throughout the socioeconomic spectrum. However, not only those in poverty are affected by worse health. One of the earliest studies concerning a social gradient in health, the Whitehall study of British civil servants, showed that even civil servants who were not poor had a higher health risks, such as coronary heart disease, when they were at a lower employment grade. Thus, the social gradient is also present throughout social hierarchy. At every step of the social ladder, the people one step above have better health than those below them (Marmot, Rose, Shipley, & Hamilton, 1978, p. 244; Marmot & Wilkinson, 2005, p. 21). This is the case in low as well as middle and high-income countries, thus affecting everyone. Measured by income, occupational status or education, people in lower positions report worse health (Kawachi, 2002, p. 649; World Health Organization, 2016).

The awareness of the social gradient in health makes it obvious that health is very sensitive to the environment people work and live in. Thus, the discovery of the social gradient made it possible to identify the social determinants for health in the first place. However, the longer people live in adverse economic and social circumstances, the more likely it is for them to suffer from poor health, with negative effects even in old age. Even though, poor health conditions can be caused by behavioural risk factors such as smoking or an unhealthy diet, it is important to look at the social factors that determine such behaviour, because unhealthier lifestyles are more prominent in the lower socioeconomic group. In other words, it is important to search for the causes of the causes (Marmot & Wilkinson, 2005, p. 21; Wilkinson, 2003, p. 10).

2.1.3. Causal pathways of health inequalities

In general, two approaches for explaining health inequalities can be distinguished: the material interpretation and the psychosocial interpretation. The material interpretation assumes that health inequalities derive from the connection between socioeconomic position and the ability to sustain material needs from a very basic level such as food, shelter, and access to services, up to even more materialist conditions such as car or house ownership, internet access and so on. The psychosocial interpretation, however, locates the origin of health inequalities in the direct and indirect effects of stress caused by belonging to a lower socioeconomic group or suffering from relative socioeconomic disadvantages. Direct effects of stress can be caused by the allostatic load, a weariness caused by negative circumstances in everyday life. Indirect effects on health caused by stress can lead to a profile more prone to negative behaviour such as increased alcohol consumption or smoking. The two approaches often interact. Low social status or low prestige and little control are considered as psychosocial determinants of health, still they can be caused by factors such as lack of income or bad housing, which are considered as material factors. Thus, initial causes of inequalities and underlying pathways are often confused (Kawachi, 2002, p. 649).

2.1.4. How social determinants are reflected in health

According to the literature mentioned above, health is not only a matter of individual lifestyles and behaviours. Instead it is to a big extent the result of the social and economic environment in which people live. But how exactly do social factors determine health and how is individual behaviour shaped by the environment? A paper issued by the World Health Organization edited by Wilkinson (2003) provides facts and evidence, derived from numerous studies, for the possible adverse effects of the following major health determinants which will be explained in the next paragraphs:

- The social gradient
- Stress
- Circumstances in early life
- Social exclusion
- Work environment
- Unemployment
- Social support
- Addiction
- Food
- Transport

Further above (Chapter 2.1.2), the social gradient was already mentioned. According to Wilkinson (2003) facing bad economic conditions is associated with worse health. This can be due to lack of monetary resources in the family, precarious employment situation, not enough or only poor education when growing up, bad housing conditions, insufficient pensions or problems to support ones family.

There is also evidence that adverse conditions in everyday life can lead to long-term stress, which causes anxiety, social isolation, low self-worth, lack of control in private life and the job, as well as insecurity and absence of support from family and friends. This again, has bad effects on health, which get even worse the longer people are exposed to these stressful circumstances. Stress is harmful, in particular, because it triggers a physical reaction of the body. It affects the cardiovascular and the immune system by causing a physical response manifested as increased heart rate and alertness as well as mobilization of stored energy, thus taking away resources important for preserving long-term health. While this is no problem on a short time period, the longer this tension lasts, the more likely people are to suffer from negative consequences such as high blood pressure, depression, aggression, infections or even heart attacks, stroke or diabetes.

Adult health is already affected by circumstances during childhood and even before birth. Potential negative influences are manifold at this early stage of life. Malnutrition, stress or smoking and drug abuse during pregnancy might lead to poor fetal development with consequences for future development. Moreover, lack of stimulation, unsteady emotional attachment and lack of positive role models during childhood can lead to problems in school and overall behaviour as well as social exclusion in adult life. This means that adverse effects already during pregnancy and childhood can influence physical, cognitive and emotional development and thus cause poor physical and psychological health in adulthood.

Another major determinant is social exclusion. It can result from poverty and unemployment, but also from hostility, racism, discrimination and stigmatization. It hampers people from taking part in society, from getting adequate education and training, from access to services and much more. The biggest danger in this aspect is the social and psychological damage that is done to people who are socially excluded as well as the material costs and negative effects on health. Again, the longer people are socially excluded due to whatever reason, the more likely it is for them to suffer from poor health, especially cardiovascular disease, or even a premature death. In addition, social exclusion and poverty are also associated to higher risks of divorce or separation, disability, addiction, social isolation and illness. Each negative effect increases the risk for other negative consequences, subsequently creating a downward spiral.

The work environment also plays an important role when it comes to explaining the social gradient in health. Especially when people cannot make use of their skills or have little control over their work, they suffer from stress. Low control is also associated with increased risk of low back pain, cardiovascular disease and increased sickness absence. Also the combination of high work demands and low control over one's tasks comes with a special risk for health. In addition, the feeling that work is not adequately rewarded is associated with health risks. Rewards must not necessarily be monetary; they can also be increased self-esteem or status. Thus, the psychosocial environment people are exposed to at their workplace contributes highly to the state of their health.

Bad working conditions are not the only cause of health-related problems. Other chronic stressors include unemployment and job insecurity. Unemployment or the mere threat of losing one's job and the subsequent prospect of financial problems causes psychological problems such as increased anxiety, depression, bad subjective health and heart problems.

Another crucial determinant for health is social support. If people have friends and good social relations, feel cared for, valued and accepted they feel healthier. Peers can also have a positive influence on health behaviour. On the other hand, if those supportive networks are missing, people often feel less healthy, depressive and they even have greater risks of complication during pregnancy or disability caused by chronic diseases. Since poverty can lead to social exclusion, people with lower social status are more likely to be isolated. They often lack relationships of mutual trust, respect and obligations, called social cohesion, which is important for protecting people and their health. There is evidence that especially in societies where income inequality is comparably high, the level of trust is very low while the level of violence is high.

A factor that can be both the possible cause and effect of economic disadvantages is addiction. Alcohol, drugs or cigarette smoking are used for relaxing and escaping from stress or bad circumstances, but in fact, they make the problems people tried to escape from in the first place even worse. Alcohol dependence is linked to increased violence and downward social mobility; also tobacco smoking is associated with lower social status. High rates of smoking are often found within groups of people with low income and poor housing but also within homeless or unemployed people as well as single parents. Cigarette smoking is not only very expensive; it also causes considerable health problems and may result in premature death.

Various illnesses are also caused by malnutrition. Besides shortage of food or insufficient variety, excess intake is a great problem. Overconsumption of fats and sugars (which is a major problem in diets nowadays) causes various health problems, such as diabetes, cardiovascular diseases, obesity and many more. Generally, the biggest issue is to make

healthy food available and affordable for everyone. Since food supply is controlled by big industries this aspect is neglected most of the time. Thus, a social gradient can be found in diet quality as well. People in higher social classes tend to eat healthier, fresh food, whereas poor people increasingly consume cheaper processed food. As a consequence, the social gradient in diet quality plays a significant role in overall health inequality.

A last determinant for health, mentioned by the WHO publication, is healthy transport. Walking and cycling supplemented by improved means of public transport do not only increase physical activity it also decreases fatal accidents, promotes social contact and contributes to reducing air pollution (Wilkinson, 2003, pp. 9–29).

To sum up, health can be determined by manifold psychological and social influences. Many of those can be shaped by social policies. Thus, the characteristics of the welfare state environment within a country might be a factor that influences which of the above mentioned social determinants of health has the greatest impact.

2.2. The welfare state environment

In this study, two countries will be in the centre of analysis: Austria and Sweden. The two countries are comparable with regard to Gross Domestic Product (GDP), which is 48,091 USD per capita in Austria and 46,702 USD per capita in Sweden, as well as with regard to their population size – Sweden with 9.6 million and Austria with 8.4 million (OECD, 2016b, 2016d). Moreover, as data from 2014 show, both countries have around the same percentage of social spending. In Austria, the public social expenditure as a percentage of GDP was 28.4% and 28.1% in Sweden. This kind of spending may include cash benefits, direct in-kind provision of goods and services, as well as tax breaks (OECD, 2016e).

As Esping-Andersen argued, the level of social expenditure does not adequately reflect a state's commitment to welfare. Spending can have different targets and therefore does not count equally. Instead, it much more depends on the characteristics of the welfare state, for example whether there are targeted or universalistic programs, how eligibility is reached, the quality of services and benefits and to what extent working life and employment are included in citizen rights ensured by the state (Esping-Andersen, 2007 [1990], pp. 19–21).

Consequently, Esping-Andersen offers the following definition:

> "(…) the concept of welfare-state regimes denotes the institutional arrangements, rules and understandings that guide and shape concurrent social-policy decisions, expenditure developments, problem definitions, and even the response-and-demand structure of citizens and welfare consumers. The existence of policy regimes reflects the circumstance that short-term policies, reforms, debates, and decision-making take

> place within frameworks of historical institutionalization that differ qualitatively between countries." (Esping-Andersen, 2007 [1990], p. 80)

Beginning by T.H. Marshall (1950) the underlying idea of the welfare state is social citizenship. According to Esping-Andersen this idea is based on three main principles. The first is that the state ensures social rights based on citizenship and not on performance, which ensures a certain degree of de-commodification. The second principle is that of social stratification. This means that having the status of a citizen is more important than class position. Finally, the third principle is concerned with the interaction of welfare state activities with the role of the market and the family (Esping-Andersen, 2007 [1990], p. 21).

The term de-commodification as used by Esping-Andersen describes the extent to which a service can be seen as a matter of right and not as a good that has to be purchased at the market. Thus, de-commodification expresses the emancipation of individuals from their dependence on the market. Taking into account the relationship between employer and employee, a high degree of de-commodification weakens the power of the employer and strengthens the position of the worker. It enables the workers the possibility to opt out of work when necessary without the threat of losing their job, income or access to welfare. This includes security in case of sickness and unemployment but also parental or educational leave. When it comes to social stratification, however, Esping-Andersen argues that the welfare state is "an active force in the ordering of social relations". Thus, it goes beyond mere intervening and correcting and becomes a "system of stratification in its own right" (Esping-Andersen, 2007 [1990], pp. 21–23).

According to this explanation, there is more to the welfare state than the amount of money that is put into providing the resources. Welfare state characteristics in the form of social rights based on citizenship, de-commodification, social stratification and the interpretation of what role market and family play within the provision of welfare can shape the socioeconomic environment people are facing.

To get a better picture of these characteristics it is worthwhile to take a closer look at different welfare state types. Esping-Andersen distinguishes three main welfare state regimes based on their different integration of state, market and family: the liberal welfare state, the corporatist welfare state and the social democratic welfare regime. Of course, all three types of welfare regimes are only ideal-typical and therefore not pure cases in their assigned characteristics. Every regime type can include elements that would actually be associated with a different one, however, they can be grouped into distinct regime clusters (Esping-Andersen, 2007 [1990], p. 26).

The liberal welfare state, which, according to Esping-Andersen's typology (2007 [1990], p. 26), is characterized by its low degree of de-commodification and means-tested benefits and is predominant in Canada, Australia and the United States, will not be discussed further in this study. The countries of interest in this thesis are Austria and Sweden, which are representatives of the corporatist and social democratic welfare regime.

The corporatist or conservative welfare regime

Amongst the European countries Germany, Italy and France, Austria belongs, according to Esping-Andersen's definition, to the cluster of corporatist or conservative welfare states. In this regime type, the preservation of class and status, to which social rights were attached, plays an important role. Corporatism was included into the structure of the state, thus market efficiency as well as private insurance and occupational fringe benefits are only of marginal importance. In addition to status differentials, the church played an important role in this regime type, by conserving traditional images of the family. In the corporatist welfare regime housewives are usually excluded from social insurance, the role of women as mother and carer is encouraged and care facilities are only sparse. This is emphasized by the principle of subsidiarity, which means that the state only interferes when the family as provider of welfare is at its limits (Esping-Andersen, 2007 [1990], p. 27).

The social democratic welfare regime

The social democratic regime type includes Scandinavian countries such as Sweden. As already implied by the name, social democracy was the driving force behind this regime type. The guiding principle in this kind of welfare state regime is universalism and de-commodification of social rights as well as establishing equality. The quality of services and benefits tend to be very high, in order to serve the high demands and expectations of both the working class and the middle class. This is regarded as very important in order to prevent a dual system of market and state, where better-off groups buy additional services at the market and the poor are stuck with only minimal state benefits. All social classes are included in this universal insurance system with equally sophisticated benefits and services, which is thus highly de-commodifying.

However, not only the market has a subordinate role as welfare provider, also the traditional family is less important than in the corporatist regime type. In contrast to the corporatist model it is not the family who is responsible for welfare but the state. Instead of the state leaving all the responsibility of welfare provision with the family and only stepping in when the resources of the family are exhausted, the costs of having a family are socialized in the first

place. This leads to an increased independence of individuals from the market and the family. As a consequence of the focus on individual independence, the welfare state pays transfers directly to children, is directly responsible for the care of children, elderly and the helpless and facilitates access to the labour market for women by offering them the option to choose between work and household. Of course, the commitment to high quality services and benefits is very costly and can only work if as many people as possible contribute to the system. Therefore, full employment is not only a goal of the social democratic welfare regime but almost also a precondition. The optimum is a maximum of people contributing to the welfare state and a minimum of people depending on it (Esping-Andersen, 2007 [1990], pp. 27–29).

How does the welfare state shape the labour market?

Esping-Andersen argues that the labour market is not independent from politics, more precisely, policies, and with them the welfare state, shape the labour market directly and systematically within a country. Accordingly, every welfare state type shapes the labour market in a different way. In this context he identifies three instances where the interaction of social policy with working life is most evident. The first instance is the “conditions for labor supply”, and with that the determinants for people leaving or staying in the labour force (e.g. retirement conditions). The second occasion reflects on the “conditions that shape behavior within the labor contract”, discussing how much authority the worker has in comparison to the employer and the level of de-commodification of the worker’s status, also with regard to paid absence from work. The third relevant instance is “the demand for labor” in the sense of “the conditions under which labor enters into employment”. This emphasizes, that besides the regulation of labour demand by marginal productivity and price, the welfare state itself is an important employer and creates labour demand (Esping-Andersen, 2007 [1990], pp. 144–150).

The welfare state and its institutionalisation have a substantial causal impact on the development of employment structures and thus on the working environment people are facing (Esping-Andersen, 2007 [1990], p. 221). In the work of Esping-Andersen regarding welfare states and their connections to the labour market, the social democratic welfare regime is exemplified by Sweden and the corporatist regime is exemplified by Germany.

Social democratic welfare states, for example, tackle employment problems due to slow economic growth by improving and extending the social service sector (including health and education), maximizing employment participation (including participation of women) and supporting full employment. The expansion of the service sector especially created numerous jobs for women. From the supply side perspective, the provision of services like

day care on the one hand created free capacities for women to pursue a job and on the other side also created jobs for women. Women, particularly mothers, are also offered flexible working hours and the possibility of working part-time. In addition, taxes and welfare state transfers encourage dual-earner households. The demand side perspective shows that social democratic welfare states like Sweden have to optimize employment opportunities, even when facing the risk of severe debts, because the high standard of the welfare state is supplied by taxes and thus depending on as many tax-paying workers as possible (Esping-Andersen, 2007 [1990], pp. 223–224).

The connection of the welfare state and the labour market in conservative regimes is somewhat different compared to social democratic regimes. From the supply side perspective, welfare is to a big extent provided by the family, especially the women within the family, due to the principle of subsidiarity. Thus, services that facilitate women to participate in the labour market are neglected and therefore also the creation of jobs in the service sector is not deemed necessary. Since the preconditions for eligibility to benefits are mostly tied to a long working life, women are severely disadvantaged compared to men. Compared to the social democratic welfare state strategy, which focused on job creation and sustaining full employment, bad labour market conditions in conservative regimes were faced with early retirements of older employees. Thus, in this regime type it is important to have a highly productive industrial economy in order to finance the growing number of non-active people. On the demand side, creation of jobs in the public sector is very limited and high burden of transfers as well as strict fiscal and monetary policy-regimes hamper development not only in the public, but also in the private sector (Esping-Andersen, 2007 [1990], p. 224).

This illustrates very well the fact that the welfare state influences the labour market and with it the conditions people are facing in their working life. Although the corporatist welfare state was exemplified by Germany, the comparison of a social democratic regime with a corporatist regime showed that there are differences in the characteristics and peculiarities of interactions between welfare states and labour markets. Thus, it is important to look into the different conditions the labour market offers to people in Sweden and Austria and subsequently how these conditions are reflected in people's health.

How does the welfare state shape the education system?

What is missing in this welfare state description by Esping-Andersen is the field of education. Earlier on, scholars have regarded education as an important part of the welfare state. In 1950, T.H. Marshall argued in his essay on "Citizenship and social rights" that social rights include:

> "(…) the whole range, from the right to a modicum of economic welfare and security to the right to share to the full in the social heritage and live to the life of a civilized being according to the standards prevailing in the society. The institutions most closely connected with this are the educational system and the social services." (Marshall, 2010 [1950], p. 30)

Willemse and de Beer (2012) criticize this absence of education in welfare state research and aim at reintegrating this field by using the welfare state classification of Esping-Andersen to identify peculiarities of education systems across different welfare states. Besides policies regarding social security, pensions and the labour market, public education can also be considered as welfare or entitlement. Access to primary and secondary education is in most countries regarded as a basic right and therefore firmly embedded in the public sector, whereas the right to tertiary education can be regulated differently across countries. Again, Esping-Andersen's concepts of level of de-commodification and stratifications are used to evaluate the education system. Regarding the level of de-commodification, one can look closer at the conditions for access to higher education and what the state offers in order to act independently from market income or family support. Conditions for access to higher education can vary due to required level of competence, level of tuition fees, level of student loans and grants. When it comes to stratification, the level of education itself has a big impact on stratification since it directly influences people's opportunities on the labour market. In addition to that, stratification also describes the different hierarchy or prestige of pathways within the education system. Vocational specificity is thus regarded as highly stratifying, whereas standardization, in the sense of little variation regarding quality of schools and universities, is associated with a low degree of stratification. The study found that Esping-Andersen's regime types roughly correspond to the education systems in the different countries. On the one hand, higher education in social democratic welfare states is found to be highly de-commodifying and has moderate levels of stratification. This is expressed by high public spending on education, high enrolment numbers, moderate tuition fees, sophisticated student loans and grants, and a high level of standardization. Conservative welfare regimes, on the other hand, are associated with a rather high level of stratification and only moderate de-commodification due to only small student loans and grants, high vocational specificity and differentiation (Willemse & Beer, 2012, pp. 105–116).

As a consequence, not only the welfare regime in its classical connotation as a social service provider has a big impact on people's reality of life, it additionally shapes the characteristics of the labour market reality and education systems. Thus, the term welfare state environment is used in this study to express the multiple fields of welfare and complex interaction of normative assumptions underlying welfare state characteristics.

2.3. The gendered welfare state

Feminist critique on welfare arrangements and social policies already has a long history. Back in the 1970s, criticism towards welfare benefit arrangements such as family allowance arose because they were often paid to the husband and not to the wife. Thus, the call of women for “legal and financial independence” became ever louder (McIntosh, 2010 [1981], pp. 120–121). It was moreover criticized that although women did not contribute to the welfare state as workers who paid contribution since their role was assigned to the private sphere, it was overlooked that women, in fact, are providers of welfare. However, this unpaid care work leaves them economically dependent on men (Pateman, 2010 [1989], pp. 138–139).

Since then, welfare state analysis is often criticised for overlooking the gender perspective. Esping-Andersen in his welfare state typology focuses very much on the ideal-typical male worker when he talks about citizenship. What remains hidden in this approach is that this male worker is after all dependent on the unpaid work women do in the household or by caring for young and old family members. Esping-Andersen uses de-commodification to describe how the welfare state can help emancipate the worker from oppression by the capitalist market. This might de-commodify male workers but totally forgets about all the unpaid work female family members provide, thus they become even more dependent on a male breadwinner and the benefits that come with marital status (Lewis, 1997, p. 162; Orloff, 1993, pp. 311–317). As a consequence, the term de-commodification has different manifestations for men and women. Men can be de-commodified due to welfare policies and also achieve a certain level of de-commodification by the welfare provided by their wives or other female family members. For women, however, this is different; not only is household work distributed unequally between the genders, for them, de-commodification often means carrying out unpaid caregiving work. Another point of criticism is that state market relation emphasized in Esping-Andersen’s work neglects family and with it changes in family life, such as increasing female labour market participation. Even when it comes to stratification, the female perspective is different to that of men. While men benefit in their own right as workers, women are often entitled in their role as wife, widow or mother. A declared aim of social policies and welfare states should therefore be to provide choice for women to either care for family or not to care for family and have a job, because it is in the power of the welfare state to either enforce or weaken traditional gender roles such as female caregivers and male breadwinners. However, this depends to a great deal on predominant social norms within a country (Lewis, 1997, pp. 162–164).

As a result, the respective welfare state environment shapes the life of women differently than the life of men. To say it with Ann Shola Orloff’s words:

> "(…) few would deny that the character of public social provision affects women's material situations, shapes gender relationships, structures political conflict and participation, and contribute to the formation and mobilization of specific identities and interests." (Orloff, 1993, pp. 303–304)

Even so, the state can offer important political resources for empowering women, however they vary across countries. The spectrum of welfare states therefore ranges from being "women-friendly" to promoting reproduction of male dominance. In general, conservative regime types tend to preserve structures that keep women in their traditional and economically dependent role, whereas social democratic regimes are considered to be more progressive. However, social democratic regimes are found to have a high level of sex segregation of occupations (women in the service sector), many women working only part-time and the greatest part of unpaid work still in female responsibility (Orloff, 1993, pp. 304–311).

In order to overcome the gender bias caused by the ideal-typical citizen being a male worker, it is suggested to add two more dimensions to welfare state analysis in order to integrate the effects of gender relations: "access to paid work" and with it, the economic and political power women obtain through it, as well as "women's capacity to form and maintain autonomous households" in order to evaluate if women can opt out of marriage and be economically independent (Orloff, 1993, p. 322). In order to overcome this gender-blindness in welfare state analysis, concepts such as de-familialization can be very helpful. This concept focuses, especially with regard to women, on the relationships between work and family and the compromises between those two spheres. Thus, scholars can measure if policies undermine family as an institution and way of life, or not. Since the term de-familialization comes with a rather negative connotation, Daly (2011) prefers to refer to it as individualization, with the gendered individual at the centre of attention and not their role as family members (Daly, 2011, pp. 6–7).

2.4. An additional perspective: Family policy models

Since the gender perspective is widely neglected in Esping-Andersen's work (cf. Chapter 2.3) the consideration of family policy models can be helpful. Lewis (1992) argues that there is a gendered relationship between paid and unpaid work and welfare. This is because even though women entered the labour market and are now in paid work, unpaid work and with it the welfare this work provides, is still predominantly female. In order to uncover this imbalance in the division of unpaid work and prevent it from becoming invisible, Lewis suggests distinguishing between male-breadwinner states and dual-earner states. Male-

breadwinner states usually distinguish very rigorously between private and public responsibility and assign the role of the breadwinner to men and the role of caring and homemaking to women. Traditionally, such states are characterized by a lack of child care services and different social security rights for husbands and wives. Dual-earner or dual-breadwinner states, however, encourage female labour market participation, separate taxation and parental leave and aim at increasing the number of childcare services (Lewis, 1992, pp. 159–162).

To get an additional perspective for examining the effects of the welfare state environment on health (especially women's health) family policies will be taken into account. The concept of family policies, as explained by Korpi, Ferrarini, and Englund (2013), resembles strongly the male-breadwinner and dual-earner concepts described by Lewis (1992) already 30 years ago. Korpi et al. (2013) argue that family policies shape the opportunities women have by whether they support the traditional role as caregiver and housewife or encourage women to participate in the labour market, thereby indirectly influencing women's socio-economic status (Korpi et al., 2013, p. 1). According to that, family policy was assessed regarding "the extent to which it includes or excludes women from labor markets and the extent to which it affects inequality among working women" (Korpi et al., 2013, p. 7).

Three different policy dimensions can be distinguished on this basis: the traditional-family dimension, the dual-earner dimension and the dual-carer dimension. Policies within the traditional-family dimension were assessed by child allowance for underage children, public part-time day care services for children three years and older, home care allowance for children under school age, and tax advantages for households with only one economically active spouse. These indicators were selected because part-time day care and homecare allowances usually reflect the general opinion that mothers would only work part-time or are usually the ones that stay at home caring for their children because their husbands have a higher income. Relevant indicators for the dual-earner dimension were public day care services for children younger than three, full-time public day care services for children older than three as well as earnings-related parental insurance. On the contrary to the traditional-family dimension, indicators for the dual-earner dimension reflect the efforts of social policy to transfer care responsibilities from mothers to the public sector, and as a consequence encouraging female labour market participation. The dual-carer dimension addresses policies that encourage fathers to take part actively in childcare and was assessed by the extent of paid leave that can be used by the mother, the father, or both of them as well as the extent of paid leave that can only be used by the father (Korpi et al., 2013, pp. 10–11).

The following illustration (Figure 2), derived from Korpi et al. (2013, p. 11), shows that Austria is located in the upper left corner of the image, within the cluster of countries with policies

predominantly oriented towards the traditional family, whereas Sweden is located at the far right of the lower right corner, within the cluster of countries with policies supporting dual-earner structures. The extent of the dual-earner dimension is marked by the size of dots, indicating that Swedish policies were found to be more supporting towards the father's role in childcare (Korpi et al., 2013, pp. 11–12).

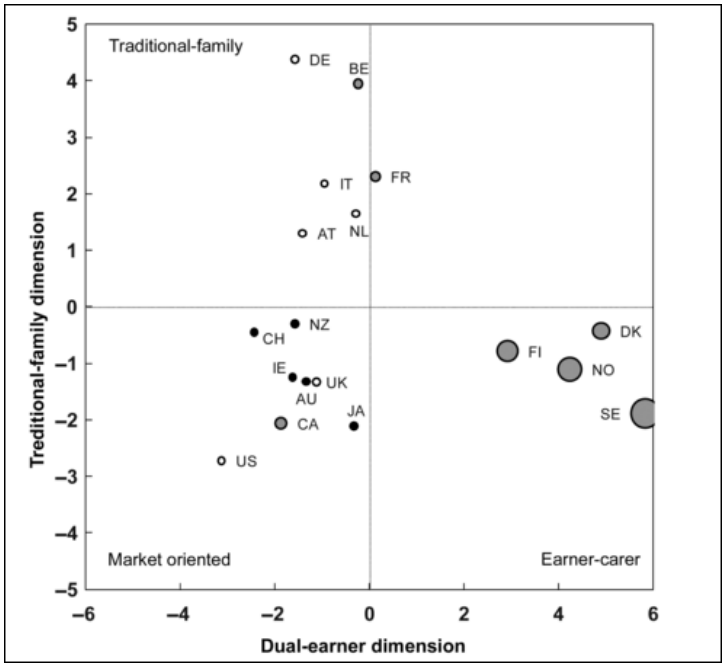

Figure 2: Country location according to family policy dimensions (figure taken from Korpi et al. 2013)

3. Literature review on the relationship of health and welfare state environments

The following short literature review serves to provide an overview of the current research on health-related variations across different countries and welfare state regimes. Not only differences between welfare states and their underlying determinants will be illustrated, but also differences between men and women within the welfare states.

Variations in self-reported health across different welfare states in the context of education, income, employment and social class

The claim that welfare state characteristics might influence people's health is supported by several studies. Eikemo et al. (2008) investigated the differences in self-perceived health of European welfare state regimes and showed that variation in health is primarily caused by individual characteristics, such as socioeconomic status, social network and social support which accounted for nearly 90% of variation on the individual level. However, ten percent of variation can be explained by national welfare state characteristics. When comparing the data on the national level, almost half of the variation in self-perceived health could be explained by welfare state type. According to the results of the analysis, people in Anglo-Saxon and Scandinavian welfare regimes reported better self-perceived health than people in Southern, Eastern and Bismarckian welfare states[1] (Eikemo, Bambra, Judge, & Ringdal, 2008, pp. 2–24). Another study provides a long-term comparison of 29 countries[2] grouped into Anglo-Saxon, Scandinavian, Eastern and Southern European countries. In these different welfare state types, Alvarez-Galvez et al. (2013) found variations of subjective state of health due to socio-economic inequalities rooting in education, income and occupational status. According to their findings the effects of income inequalities on health were greater in countries with low provision levels and social transfers. Inequality due to education became less significant in various European countries over time but is still considered the most relevant factor, since its impact is larger than effects produced by loss of occupational status (Alvarez-Galvez et al., 2013, pp. 747–754).

A similar study was conducted by Eikemo et al. in 2008. The authors compared the grade of income-related health inequalities in different European welfare models. Thus, several

[1] Scandinavian: Denmark, Finland, Norway, Sweden; Anglo-Saxon: United Kingdom, Ireland; Bismarckian: Austria, Belgium, France, Germany, Luxembourg, Netherlands, Switzerland; Eastern European: Czech Republic, Hungary, Poland, Slovenia; Southern: Greece, Italy, Portugal, Spain.

[2] Countries included: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Russian Federation, Slovenia, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom.

European countries were grouped into five different welfare regimes (Scandinavian, Anglo-Saxon, Bismarckian, Southern, Eastern)[3] and had been part of the study. They discovered variations in health inequalities due to income inequalities between the different welfare states. Surprisingly, the Bismarckian model showed the least income-related inequalities and not the Scandinavian ones as would have been expected. However, also in this study, education seemed to be one of the most important determinants for health, especially in welfare states accounted to the Southern model (Eikemo, Bambra, Joyce, & Dahl, 2008, p. 593). Further research of Bambra and Eikemo (2009) found that variations in the level of social protection can have a moderating influence on self-reported health. Again, 23 European countries (grouped into Scandinavian, Bismarckian, Southern, Eastern and Anglo-Saxon regime types)[4] were investigated and results indicate that inequalities due to unemployment can be found in all the researched welfare states. However, inequalities seemed to be highest in Anglo-Saxon, Bismarckian and Scandinavian regimes. It was particularly high for women in countries with Anglo-Saxon and Scandinavian regime types (Bambra & Eikemo, 2009, p. 92).

According to the above mentioned studies, health seems to be strongly influenced by factors such as education, income and whether or not people have a job. Varying results between different welfare state clusters already indicate that differences in the impact of social factors on health might be accountable to welfare state characteristics and a subsequent moderating effect. But what are the suggested reasons for this claim? For instance, Olafsdottir (2007) showed that health outcomes with regard to depression can be equalized by welfare state interventions such as adequate support of families but also by reducing accumulation effects of wealth in capitalist societies. These findings were illustrated by a comparison of the United States and Iceland, which are different with regard to stratification and equality (Olafsdottir, 2007, p. 239). Moreover, economically challenging times especially can have effects on health and different welfare regimes might address them differently. Levecque et al. (2011), for example, found that health outcomes due to circumstances such as economic hardship can be diminished, fostered or converted by welfare state policies. Thus, they suggest that socio-political aspects should be an intrinsic component of health research (Levecque, van Rossem, Boyser, van de Velde, & Bracke, 2011, pp. 262–274). Interestingly, during a period of recession in England and Sweden (both belonging to different welfare regime types), health of women improved during that time in both countries. However, in England this was

[3] Scandinavian: Denmark, Finland, Norway, Sweden; Anglo-Saxon: United Kingdom, Ireland; Bismarckian: Germany, France, Austria, Belgium, Netherlands; Eastern European: Czech Republic, Estonia, Hungary, Poland, Slovakia, Slovenia; Southern: Greece, Italy, Portugal, Spain.

[4] Scandinavian: Denmark, Finland, Norway, Sweden; Bismarckian: Austria, Belgium, France, Germany, Luxembourg, Netherlands, Switzerland; Anglo-Saxon: Ireland, United Kingdom; Southern Europe: Greece, Italy, Portugal, Spain; Eastern Europe: Czech Republic, Hungary, Poland, Slovenia.

only true for women with higher educational attainment (what led to an increase in inequality), whereas in Sweden women regardless of their education level benefitted. Reasons for this improvement in health are only speculated in this study, but the authors conclude that social policies in Sweden offer better protection for everyone in times of recession. However, the authors suggest that effects of economic recession on health are experienced differently by gender, educational status and country context (Copeland et al., 2015, pp. 2–22).

The findings of this first part of the literature review support the claim that there are differences in health between welfare state regimes; especially when it comes to the effect of social determinants of health such as income, employment status and education. The review also indicates that women in particular are much more affected by social determinants in different welfare states. However, these findings were only based on subjective health measures; therefore the next part of the literature review will focus on more objective measures such as mortality.

Variation of other health measures across different welfare state types

With regard to population health status in terms of infant mortality rate or low birth weight rate, insights similar to those obtained with subjective measures can be found in welfare state variation of health. Chung and Muntaner (2007) found that in a period of expanding welfare states, social democratic welfare states had better population health with lower infant mortality and better low birth weight rates than countries with other welfare state types (Christian Democratic, wage earner and liberal welfare states)[5]. In this study, the welfare state type accounted for 20% of the difference in infant mortality rates between the countries and for around 10% of low birth weight rate (Chung & Muntaner, 2007, p. 328). In addition, countries that encourage dual-earner families with generous family policies are associated with lower infant mortality rates than countries where traditional roles within the family are supported. Similarly, countries that offer generous basic security pensions are found to have lower old-age excess mortality rates than countries with generous earning-related income security pensions (Lundberg et al., 2008, p. 1633).

According to these two studies, objective health measures such as infant mortality rate, low birth weight or old-age excess mortality support the claim that welfare state environments might determine their population's health.

[5] Social democratic: Sweden, Norway, Denmark, Finland. Christian Democratic: Austria, Belgium, Luxembourg, Netherlands, Germany, France, Italy, Switzerland. Liberal: Canada, Ireland, United Kingdom, United States. Wage earner: Australia, Japan, New Zealand.

Variations in self-reported health across different welfare states in the context of gender

Coming back to the gender differences of health determinants discovered in the first part of the literature review, this section provides more detailed information. But why is it important to look closer at health differences between men and women? In general, gender inequality is explained as "the differences between men and women that systematically empower one group (men) to the detriment of the other (women)". This imbalanced empowerment of men and women is rooted in the unequal distribution of power, status and financial resources as well as the gendered division of work (Palencia et al., 2014, pp. 25–26). As a consequence, such conditions might be judged as highly unjust and should be a focal point in this analysis. The following studies, therefore, aim to provide a better overview of health related inequalities of women in the context of welfare state characteristics.

Generally, the political tradition a country employs might have big influence on equality in health. Espelt et al. (2008) investigated how these inequalities are determined by social class dimension in different countries with different political characteristics. Thus, the authors clustered nine different European countries according to three different political traditions: Christian democracy, social democracy and late democracy[6]. The outcome of the analysis showed that there are inequalities by social class dimension in every cluster. However, inequalities were highest in late democracies, especially in the case of women and their self-perceived health. Thus, the authors claim that women are especially sensitive to the results of political traditions. This is often associated with strong Christian tradition where women are often care givers or occupied in domestic labour, but also with the distribution of educational opportunities in a country (Espelt et al., 2008, pp. 1095–1103). Moss (2002) argues that differences in women's health result from the economic, political, historical and social modalities that determine how women live their lives. Those factors consist of geopolitical environment (including geography, policy and services, legal rights, organizations and economy), culture, norms and sanctions (discrimination, sociodemographic characteristics), women's roles in reproduction and production (in household and workplace), health-related mediators (social capital, networks and support as well as psychosocial factors, health services, behaviour and violence) and health outcomes. Thus, gender equity and socioeconomic inequality determine women's health on a societal and individual level (Moss, 2002, p. 649).

A further analysis of social determinants of men's and women's self-reported health was conducted by Hosseinpoor et al. (2012). Data on more than 220,000 men and women in 57

[6] Social democrats: Sweden, Denmark. Christian democrats: Austria, France, Germany, Italy, The Netherlands. Late democrats: Spain, Greece.

countries showed that there is inequality in health between men and women. Women reported significantly lower health than men. Thirty percent of the inequality could be explained and is mainly caused by education, employment and marital status (Hosseinpoor et al., 2012, p. 1). Palència et al. (2014) investigated health inequalities between men and women in the context of family policy models according to the slightly adjusted classification by Korpi. Countries were thus clustered according to their family policies into dual-earner, traditional-central, traditional-southern, market-oriented and contradictory[7]. With regard to Korpi's typology, the study showed that women in countries with traditional family policies and contradictory countries had lower self-perceived health than men (Palencia et al., 2014, p. 25). Also Raphael and Bryant (2004) found out that characteristics of the welfare state are particularly influencing the health of women. The priorities underlying government decisions in spending money influence the wellbeing of women very much. Those priorities determine what kind of services the welfare state supports and subsequently the degree of equity that is established. By comparing countries such as Canada, Denmark, Sweden, the UK and the USA, they found out that women in countries with a more social welfare state reported higher quality of life than women in welfare environments with market-oriented principles (Raphael & Bryant, 2004, p. 63).

Interesting tendencies could be discovered by Backhans et al. (2007) when studying gender equality with regard to health outcomes in Swedish municipalities. The result implies that there might be an "unfortunate trade-off" between gender equality and public health. This means that the change in gender roles is maybe too one-sided, so women only enter former male terrain and not the other way round. Consequently, women have an increased burden (because they are in paid employment and still do the most part of domestic work) while men have lost some of their old privileges. So this might be the cause of the gender equality correlation with lower health of men and women (Backhans, Lundberg, & Mansdotter, 2007, p. 1892).

According to this review and the information provided by the theoretical background in Chapter 2, the literature supports the claim that the welfare state can influence the impact of social determinants of health due to the characteristics and intensity of its re-distributional power. The literature also suggests that this impact varies throughout different welfare state regimes. Additionally, there is evidence that determinants such as education, income or employment status affect men and women differently depending on the welfare state they live in.

[7] Dual-earner: Denmark, Finland, Norway, Sweden. Traditional-Central: Belgium, Germany, France, Netherlands. Traditional-southern: Cyprus, Spain, Greece, Portugal. Market-oriented: Switzerland, United Kingdom, Ireland. Contradictory: Bulgaria, Czech Republic, Estonia, Croatia, Hungary, Lithuania, Poland, Russian Federation, Slovenia, Slovakia, Ukraine.

Most of the studies compare welfare regime clusters, yet with this approach there is the danger that differences between countries of the same welfare regime cluster are disguised (e.g. social democratic welfare states like Denmark promote flexicurity, whereas Norway is more protectionist) (Bambra, 2011). Consequently, in this thesis only two countries are compared as representatives of their respective welfare state regime. Thus, the two nations serve as context, as suggested by (Kohn, 1987). Studying only two countries enables a more thorough analysis and subsequently a more complete picture by providing detailed information of selected policy areas.

4. Welfare state and social security characteristics in Austria and Sweden

The following chapter gives a detailed description of selected relevant policy areas in Austria and Sweden in order to demonstrate how the welfare state shapes the environment in which people live and work. The comparison aims to illustrate how policies of social protection institutions differ between the representatives of two different welfare states and to create a better understanding for how they might affect people's health.

According to the definition of social determinants of health as non-medical and non-lifestyle factors (cf. Chapter 2.1), policies in the healthcare sector will not be discussed, instead the comparison offers a general overview of the two countries' security net, describes how it is organized, and focuses on four main areas of social policy: sickness, family, employment and tertiary education. The areas sickness and employment (including unemployment) have been selected because they reflect upon the three instances that, according to Esping-Andersen (2007 [1990], pp. 149–150), show the interaction of social policy with working life: "conditions for labor supply", "conditions that shape behavior within the labor contract" and "conditions under which labor enters into employment" (cf. Chapter 2.2). This might allow for conclusions to be drawn about the extent of authority of the workers and their level of de-commodification from their status as workers. The analysis of policies with regard to tertiary education aims at illustrating how the welfare state de-commodifies students from market income or family support (cf. Chapter 2.2). The area of family policy is important especially for understanding how the characteristics of benefits shape the situation of women, their opportunities and the relationship between genders (cf. Chapter 2.3 and Chapter 2.4).

Austria

Social benefits in Austria play an important role in the lives of its citizens. In 2012, 44% of households would live below the at-risk-of-poverty threshold without social benefits of various kinds. The biggest share of social benefits (70%) is cash benefits. Although, due to increasing demand, the share of benefits in kind, such as childcare facilities, as well as inpatient and outpatient facilities, are rising. Cash benefits for unemployment, old age and invalidity depend on the person's former working life and income. However, there are also universal benefits that are not linked to previous income and activity, such as family benefits and benefits for people in long-term care. Health insurance covers almost all people in Austria (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 8–9).

Generally, the responsibilities for social security are fragmented but most of them, such as universal benefits and social insurance, are under the remit of the central government. However, childcare facilities, means-tested minimum income, housing, parts of healthcare, and the largest part of social services are decentralised. Thus, they are the responsibility of the Laender or local and municipal governments (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, p. 9).

Labour regulations are defined in collective agreements negotiated within each labour market sector. Collective agreements regulate payment and working conditions of people employed in the specific sector. Such agreements are always the result of negotiations between the social partners. Social partnership in Austria consists of representatives of workers (Austria's chamber of labour and the Austrian Trade Union Federation) and representatives of employers (Economic Chamber and Chamber of Agriculture). Thus, the social partners, but also the Federation of Austrian Industry, are major opinion leaders and actors in policy design (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, p. 10).

The Austrian social protections system consists of social insurance, unemployment insurance, universal schemes, means-tested benefits (against income), social protection for civil servants, social compensation systems, protection under labour law, occupational pension schemes and social services (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, p. 12).

Social insurance includes pension insurance, health insurance and work accident insurance. It is based on the principle of solidarity (between young and old, wealthy and poor, healthy and ill, family and singles, active workers and retirees), and it is mandatory and autonomous. Funding is organized through a pay-as-you-go system of contributions of employers and employees. This is organized by 22 different social insurance institutions to which workers are assigned due to their field of occupation and its region. Every social insurance institution has a certain level of autonomy within the legal framework. Most of the population is covered

by those social insurance institutions, only public service employees as well as civil servants of Laender and local governments can have different schemes. Unemployment insurance is the responsibility of the employment service (AMS). The AMS also manages active labour market measures (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 12–13).

Universal schemes within social protection include family allowance together with tax credit for children, childcare allowance and long-term care benefits. Health insurance is regarded as almost universal, since non-active family members can be co-insured with an active family member and it also covers people on means-tested minimum income. Means-tested minimum income is the last safety net. Other means-tested benefits are a pension supplement up to a certain threshold level, unemployment assistance, housing assistance, and student grants. All means-tested benefits except for unemployment assistance are funded through taxation (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 14–15).

In addition, there is social protection under labour law, which includes entitlements towards the employer (i.e. support of sick and pregnant people, special working hours, etc.). There are also collective agreements supported by law and some employers offer occupational pension schemes (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, p. 15).

Besides of cash benefits, benefits in kind play an ever more important role. These services include childcare facilities, labour market policy measures, elderly and nursing homes and many more. All of these services, apart from labour market policy measures, are pro by the Laender or on a local or municipal level. Thus, there are regional disparities in quality and quantity of the services. Moreover, the provision of social services is often handed over to private providers, non-profit organizations or associations related to the church or political parties (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, p. 16).

Sweden

Social insurance in Sweden provides a financial security net for elderly, families with children and in case of illness or disability. In contrast to Austria, healthcare and unemployment insurance are organized separately. Moreover, Swedish social insurance is based on the individuals themselves. There is basic protection consisting of universal benefits or means-tested benefits but also income-related benefits. Basic protection, in the form of universal benefits, consists of child allowance or adoption allowance and is a flat-rate benefit. In the form of means-tested benefits, basic protection offers a housing allowance, housing

supplement for pensioners in addition to a top-up benefit in maintenance support. Allowances under basic protection are not taxable. Income-related benefits, however, are taxable. These benefits serve as income replacement for individuals who are unable to work and thus unable to maintain themselves in case of illness or because they have to care for a child at home. The social insurance system is financed by contributions of employers and employees as well as through tax revenues (Ministry of Health and Social Affairs Sweden, 2014, p. 1).

Swedish social insurance is the responsibility of The Ministry of Health and Social Affairs. The Swedish Social Insurance Agency and the Swedish Pension Agency take care of its administration and The Swedish Social Insurance Inspectorate is responsible for supervision of the social insurance. The Swedish Tax Agency manages the contributions of employers and employees (Ministry of Health and Social Affairs Sweden, 2014, p. 1).

Entitlement for coverage by social insurance is regulated in the Social Insurance Code. In general, anyone who lives and works in Sweden is entitled to social insurance. Generally it consists of two categories: insurance based on residence, including guaranteed benefits and allowances, and insurance based on work for benefits to compensate income loss (Ministry of Health and Social Affairs Sweden, 2014, p. 2).

As already mentioned, unemployment insurance is not included in Swedish social insurance. It is, however, a part of labour market policy. It is organized in insurance funds which are primarily independent but often work together with trade unions. As for the entitlement for social insurance, the right to healthcare also depends on residency in Sweden (Ministry of Health and Social Affairs Sweden, 2014, p. 3).

The provision of healthcare is the responsibility of the 21 county councils and funded by taxation on county council level (European Commission, 2015, p. 22). Social services, childcare and elderly care are also financed through taxes but have to be provided by the municipalities. Those services can either be provided by municipalities themselves, or they are outsourced to private providers (SKL, Sveriges Kommuner och Landsting, n.d., para. 2).

In Sweden, the pension system consists of three parts. The first part, in the form of guarantee pension, offers basic protection and the second and third parts, in the form of income-based pension and premium pension, offer income-related benefits based on lifetime earnings. In addition to that, people can have occupational pensions and private pension plans (Ministry of Health and Social Affairs Sweden, 2014, pp. 5–6).

When it comes to labour regulation, Sweden also has a strong collective bargaining tradition. Thus, employers and trade unions negotiate payment and employment conditions which are then transferred into collective agreements. Generally, although there has been a decrease

the last several years, Trade Unions are very important in Sweden. The most important social partner organizations on the employer side are The Swedish Trade Union Confederation, The Swedish Confederation of Professional Employees and The Swedish Confederation of Professional Associations. On the employer's side it is the Confederation of Swedish Enterprise, The Swedish Association of Local Authorities and Regions and The Swedish Agency for Government Employers (Eurofound, 2015, pp. 3–6).

This first overview of the social policy arrangements in Austria and Sweden shows that both states have a highly developed social security net but different characteristics such as provision of services or eligibility that might be caused by different perceptions and traditions typical for their respective welfare state type. The next sections provide more detailed information and comparison of the selected policy fields of sickness, family, employment and tertiary education.

4.1. Welfare state and social policy characteristics in the context of sickness

Austria

Although social insurance in Austria is financed through contributions of employers and employees, also inactive family members such as children or inactive spouses can be co-insured with an actively contributing family member. People who are not insured can take part in voluntary self-insurance. Thus, statutory health insurance covers around 99% of the population. Statutory health insurance provides benefits in kind, offered by physicians and facilities (i.e. hospitals or clinics) that have a contract with statutory health insurance. Coverage includes subsequent treatment (except co-payment for certain services) and prescribed medication (except prescription charge). For services from other providers, costs are partly refunded (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 56–57).

In times of sickness, the employee gets a substitute for his or her income in the form of cash benefits. Depending on the job tenure of the worker, employers continue paying full wages for a time period of six weeks for up of five years of employment to a maximum of twelve weeks for employment of 26 years onwards (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, p. 90). After this period, sickness benefit at a level of 50% of former gross pay is paid by the social health insurance fund for a period of six to twelve

months, depending on the individual insurance record (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 56–57).

Sweden

In Sweden, the 21 County Councils are responsible for providing publicly financed healthcare and medical care to their registered inhabitants. Healthcare costs are basically financed by taxes collected by the municipalities. There is, however, a personal fee which patients have to pay for visits in primary healthcare and specialist care as well as for medication. These fees must not exceed maximum amount within a twelve month period. Moreover fees for visiting primary and specialist healthcare can vary between County Councils. Healthcare is, for the most part, publicly managed. Private providers of publicly financed healthcare need to have an agreement with the County Council (European Commission, 2015, pp. 22–23).

In case of sickness and subsequent inability to work, employees get sick pay from their employer for the first 14 days of sickness (except for the first day, which is a waiting day) at a level of 80% of the regular income, but, this can be higher due to collective agreements. In order to qualify for sick pay from the employer, the worker has to be employed for a minimum period of one month or 14 days in a row. After this 14-day period, the Swedish Social Insurance Agency pays a sickness benefit based on income. Normally, this is 80% of the salary multiplied by 0.97 (or up to a certain ceiling) and paid for 364 days. After that, continued sickness benefit is limited to 75% multiplied by 0.97 and can be paid for the following 550 days (European Commission, 2015, pp. 26–28).

Comparison of Austria and Sweden

In Austria, sickness insurance is based on activity or the role in the family (co-insurance of children or inactive spouses), whereas Swedish sickness insurance is based on residence. The period of sick pay by the employer is much longer in Austria (six weeks) than in Sweden (two weeks) and also at a higher level (full remuneration in Austria and 80% in Sweden). When social health insurance steps in, however, benefits in Sweden are more generous (80% of salary multiplied by the factor 0.97) as those in Austria, which are only 50% of the former wage. The duration of Swedish sickness benefits also does not depend on the insurance record, as it does in Austria (European Commission, 2015, pp. 26–28; Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 56–57).

4.2. Welfare state and social policy characteristics in the context of family

Family policies are not only important with regard to their ability of supporting families. By the characteristics of their arrangement and underlying normative perceptions about what role men and women should play within the family, they shape the possibilities of individuals in their role as mothers and fathers, as well as their opportunities of combining work and family. Thus, the following comparison gives an overview of the most important family benefits and support systems along with a comparison of key figures concerning policy effects within both countries.

Austria

Family benefits in Austria are either cash benefits or benefits in kind. The largest part of cash benefits are universal transfer payments which are independent of former income and working life. These include family allowance, tax credit for children but also childcare allowance. Other cash benefits, such as maternity allowance, are part of insurance schemes and depend on the previous working life and income. There are also benefits that are means-tested against income (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, p. 60).

Family allowance is awarded to Austrian citizens and paid to the person to whose household the child belongs. It is usually paid until the child reaches his or her 19th birthday but may continue until they are 24 years old, if the child is still in training or education. If both parents live in the same household, the person who is running the household for the largest part will be paid the family allowance. Apart from few exemptions (e.g. orphans), children are not entitled to receive family allowance directly. Moreover, the level of family allowance varies depending on the age of the child and the number of children. Additionally, there is a subsidy for school children at the beginning of every school year and a multiple-child supplement for three or more children in a family (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 62–63). A monthly tax credit for children and for child support is paid together with the family allowance as well as an additional sole earner's and single parent's tax credit (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, p. 68).

At the moment, Austria offers five different options of childcare allowance. Four of them are flat-rate benefits and one is an income-related benefit. Generally, the shorter the period selected, the higher the childcare allowance. Additionally, the duration of childcare allowance can be prolonged in every option if parents alternate taking responsibility for childcare. This would add an additional six months to the 30 months option, four months to the 20 months

option, three months to the 15 months option and two months to the twelve months option. The income-related benefit allows one parent to claim 80% of his or her former monthly net income (up to a certain ceiling). Again, if parents take turns in being responsible for childcare, twelve months can be extended to 14 months. In addition to all the five options, mother and child have to do ten check-ups for the maternity health card programme. Single parents and low income parents can additionally claim a daily grant (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 63–65).

For the first four years of child-rearing, parents get compulsory pension insurance which also counts as contributory period. Additionally, parents can claim a childcare subsidy from the public employment service (AMS) and a children's and family supplement when they are unemployed or pensioners. Eight weeks before and eight weeks after childbirth (maternity protection period), employed mothers get maternity allowance from the social health insurance to replace their income. There is also the possibility to co-insure family members who do not work, such as children or partners, for health insurance together with a working family member contributing to compulsory social insurance. Also a number of various tax measures are available for families. These include childcare subsidies offered by employers, tax deductibility of childcare costs, tax allowance for children and other tax incentives. Moreover, families in need can get additional family supplements at Laender level or the Family Burdens Equalisation Fund (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 66–68).

Under labour law, parents are entitled to unpaid leave from their job until their child is two years old. If previous employment lasted more than three years, parents also have the right to work part-time until their child is seven years old (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, p. 86).

Sweden

The most important family benefits in Sweden are child allowance, consisting of extended child allowance and large family supplement (tax-free), and parental allowance (taxable). Child allowance is an automatically paid flat-rate cash benefit that is disbursed to Swedish residents for children younger than 16. It can be paid either to one parent or split in half if there are two guardians. If the child is older than 16 and still in education at senior high school, study grants can be claimed. This grant will be paid to the student until he or she is 20 years old or has completed the studies. Moreover, extended child allowance can be claimed until the child finishes education. For families with several children, parents can claim, additional to child allowance, a large family supplement. If the children live with the parents, are in full-time education, claim study help or extended allowance and are not

married, a large family supplement can be extended from the 16th birthday until the child turns 20 (European Commission, 2015, pp. 3–4).

Parental allowance enables parents to stay at home with their child. Per child, parents are entitled together to 480 days of parental allowance. For multiple births, 180 additional days can be consumed per additional child. A total of 390 days will be paid on sickness benefit level and 90 days on the lowest level, which is a fixed amount. Generally each parent has the right to 240 days of parental allowance but how it is shared can be decided by the parents. Up to 180 days can be transferred from one parent to another, except for 60 days of allowance at sickness benefit level. If each parent takes his or her 240 days, they get an additional tax-free gender equality bonus (European Commission, 2015, pp. 17–19).

Within the first year of the child's life, there is also a period of 30 days where both parents can stay at home with the child at the same time. During the first four years of the child's life, parents have to consume 384 days of parental allowance; 96 days of childcare allowance can be saved for later and have to be taken until the child turns twelve. During pregnancy, the mother has the opportunity to claim parental allowance already 60 days before the expected date of delivery. When the child is born, the other partner can claim temporary parental allowance in order to stay with the mother and child for ten days within the first 60 days after the child came home. Generally, days of parental allowance and temporary parental allowance can be taken as full days or part days. The same rules apply for adoption (European Commission, 2015, pp. 17–19).

The amount of parental allowance is based on former income, is calculated in the same way as sickness benefits (cf. Chapter 4.1) and is limited by a maximum amount. Parents need to have worked for 240 days in a row and earned a defined minimum amount per day in order to receive allowance at sickness benefit level. If not, the parent will receive parental allowance at the basic level. If parents claim only a reduced amount of parental allowance, they can extend the time of consumption (European Commission, 2015, pp. 17–19).

Other benefits for parents are maternity allowance (which can be claimed when the mother cannot carry out her job anymore due to pregnancy) municipal child care allowance (offered by some Swedish municipalities), maintenance support and adoption grant (European Commission, 2015, p. 6).

Comparison of Austria and Sweden

Both countries offer cash benefits as well as in-kind benefits to families with children. Cash benefits exist in both countries in the form of universal benefits as well as income-related benefits. The most important differences can be found in Swedish child allowance and

Austrian family allowance, both countries' maternity allowance plus Austrian childcare allowance and Swedish parental allowance. Differences between the countries can also be found in the measurement of certain key figures such as fertility rate, employment rate of mothers and proportion of children in formal care (Table 1). The level of such indicators might indirectly reveal how family policies are reflected in people's life.

Family allowance in Austria is paid to the family until the child turns 19, whereas the Swedish equivalent will be paid until the child's 16th birthday. However, both countries offer further support if the child is still in education or training. In Austria, family allowance can be prolonged until the child turns 24 and in Sweden extended child allowance can be claimed until the child turns 20 or finishes education. Additionally, study grants can be claimed directly for children older than 16. In Austria, family allowance is paid to the parent who is running the household, whereas in Sweden child allowance can be split between parents (European Commission, 2015, pp. 3–4; Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 62–63).

Childcare allowance in Austria offers four different flat rate options and one income-related option, the benefit level is different for each option and the duration extendable if the father claims childcare allowance for a defined period. Sweden also offers income-related options for people who reached eligibility and a basic option to all others. Swedish parental allowance can be consumed by both parents for an equally long period; it can be claimed as full days or half days and allows parents to spend a certain period of time with their child at home together. Swedish parents might even save part of their parental allowance and can claim it until the child turns twelve (European Commission, 2015, pp. 17–19; Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 63–65).

Maternity allowance in both countries serves as an income replacement for pregnant women. In Austria women will get it for a defined period before and after child-birth, whereas Swedish women can claim it as soon as they cannot perform their job any longer. However, they can claim parental allowance from 60 days before expected delivery onwards (European Commission, 2015, p. 6; Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 66–68).

A comparison of the latest figures available from the OECD family databases (Table 1) shows that the fertility rate in Sweden is with 1.88 children per woman considerably higher than that of Austrian women with a rate of 1.46. The same is true for mother's employment rates. In Sweden, more women with children younger than 15 (83.1%) are participating in the labour market than in Austria (76.2%). Differences can also be seen with regard to children in formal childcare. In Austria 19.7% of children younger than three years are in formal

childcare, whereas this is more than twice as many (47.3%) in Sweden. When it comes to the proportion of children in formal childcare between three and five years, the difference is not as pronounced, but the proportion in Sweden (94%) is still higher than that in Austria (84.1%).

Indicator	Austria	Sweden
Total fertility rate in 2014	1.46	1.88
Employment rates of mothers (aged 15-64) with at least one child under 15 in 2013	76.2%	83.1%
Proportion of children under 3 in formal childcare and pre-school in 2013	19.7%	47.3%
Proportion of children aged 3-5 in formal childcare and pre-school in 2012	84.1%	94.0%

Table 1: Key figures in the context of family (OECD, 2016a)

To summarise, there is a well-developed net of family benefits in both countries, however with different characteristics concerning equality between parents and flexibility. Within the Swedish family policy environment more women are working and more children are in formal childcare or preschools. Swedish women also have more children on average than Austrian women.

4.3. Welfare state and social policy characteristics in the context of employment

In this section, the focus lies on who is deciding about working conditions, what kind of support people will get in case of unemployment and how they qualify for their right to support in case of unemployment. Based on these main aspects, the final comparison should provide an overview of the main differences in how social security is designed in the context of employment and unemployment. In addition, this chapter offers an overview of indicators to get a better picture of the current labour market situation.

Austria

As already mentioned at the beginning of Chapter 4, working conditions and payment for each sector are regulated through collective agreements of representatives of employers and employees. Regular working time is set with eight hours per day and 40 hours per week, however, more flexible hours can be negotiated as long as they stay within the framework of collective agreements. According to the law, no more than ten hours a day or 48 hours per week within a certain reference period are allowed. Employees are allowed five weeks of

paid leave per year. After 25 years with the same employer this entitlement rises to six weeks per year (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 84–86).

Austria offers three different cash benefits in case of unemployment. The first one is an unemployment benefit and after its expiration there comes unemployment assistance. For those who have not reached the necessary condition for eligibility to unemployment benefits, there is a means-tested minimum income scheme (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 50–52).

Eligibility for unemployment benefits depends on a minimum time period of contribution to compulsory unemployment insurance and recipients have to be capable of and willing to work. People eligible for unemployment benefits have health insurance coverage and credit of insurance periods for pension insurance. If claimants are unemployed because of their own fault or if they themselves quit their job, benefits will not be paid during the first four weeks of unemployment. The minimum period of contribution to compulsory unemployment insurance is 52 weeks within the previous 24 months. People younger than 25 years need to have only 26 weeks of unemployment insurance contribution within the last twelve months to gain eligibility, whereas people who already have claimed unemployment benefits in the past need 28 weeks within the previous 12 months. Capability of and willingness to working includes that the person is available to the labour market if he or she is offered a reasonably suitable job (in terms of reflecting the person's capabilities, life circumstances, care responsibilities and payment) (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 50–52).

If unemployed people do not cooperate and refuse job offers, they will lose their entitlements for at least six weeks or as long as they refuse to cooperate. The duration for claiming unemployment benefits depends on the previous insurance record. So, unemployed individuals with a minimum insurance period can claim unemployment benefits for up to 20 weeks, and those with more contributory years can claim up to 52 weeks (even 78 when completing occupational rehabilitation measures). Generally, the duration can be extended when claimants take part in labour market policy measures. The level of unemployment benefits depends on the recipient's previous income, which is generally 55% of the last calendar year's net income (although it may rise when the amount is under a certain level or in case of a family supplement) (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 50–52).

When eligibility for unemployment benefits is exhausted, the long-term unemployed person will get unemployment assistance for up to 52 weeks (renewable claim). During this time, the claimant has to accept even low-wage jobs (at least minimum wage according to the

collective agreement). Unemployment assistance is means-tested against the income of the spouse or partner and can reach a level of up to 92% of the former unemployment benefit's level (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 50–52).

Sweden

Sweden also has a collective bargaining system which regulates wages and working time. Collective agreements are negotiated between the social partners at sectoral level but also on a local level. The law offers a framework for collective agreements, but negotiations can lead to different terms (Eurofound, 2015, p. 9). Regular working time is 40 hours per week and 25 days of paid leave per year. According to the law, overtime must not exceed 50 hours per month and 200 hours per year. However, alternative agreements within the framework of the EU Working Time Directive are possible (Eurofound, 2015, pp. 16–17).

In case of job loss there are two options of unemployment benefits provided by the unemployment insurance scheme in Sweden: a basic insurance as well as an income-related insurance on a voluntary basis. For both benefits it is a precondition to be registered with the Swedish Public Employment Service due to complete or partial unemployment and being able to accept job offers. In addition, it is required to have worked for a minimum of six months within twelve months prior to unemployment or at least 480 hours in a continuous period of six months previous to unemployment. However, for the maximum benefit level it is necessary to have worked for twelve months. Times of receiving parental allowance or fulfilling national service can be counted in that period (European Commission, 2015, pp. 55–57).

To be entitled to basic insurance, the unemployed person has to be at least 20 years old. In order to get income-related insurance benefits it is necessary to be member of an unemployment insurance fund. There are currently 28 of them in Sweden and the membership of the worker depends on the field of occupation. In case of unemployment the fund decides on the payment of the benefits and calculates their amount. Usually, the level of benefits is calculated on the basis of the average income during the past twelve months. For the first 200 days it accounts for 80% of the salary and for the next 100 days (up to 300) it is 70%, however there is a ceiling to that amount. The first seven days of unemployment are waiting days where no benefit is paid (European Commission, 2015, pp. 55–57).

For unemployed youths there are different support systems in case of unemployment. Youths between 18 and 24 years who are not entitled to unemployment benefits can get an activity grant if they participate in employment market programs. Additionally, those who are entitled to benefits and 18 to 25 years old can opt for an activity grant when they take part in

an employment market program. Whether or not an individual can join and in which program they can participate depends on the decision of the Swedish Public Employment Service. Both of the benefits are financed by the Swedish Social Insurance Agency (European Commission, 2015, pp. 55–57).

Additional requirements form the Swedish Public Employment service for every unemployed person are to establish an individual action plan and monthly activity report concerning the person's efforts to find a job again. Individuals must be able to work a minimum of three hours each working day and a minimum of 17 hours each week, moreover they have to search for work on the whole employment market (not only the home region). If people leave their job voluntarily or get fired because of inadequate behaviour, the Swedish Public Employment Service can reduce or withhold payments for a while. The same is true if the behaviour of the unemployed person prevents them from getting a job or if they reject suitable job offers (European Commission, 2015, pp. 55–57).

Social assistance in the form of financial support is offered to those who cannot support themselves in order to maintain a reasonable quality of life. The condition for these kinds of support is that people cannot maintain themselves, although they have tried. There are two benefits related to financial support: income support and additional general lifestyle support, and both are paid by the local municipality. There is a national standard level of financial support that varies due to the claimant's family situation as well as a support for reasonable additional expenses (e.g. accommodation) that varies depending on the municipality in which the person lives (European Commission, 2015, pp. 51–52).

Comparison of Austria and Sweden

Employment conditions and payments in both countries are regulated by collective agreements. Also working hours and amount of paid leave are similar in Austria and Sweden (Eurofound, 2015, pp. 9–17; Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 84–86).

In case of unemployment, there is a security net in both countries. To reach eligibility, Austria requires a longer period of labour market participation than Sweden. In Sweden, people need to have worked only six months during the previous year (although the full amount can only be claimed when working already twelve months), whereas it is a total amount of 52 weeks during the previous year in Austria. In both countries it is a condition to be capable and willing to accept reasonably suitable job offers. People not cooperating will have to face reductions or a temporary withholding of benefit payments in both countries. Also workers, who lost their job because of their own fault or their own will have to be aware of reductions

or withholding of benefits. On the contrary to Austria, where there is only one unemployment benefit at a level of basically 55% of the former net income, there are two options in Sweden. The first is a basic option that provides people with a basic fixed amount equal for everyone regardless of former income, and additionally, there is voluntary income related insurance. To claim benefits from income related insurance, workers have to be member of an unemployment insurance fund for at least a year but can claim a more generous benefit of 80%, respectively 70% of their former income. For the long-term unemployed, Austria offers unemployment assistance which is lower than unemployment benefits and means-tested against the partner's income. The last safety net is the means-tested minimum income scheme which comes into play when people do not qualify for the other benefits. In Sweden, those who are not able to maintain themselves can claim social assistance (European Commission, 2015, pp. 51–57; Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 50–52).

Within this policy environment, the following key figures derived from the OECD database can be found (Table 2). Labour force participation of working-aged men is somewhat higher in Sweden (83.6%) than in Austria (80%). The difference between women in Sweden and Austria is, however, more pronounced. Only 70.8% of Austrian women in this age group participate in the labour market, whereas it is 79.3% in Sweden. Thus, the difference between men and women in Austria is much higher than that in Sweden. Even so, Austria's unemployment rate is lower for both genders (men 5.9%, women 5.5%) than in Sweden (men 8.4%, women 7.8%). In both countries women more frequently work only part-time than men. This difference is higher in Austria, where only 8.5% of men work part-time, but 34.9% of women. In Sweden, the rate of people in part-time employment is 10.5% for men and 18.3% for women.

Indicator	Austria		Sweden	
	men	women	men	women
Labour force participation rate (age 15-64) in 2014	80.0%	70.8%	83.6%	79.3%
Unemployment rate (age 15-64) in 2014	5.9%	5.5%	8.4%	7.8%
Persons in part time employment (all ages) in 2014	8.5%	34.9%	10.5%	18.3%

Table 2: Key figures in the context of employment (OECD, 2016c)

Consequently, the most important differences between Austria and Sweden are the eligibility criteria for unemployment benefits and their level as well as the differences in female labour market participation, the level of unemployment and the extent of the gender gap in part-time employment.

4.4. Welfare state and social policy characteristics in the context of tertiary education

Austria

In general, two different sections of federal aid measures can be distinguished. The first section concerns transfer payments which are paid directly to the student. Those include study grants, study allowance for tuition fees, transport cost allowance, subsidy for insurance costs, mobility grant, study abroad grants, grant near completion of the studies, student financial aid, child care subsidy, performance related grants, orphan's pension for students and subsidized loans. The second section is either paid to the parents of the student or is not a cash benefit. This section is composed of family allowance until the age of 24, child tax credit, health and accident insurance, tax benefits, subsidies for canteens and subsidies for the student union fee. The most important measures, however, are study grants and family allowance (Federal Ministry of Labour, Social Affairs and Consumer Protection, 2014, pp. 5–24).

Precondition for study grants in Austria is to study at an Austrian post-secondary educational institution and social need. Social need is evaluated based on the income of the student or his or her parents as well as the number of the student's family members. If the student is married, also the spouse's income is relevant. In addition, there must be proof of academic advancement, it has to be the first study programme at this level and the student has to start studying before he or she is 30 (or in some cases 35) years old. Students are allowed to have additional earnings of a certain amount. Grants do not have to be paid back as long as the student advances in his or her studies and does not exceed the amount of additional earning (Austrian Study Grant Authority, 2016, pp. 5–24).

Sweden

Sweden offers financial aid to students in order to cover their living costs during their studies. It is considered an important part of the Swedish welfare system and aims at enabling as many people as possible to participate in education. The financial aid consists of loans and grants for the students (Government Offices of Sweden, 2015).

Students can decide if they take the loans, which are somewhat higher but have to be paid back, or if they choose grants. The level of student aid a person can claim depends on whether the studies are full-time or part-time and the length of studies. In some cases the student can claim additional supplements. If the student has children, he or she will receive extra child allowance (according to the number of children). If the student turns 25 and has

already worked and earned a minimum income, he or she can claim a supplementary loan. An additional loan can be claimed for extra costs. General eligibility for student aid requires the student to attend college, university or other tertiary courses. Student aid can be received until the age of 56. Eligibility for loans, however, can be limited at the age of 47. The maximum length for receiving study aid is 12 semesters for college or university education (CSN, 2015).

Comparison of Austria and Sweden

Both countries offer financial aid for students. In Austria the most important student support (family allowance) is paid to parents and not to the student, whereas financial aid in Sweden is always paid to the student. Moreover, family allowance is only paid until the student reaches the age of 24. Austrian study grants are based on social need and can be claimed only if the student starts studying before the age of 30 (or in some cases 35). This means, that the financial situation of the student, the parents and the spouse is taken into account. In Sweden, however, study grants can be received, basically, by every student until the age of 56. On the contrary to Austria, Sweden also offers loans for students, which are higher than the grants but have to be paid back (Austrian Study Grant Authority, 2016, pp. 5–24; CSN, 2015).

This chapter illustrated the different policies in Austria and Sweden. In the next step, the quantitative part of this thesis, it is analysed if health inequality due to social determinants of health such as education, income and employment exists in Austria and Sweden, and if so, how it varies between the countries and between men and women.

5. Methods

This chapter gives an overview of the data material used in this study and explains why it is used. Moreover, it describes what variables are used, how they are generated and why they were selected. In addition, this chapter introduces the analytical sample, its distributions according to the relevant variables, as well as an introduction to the descriptive and statistical analysis used for the study.

5.1. Data material

For the purpose of this analysis, data from round seven of the European Social Survey (ESS) was used. The European Social Survey is a cross-sectional multi-country survey, which has been conducted in more than 30 European countries up to now. The first round of ESS was published in 2002 and since then the survey is conducted in two-year intervals, each consisting of a core module and a rotating module. The ESS pursues three main objectives. The first goal is to observe and interpret altering attitudes and values in European countries, especially with regard to their interaction with changing institutions in Europe. The second goal is to further develop methods used in cross-national research in Europe and internationally. The third goal is to develop social and attitudinal indicators for future research. The governments of the participating countries fund the national coordination and fieldwork costs in their own country as well as the central coordination costs of the ESS European Research Infrastructure Consortium (ESS ERIC) (European Social Survey, 2015a, p. 5).

ESS round seven features data from a total of 22 countries and was conducted via hour-long face-to-face interviews in national language. For the following analysis, only data from Austria and Sweden is used. The European Social Survey makes use of strict random probability sampling and rigorous translation protocols. ESS includes data from people aged 15 and older who live within a private household. Nationality, citizenship, language and legal status are no selection criteria. The mode of data collection was computer assisted personal interviews (CAPI) and the anonymous data are accessible without any restrictions for non-profit purposes. Datasets can be downloaded directly from the ESS homepage after registration (European Social Survey, 2015a, p. 5-13; p. 113).

In Austria, the data was collected by IFES Institut für empirische Sozialforschung GmbH and funded by the Federal Ministry of Science, Research and Economy as well as the Federal Ministry of Labour, Social Affairs and Consumer Protection. The fieldwork period lasted from 14th October 2014 to 5th of May 2015 and the sample design was a three-stage design. At

first, statistical enumeration districts were selected by a sample stratified by region and size class. At the second stage, buildings within these statistical enumeration districts were selected with probability proportional to the number of people living in them. At the third stage one person in each of these buildings was selected by a simple random sample. In Austria, a total of 3,600 people were contacted and a response rate of 51.58% was achieved (European Social Survey, 2015a, pp. 13).

Data collection in Sweden was conducted by Ipsos Observer Sweden and funded by The Swedish Research Council. The sampling design was a one-stage design and collected by using a simple random sample from the register of the population. In Sweden, the fieldwork period lasted from 1st of August 2014 to 30th January 2015. For ESS round seven, 3,750 people in Sweden were contacted and the response rate was 50.1% (European Social Survey, 2015a, pp. 113).

5.2. Analytical sample

In the following analysis, data of respondents from Austria and Sweden was used. The sample was restricted to people of working age from 20 to 65 years, both males and females. This age group was selected in order to measure the effects of education within a population that has already required basic education if not finished it and whose health is not yet limited through the influences of infirmity due to age. The Austrian sample consisted of 1,328 respondents, of which 48% were male and 52% were female. The Swedish sample included 1,224 respondents, of which 49.3% were male and 50.7% were female. There were only a few cases of non-response for all variables in the study sample, so no additional analysis including these cases was conducted. Table 3 offers a description of the variables used in this study.

In order to correct for unequal probabilities for selection and thus possible sample selection bias due to different sample designs in the participating countries, design weights have been applied. Since the countries Austria and Sweden were analysed separately, application of the population size weight was not necessary (European Social Survey, 2014).

Description of the variables								
Variable	Austria (n = 1,328)				Sweden (n = 1,224)			
	Men		Women		Men		Women	
	%	n =	%	n =	%	n =	%	n =
Gender (%), n = 2,552	**48.0**	**637**	**52.0**	**691**	**49.3**	**604**	**50.7**	**620**
Health (%), n = 2,550								
Good health	83.7	532	80.6	557	85.9	519	79.5	493
Less than good health	16.3	104	19.4	134	13.9	84	20.5	127
Age (%), n = 2,552								
20 – 35	30.9	197	31.7	219	36.6	221	31.5	195
36 – 45	24.2	154	23.6	163	18.7	113	23.1	143
46 – 55	24.8	158	24.9	172	23.3	141	22.9	142
56 – 65	20.1	128	19.8	137	21.4	129	22.6	140
Education (%), n = 2,545								
Low	14.2	90	18.6	129	10.7	64	4.9	30
Middle	70.8	451	62.9	435	64.5	387	59.1	365
Higher	15.1	96	18.4	127	24.8	149	36.1	223
Income Quintile (%), n = 2,551								
1st Quintile	15.3	97	17.3	120	10.4	63	8.5	53
2nd Quintile	18.7	119	16.7	115	11.9	72	11.3	70
3rd Quintile	21.9	140	19.4	134	11.6	70	17.1	106
4th Quintile	12.9	82	15.8	109	23.5	142	21.6	134
5th Quintile	6.2	40	5.3	36	35.9	217	36.5	226
Refuse, don't know, no answer	24.9	159	25.5	176	6.6	40	5.0	31
Employment Status (%), n = 2,552								
In paid work	76.7	489	68.6	474	79.0	477	76.8	476
Not in paid work	23.3	148	31.4	217	21.0	127	23.2	144

Table 3: Description of the variables used in this study

5.3. Variables

5.3.1. Dependent variable

The dependent variable in this study is *subjective general health*. Although it is a subjective measure, the scope of subjective general health and its implications reflect the relevant aspects of health which are included in the definition of health according to the World Health Organization. In the Preamble to the Constitution of the World Health Organization, health is defined as follows: “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1946).

It is common practice to use measures such as subjective general health or self-rated health in public health related studies since it represents the overall assessment of health by the individuals. It is argued that even when mortality is rare, for example when talking about younger people, and thus cannot be used as an indicator, subjective health is a good measurement that can be used instead. According to different sources, subjective health is related to fitness, morbidity, visits to the general practitioner and can be used as predictor for mortality. This is explained by the level of information an individual has about his or her own health, which might include his or her own health behaviour, history of health in the family and similar information. The downside of the measure is that it can be interpreted differently (cf. Chapter 8) (Manor, Matthews, & Power, 2000, p. 149).

In the European Social Survey, respondents were asked the question “How is your health in general? Would you say it is …” and could answer with (1) “very good”, (2) “good”, (3) “fair”, (4) “bad” or (5) “very bad”. Other possible answers were (7) “refusal” or (8) “don’t know”. In order to prepare for statistical analysis in the form of logistic regression, the variable subjective general health was recoded into a dichotomous variable. This is a legitimate procedure, since evaluations of studies using a collapsed dichotomous health variable and studies using the original ordered categorical variable found similar results concerning effect size, significance and associations (Manor et al., 2000).

Thus, (1) “very good” and (2) “good” were grouped into “good health” and (3) “fair”, (4) “bad” and (5) “very bad” were grouped into “less than good health”. “Good health” was coded 0 and “less than good health” was coded 1. Since the numbers of respondents who refused to answer, did not know or gave no answer was very small, these cases were treated as missing cases.

Descriptive statistics (Table 3) show that in Austria 83.7% of men reported good health and 16.3% reported less than good health. 80.6% of the female sample in Austria reported good health and 19.4% less than good health. In comparison to that, 85.9% of male Swedish respondents reported good health and only 13.9% reported less than good health, whereas

the Swedish female study participants reported good health in 79.5% and less than good health in 20.5% of the cases.

5.3.2. Independent variables

The three main independent variables are education, income and employment status. These variables have been selected because, as explained in Chapter 2.1., they can be seen as major determinants of health with substantial effects on a person's overall wellbeing. Furthermore, all three of them could be derived from the dataset and offered an adequate sample.

The independent variables income, education and employment status were tested for multicollinearity. However, no critical correlation between the three variables was found, thus all of them can be used for further analysis.

Education

Education can help people to increase their knowledge and general skills as well as improving competencies in decision making and critical thinking, thereby having an indirect positive influence on health (Cutler & Lleras-Muney, 2006, p. 16).

Education of the respondents was measured by a generated variable called "Highest level of education, ES – ISCED". ES-ISCED is a simplified version of the original ISCED International Standard Classification of Education, which translates country-specific categories to international categories to enhance comparison of education statistics across different countries (European Social Survey, 2015b; UNESCO Institute for Statistics, 2014). This means that country specific categories of education have been harmonized into (1) "ES-ISCED I, less than lower secondary", (2) "ES-ISCED II, lower secondary", (3) "ES-ISCED IIIb, lower tier upper secondary", (4) "ES_ISCED IIIa, upper tier upper secondary", (5) "ES_ISCED IV, advanced vocational, sub-degree", (6) "ES_ISCED VI, lower tertiary education, BA level", (7) "ES_ISCED VII, higher tertiary education ≥ MA level". Additionally, there were answers coded (0) "Not possible to harmonise into ES-ISCED", (55) "Other", (77) "Refusal", (88) "Don't know". Again, the number of cases with these answers in the study sample was so small, that they were treated as missing cases.

For the present study, the ES-ISCED levels have been regrouped into a three-level variable. ES-ISCED I and II were grouped into "low education" and coded 1, ES-ISCED IIIb, IIIa and IV were grouped into "middle education" and coded 2, and ES-ISCED VI and VII were

grouped into “higher education” and coded 3. Thus, education level is now a three-level categorical independent variable.

Descriptive statistics (Table 2) show that 14.2% of male respondents in Austria had low education, 70.8% had middle education and 15.1% had obtained higher education. In the female sample 18.6% of Austrian women had low education, 64.5% had middle education and 18.4% had higher education. The distribution in the Swedish sample looks somewhat different. In the male sample 10.7% reported low education, 64.5% middle education and 24.8% higher education. When it comes to the female respondents in Sweden, only 4.9% had low education, 59.1% had middle education and 36.1% had higher education.

Income

According to the epidemiologist Michael Marmot, there are two different ways in which income can be causally related to a person’s health: “(…) through a direct effect on the material conditions necessary for biological survival, and through an effect on social participation and opportunity to control life circumstances” (Marmot, 2002, p. 32).

The variable “Household’s total net income, all sources” in ESS was obtained by the question “Using this card, please tell me which letter describes your household’s total income, after tax and compulsory deductions, from all sources? If you don’t know the exact figure, please give an estimate. Use the part of the card that you know best: weekly, monthly or annual income”. The card offered possible answers on a weekly, monthly or annual basis and each letter (J, R, C, M, F, S, K, P, D, H) represented one income decile of the specific country. In Austria, income categories were defined according to the categories used by the European Union Statistics on Income and Living Conditions (EU SILC), which is based on a representative sample of people living in private households. The income categories for Sweden were created by the European Social Survey itself (European Social Survey, 2015c, pp. 2–3).

To reduce the categories for statistical analysis, income deciles have been recoded into quintiles. Since the proportion of the respondents in Austria who refused to answer the question or did not know was considerably high, the cases were included as an extra category in the analysis in addition to the five quintiles. The amount of refusals in Sweden was not as extensive. As a consequence, the income variable used in the present study consists of six categories, quintile one to five and “refused, don’t know, no answer” in order prevent a loss of information.

Of the Austrian sample, 15.3% of males were in the first income quintile, 18.7% in the second, 21.9% in the third, 12.9% in the fourth and 6.2% in the fifth income quintile. 24.9% refused to give an answer or did not know their income. Of all the women in the Austrian sample, 17.3% were in the first quintile, 16.7% were in the second, 19.4% were in the third, 15.8% were in the fourth and 5.3% were in the fifth quintile. 25.5% refused to give an answer or did not know the answer. In Sweden, the distribution in the male sample was 10.4% in the first quintile, 11.9% in the second quintile, 11.6% in the third, 23.5% in the fourth, 35.9% in the fifth income quintile and only 6.6% refused to give an answer or did not know their income. Of the Swedish women in this sample, 8.5% were in the first quintile, 11.3% were in the second, 17.1% were in the third, 21.6% were in the fourth, 36.5% were in the fifth income quintile and 5% refused to answer this question or answered that they did not know.

Employment Status

As already described in Chapter 2.1, unemployment is related to increasingly poor health, since it can cause stress, depression, anxiety, heart problems and other negative effects on health (Wilkinson, 2003, pp. 20–21). Thus, employment status is an important variable in order to find out how individual perception of health varies between employed and not employed people.

The variable concerning employment status is derived from another question which asked what the respondent had been doing for the last seven days. The variable “Interviewer code, respondent in paid work” sums up the number of respondents who were currently engaged in paid work and those who were not. “In paid work” is coded as 1 and “not in paid work” is coded as 2. Those who had not been engaged in paid work for the last seven days are either enrolled in education, unemployed, permanently sick or disabled, retired, engaged in community or military service, at home, gave another answer or refused to answer this question. In order to narrow down the analysis to people of working age, thus focusing better on the effect of active employment on subjective health, the study sample was restricted to people aged 20 to 65.

In the Austrian sample, 76% of males reported being engaged in paid work, whereas 23.3% were not. 68.6% of women in the Austrian sample were in paid work and 31.4% were not. In the Swedish sample, 79% of males were in paid work and 21% were not in paid work. 76.8% of the Swedish female sample were in paid work and 23.2% were not.

5.3.3. Control variable

Age

In addition, all the logistic regression analyses are controlled for age, since the risk of infirmities and additional health risks such as chronic or degenerative diseases rises with increasing age (World Health Organization, 2011, pp. 9–13). For the descriptive table, the variable age has been regrouped into age groups for a better overview. People in group one were up to 19 years old and were coded into “younger than 20”, group two ranged from 20 to 35, group three from 36 to 45, group four from 46 to 55, group five from 56 to 65 and in group six were all those people aged 66 and older. Relevant to the study are only people aged 20 to 65 (age group two to five). In the regression analysis, the original continuous variable “Age of respondent calculated” was used.

Descriptive data in Table 2 shows that in the Austrian study sample 30.9% of the men were 20 to 35 years old, 24.4% were aged 36 to 45, 24.8% were 46 to 55 and 20.1% were 56 to 65 years old. 31.7% of women in the Austrian sample were aged 20 to 35, 23.6% were 36 to 45, 24.9% were 46 to 55 and 19.8% were 56 to 65 years old. In Sweden 36.6% of males were aged 20 to 35, 18.7% were 36 to 45, 23.3% were 46 to 55 and 22.6% were 56 to 65 years old. 31.5% of Swedish women were aged 20 to 35, 23.1% were 36 to 45 years old, 22.9% were 46 to 55 and 22.6% were 56 to 65 years old. In summary it can be said that the distribution of age groups between Austria and Sweden, as well as among men and women, is relatively balanced.

5.4. Statistical analysis

Statistical analysis in this study is performed in a two-step approach. At first, a chi-square test for association clarifies if there is significant association between the dependent and independent variable. After that, a binary logistic regression analysis shows if associations are still present if other variables are controlled for and aims to predict if someone is healthy or not from the chosen set of independent variables. Both methods are performed with the statistics software IBM SPSS Statistics 22 using data from ESS round seven. The following section gives a detailed background to the two methods and describes the actual logistic regression model used for analysis.

5.4.1. Bivariate method: chi-square test for association

In the first step, a chi-square test for association is performed. This test compares observed frequencies with expected frequencies and tests for significance in the association. It is used to test whether there is a relationship between two variables that have to be categorical. In particular, a two-sample chi-square test is used in this study. This test "involves calculating the frequencies, which would be found if there were no relationship between the variables and comparing them with the observed frequencies" (Jupp, 2006, p. 27). When there is a large enough difference between the frequencies of observed and expected cases, there is a relationship between those variables. In order for the test to be valid, the categories of the two variables have to be mutually exclusive (e.g. gender and good health or less than good health). The observed frequencies can then be illustrated in a cross tabulation or contingency table. Another precondition for a valid chi-square test is that the expected frequencies must be minimum five in at least a fifth of the cells (Jupp, 2006, pp. 26–27).

5.4.2. Multivariate method: binary logistic regression

In the second step, a more advanced statistical method is used. The multivariate statistical technique used in this study is binary logistic regression. Logistic regression is used to predict a discrete outcome from a set of predictor variables. The outcome variable or dependent variable is dichotomous, such as belonging to a certain group or not. Predictor variables, also called independent variables, in logistic regression can either be continuous, categorical or dichotomous or a mix of different types. (Tabachnick & Fidell, 2010, p. 439). In this case the outcome variable defines whether the person belongs to the group of people who are healthy (good health, coded 0) or the group of people who are not healthy (less than good health, coded 1). The predictor variables income quintile, education level and employment status used in this analysis are all categorical and transformed into dummy variables (except for the control variable "age", which is continuous).

Logistic regression analysis evaluates the probability of a certain outcome for each group (Tabachnick & Fidell, 2010, p. 439). This study predicts the probability of a case reporting less than good health based on answers to questions about income, education level and employment status (controlled for age). More precisely, it tests whether the predictor variable has any effect on the outcome or if it increases or decreases the probability of an outcome. Since the logistic regression equation is solved for the outcome coded 1, in this case "less than good health", the probabilities are also for "less than good health". In addition, it can be calculated what proportion of the viability in the outcome is accounted for by the predictor variables (Tabachnick & Fidell, 2010, pp. 441–448).

Since the dependent variable is a dichotomous one, the distribution is nonlinear with the outcomes “good health” (coded 0) and “less than good health” (coded 1). Thus, also the model resulting from logistic regression is nonlinear. The equation, therefore, is different to that of a linear regression analysis.

The probability of having the outcome “good health” or “less than good health” in the i-th $(i = 1, \dots, n)$ case is depicted in the equation by $\hat{y}$.

$$\hat{y}_i = \frac{e^u}{1 + e^u}$$

Moreover, u represents the normal regression equation, with A for the constant, B_j for the coefficients, and X_j for k predictors $(j = 1, \dots, k)$ (Tabachnick & Fidell, 2010, p. 440).

$$u = A + B_1X_1 + B_2X_2 + \cdots + B_kX_k$$

This linear regression equation is the natural log of the probability of having “good health” or “less than good health”, divided by the probability of belonging to the other outcome group. This is called either the logit or the log of the odds (Tabachnick & Fidell, 2010, p. 440).

$$ln\left(\frac{\hat{y}}{1 - \hat{y}}\right) = A + \sum B_jX_{ij}$$

The type of logistic regression used in this study is defined as direct or standard logistic regression. It is used when there is no initial hypothesis concerning the importance of independent variables or their order. Thus, direct logistic regression enables to evaluate the contribution each predictor variable makes to the outcome relative to the other predictors. Correct interpretation is difficult when predictors are correlated, thus it first has to be tested for multicollinearity (Tabachnick & Fidell, 2010, p. 456).

The term multicollinearity is used when two variables are highly correlated. In other words, both variables measure the same thing thus creating statistical problems. In general, a correlation above 0.7 is regarded as problematic because it weakens the analysis. When variables are correlated higher than this value, one of them should be excluded (Tabachnick & Fidell, 2010, pp. 88–90). The test for multicollinearity in this analysis showed that no correlation between the variables reached the critical value of 0.7. In fact, the highest

correlation was found between the variables “income quintile” and “respondent in paid work” with a correlation of 0.195.

The B values for the predictor variables are the natural log of the odds. Those are the values that are used in the logistic regression equation to calculate the probability of the outcome, in this case the probability of reporting “less than good health”. The B values can either be positive or negative, depending on the direction of the relationship between predictor and outcome variable. Positive B values increase the likelihood of an event to happen, whereas negative B values decrease it. In this study, coefficients will be interpreted by using odds ratios. This means that “the odds ratio is the change in odds of being in one of the categories of outcome when the value of a predictor increases by one unit” (Tabachnick & Fidell, 2010, p. 463). An odds ratio higher than one constitutes an increase in odds of an outcome coded 1 (in this case “less than good health”) with a one unit increase in the predictor variable (income quintile, education level, employment status). An odds ratio smaller than one shows a decrease in the odds of an outcome (“less than good health”) with a one unit change. When using categorical predictor variables, as in this study, the odds of two categories are compared. When there are more than two categories, each category is compared to the baseline category (Pallant, 2004, pp. 168–169; Tabachnick & Fidell, 2010, p. 463).

Interpretation will be done for statistically significant coefficients (on a 95% confidence level). In logistic regression, the coefficients are interpreted within the context of all the other predictor variables. This means for example, that the odds for reporting “less than good health” as a function of educational attainment are interpreted after adjusting for the predictors income and employment status (and the control variable age). The predictors which are statistically significant and have the odds ratio the farthest away from one are considered to be the most important predictors, since they have the largest influence on the outcome (Tabachnick & Fidell, 2010, pp. 463–472).

In this study, the outcome variable of interest, “less than good health”, is coded 1 and the predictor variables are set to use the least privileged group as the baseline category, thus giving information whether people who are better off are less likely to suffer from “less than good health”. This might lead to odds ratios smaller than one, which has to be interpreted differently than those larger than one. This is due to the fact that odds ratios larger than one can range from one to infinity, whereas odds ratios smaller than one can only range from one to zero even though they would, technically, range to infinity. This limitation can be overcome by taking the inverse of the odds ratio (one divided by the odds ratio) (Osborne, 2006, p. 4).

The control variable age is a continuous variable and the literature indicates that “less than good health” is more common with older people (Chapter 5.3.3). Hence, it is expected that

odds ratios concerning age might be larger than one. For adequate interpretation it is important to know that “odds ratios greater than 1 reflect the increase in odds of an outcome of 1 (the ‘response’ category) with a one-unit increase in the predictor” (Tabachnick & Fidell, 2010, p. 463).

5.4.3. Statistical model for logistic regression analysis

Due to the theoretical background information concerning relevant social health determinants (Chapter 2.1 and Chapter 5.3) and availability in the dataset, the following regression model was built:

$$\ln\left(\frac{\hat{y}}{1-\hat{y}}\right) = A + B_1 \times Income + B_2 \times Education + B_3 \times Employment\ Status + B_4 \times Age$$

This model estimates the probability of a person either male or female, living in Austria or Sweden of reporting less than good health, based on their income, education and employment status, controlled for their age. The results of the logistic regression analysis are shown separately for Austria and Sweden. A separate analysis of the two countries might indicate how well the welfare state alleviates the effects of negative health.

6. Results

The following chapter presents the results achieved through statistical analysis in SPSS. The first section shows the results of descriptive analysis with cross-tabulation as well as the results of bivariate statistics in form of the chi-square test for association. The second section presents the result of the more complex multivariate statistical method, namely logistic regression.

6.1. Results of the descriptive analysis and bivariate statistics

The next section offers an overview of the association between the predictor variables and the dependent variables by use of the chi-square test for association in addition to the results of cross-tabulation.

6.1.1. Distribution of good and less than good health with regard to gender

When comparing the proportions of male and female respondents in Austria who consider their health less than good with those in Sweden, a similar pattern can be found for both samples (Table 4). In each country, the proportion of women reporting less than good health was greater than that of men in the same country; it was 19.4% of women compared to 16.4% of men in Austria and 20.5% of women compared to only 13.9% of men in Sweden. This descriptive analysis hints at a gender difference when it comes to self-reported health.

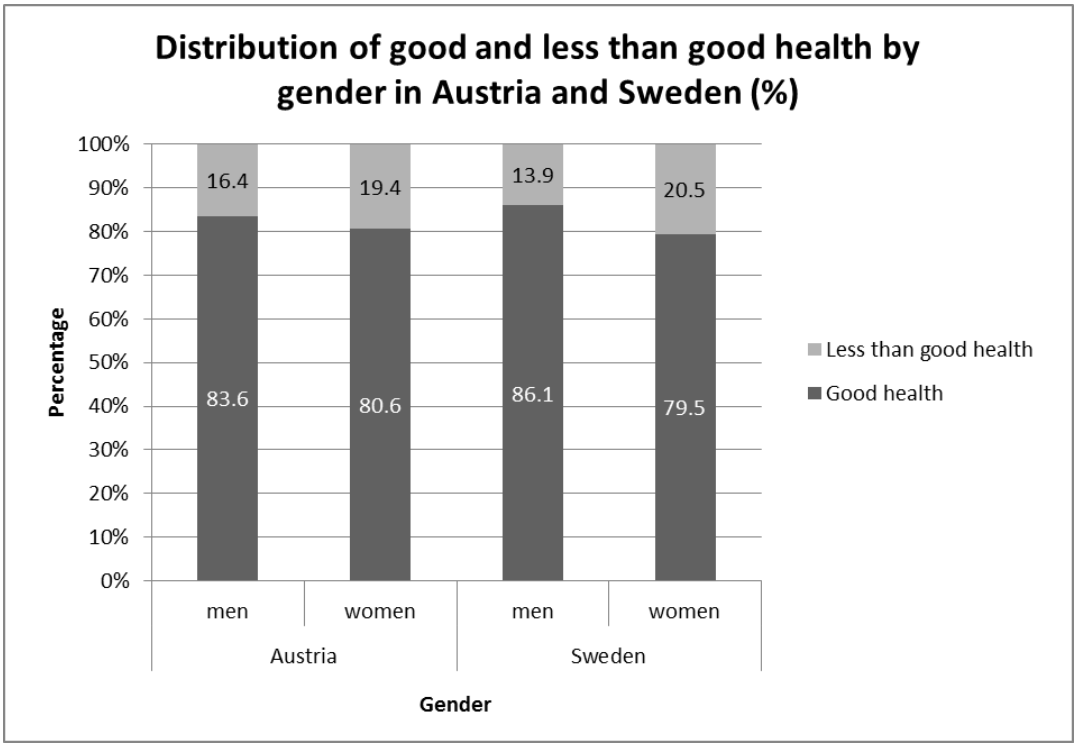

Table 4: Distribution of good and less than good health by gender (Austria and Sweden)

The chi-square test for association showed that there is a statistically significant association between the variables gender and health in the Swedish sample (n = 1.223) with a chi-square of $x^2(1) = 9.196$, $p = .002$. However, the chi-square test for the Austrian sample showed that the association between health and gender is not statistically significant ($x^2(1) = 2.079$, $p = .149$).

6.1.2. Distribution of good and less than good health with regard to education level

Austria

When comparing the sample of Austrian men and women (Table 5), it can be seen that for both genders the proportion of people who reported less than good health was greatest in the group with low education (men 33.3%, women 30.2%) and got smaller the higher the education level. However, the proportion of women reporting less than good health in the groups of middle and higher education (middle education 17.9%, higher education 14.2%) was slightly larger than in the same groups of men (middle education 13.7%, higher education 12.5%).

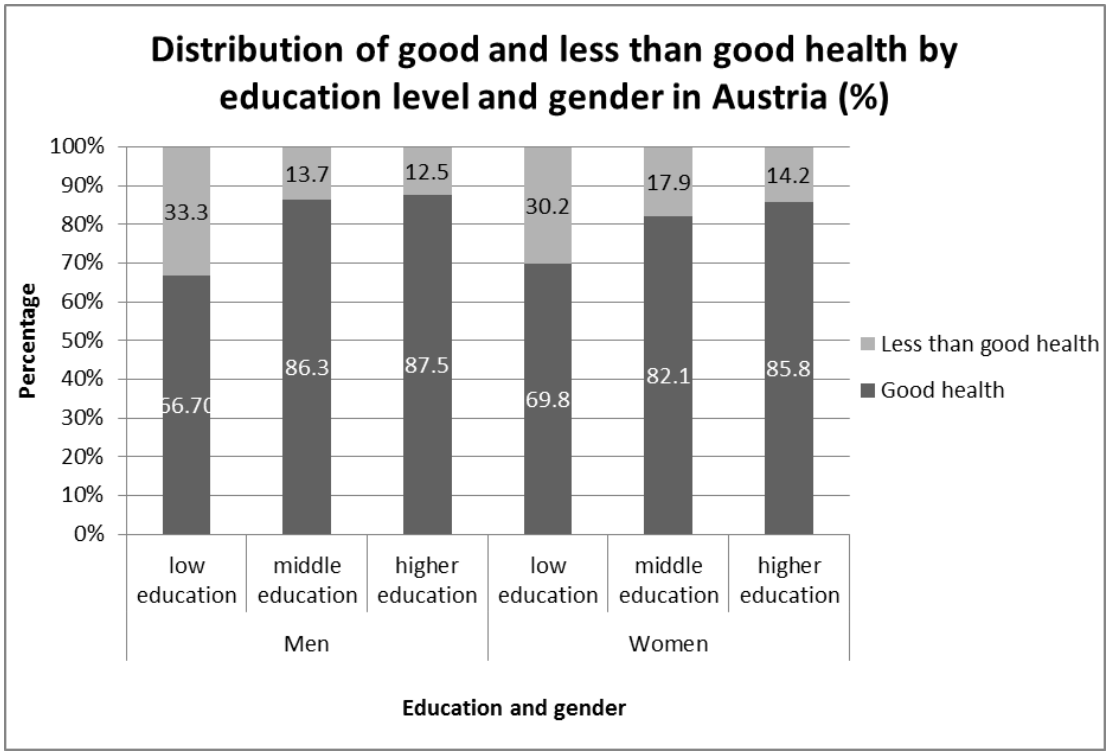

Table 5: Distribution of good and less than good health by education level and gender (Austria)

Additionally, a chi-square test for association between health and education was performed for Austrian men (n = 637) and women (n = 691). In both samples, all expected cell frequencies were greater than five. The test found a statistically significant association between the variables health and education level, both in the sample of males ($x^2(2) = 22.280$, $p = .000$) and females ($x^2(2) = 12.425$, $p = .002$).

Sweden

Same as in Austria, also men and women in the Swedish sample more frequently reported less than good health in the lower education group (Table 6). The higher the education level, the lower the proportion of men and women reporting less than good health. However, the difference between men and women in each of the education level is more pronounced than in the Austrian sample. Most strikingly is the difference between men and women in the low education group. In the male sample 23.4% of respondents reported less than good health, whereas it was 53.3% in the female sample.

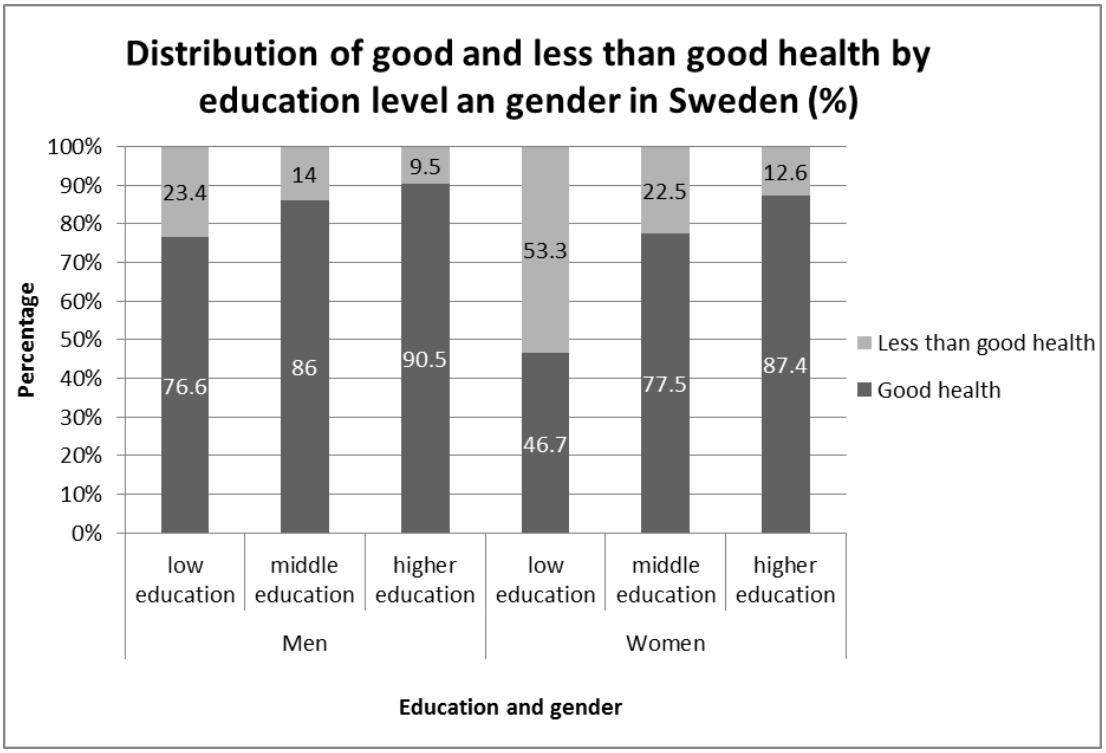

Table 6: Distribution of good and less than good health by education level and gender (Sweden)

The chi-square test for association between health and education of Swedish men (n = 599) and women (n = 618) showed a statistically significant association. In both samples, all expected cell frequencies were larger than five. The association between the variables health and education level for Swedish men was $x^2(2) = 29.459$, $p = .000$ and for Swedish women $x^2(2) = 7.322$, $p = .026$.

6.1.3. Distribution of good and less than good health with regard to income

Austria

The distribution of good and less than good health between men and women in Austria shows that in the sample there is a general trend for better health in higher income quintiles (Table 7). When comparing the first two income quintiles of Austrian men and women it can be seen that the proportion of women reporting less than good health (30.3% in the first income quintile, 22.6% in the second income quintile) was higher than that of men (25% in the first income quintile, 18.5% in the second income quintile).

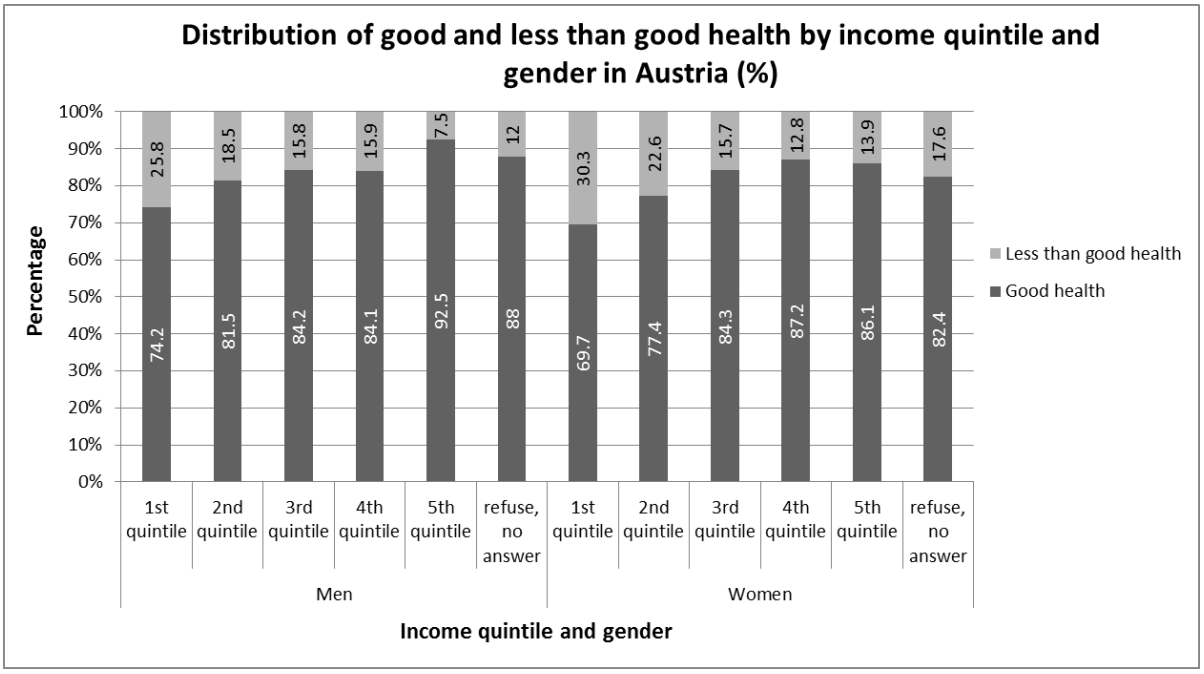

Table 7: Distribution of good and less than good health by income quintile and gender (Austria)

The chi-square test for association between income and health showed a statistically significant association between the two variables health and income quintile. In both samples, all expected cell frequencies were greater than five. The association for Austrian men (n = 635) was $x^2(5) = 11.173$, $p = .048$ and $x^2(5) = 15.019$, $p = .010$ for Austrian women (n = 689).

Sweden

The distribution of income quintiles with regard to good and less than good health looks somewhat different in the Swedish sample (Table 8). Even though, there is the same trend for better health in higher income quintiles as in Austria, the difference between the genders is much more pronounced in Sweden. Only 23.8% of men in the first income quintile reported less than good health, whereas it was 49.1% of women in the same income quintile. Also when looking at the other quintiles, the proportion of women who considered their health as less than good was almost always higher than for men in the same income quintile. The only exception is the fifth income quintile, here only 9.7% of the female respondents reported less than good health compared to 11.1% of men.

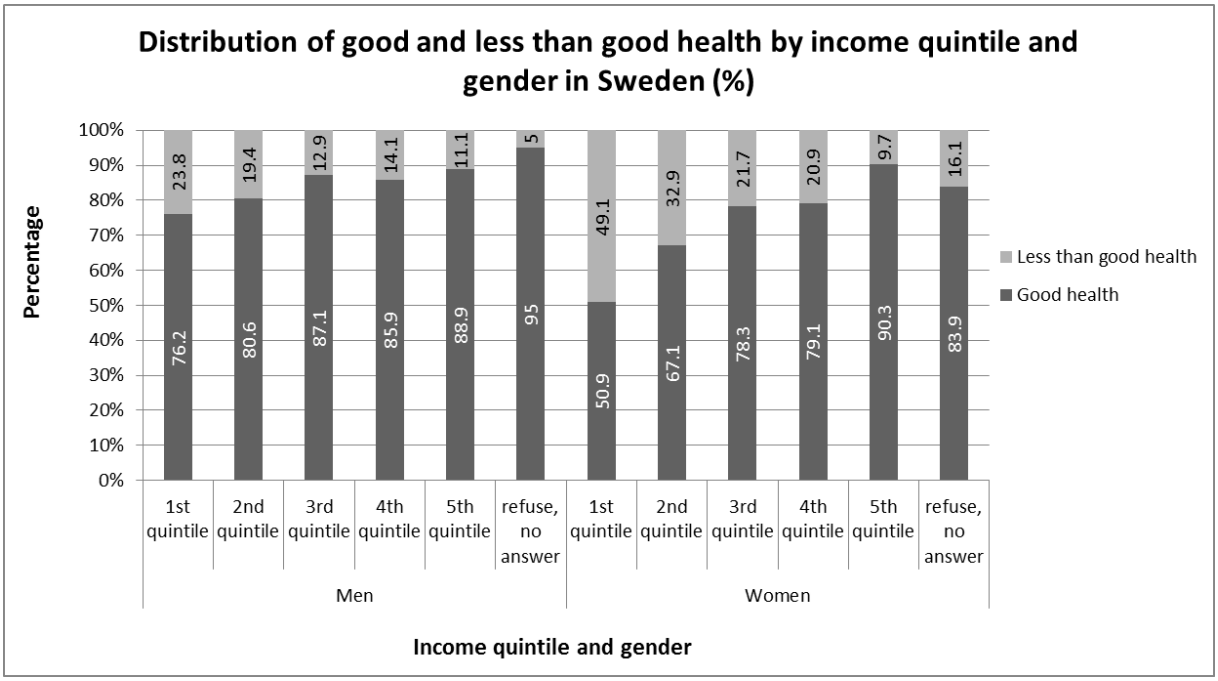

Table 8: Distribution of good and less than good health by income quintile and gender (Sweden)

The chi-square test for association between income and health was again performed separately for Swedish men (n = 603) and women (n = 620). All expected cell frequencies were larger than five in the female as well as the male sample. The test found a statistically significant association between the variables health and income quintile, both in the sample of males ($x^2(5) = 11.117$, $p = .049$) and females ($x^2(5) = 49.648$, $p = .000$).

6.1.4. Distribution of good and less than good health with regard to employment status

Austria

When comparing the sample of Austrian men and women with different employment status regarding their health, the overall picture is that respondents who were not engaged in paid work more frequently reported less than good health (Table 9). The proportion of women who were not engaged in paid work and reported less than good health was 28.6%, which was quite similar for men of the same group with 29.7%. The proportion of women who were engaged in paid work and reported less than good health (15.2%) was marginally different to that of men (12.3%).

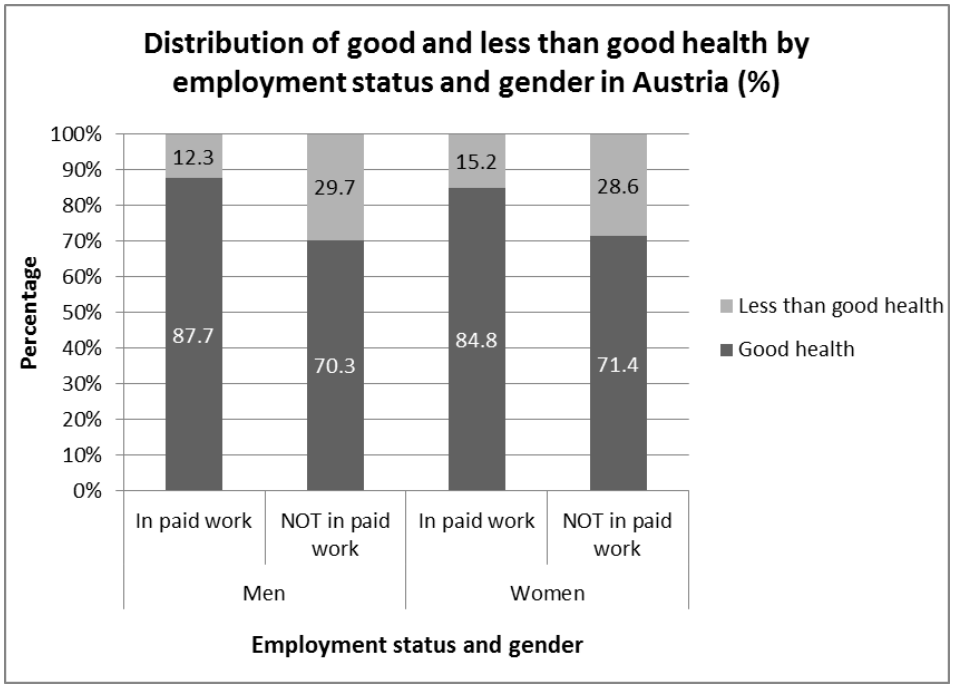

Table 9: Distribution of good and less than good health by employment status and gender (Austria)

A look at the results of the chi-square test for association shows that there is a statistically significant association between employment status and health. The association for Austrian men (n = 637) was $x^2(1) = 25.353$, $p = .000$ and $x^2(1) = 17.052$, $p = .000$ for women (n = 691). All expected cell frequencies were greater than five in the female as well as the male sample.

Sweden

The distribution of health with regard to employment status in Sweden is considerably different when compared to Austria (Table 10). Generally, people who were not engaged in paid work reported proportionally more often less than good health. However, there is an even larger difference between the genders. In Austria the pattern was more or less similar, whereas in the Swedish sample women who were not engaged in paid work reported more often less than good health (32.6%) than men (23.6%) who were in the same situation. Also in the group of people who were engaged in paid work, more women reported less than good health (16.8%) than men (11.3%).

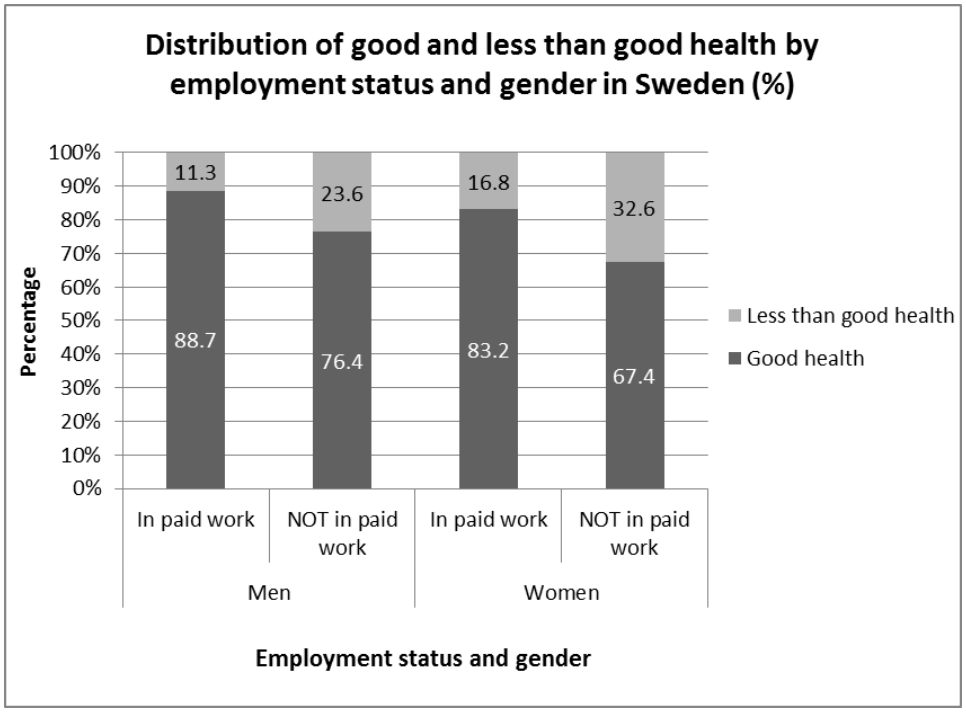

Table 10: Distribution of good and less than good health by employment status and gender (Sweden)

The chi-square test for association found a statistically significant association between the variables health and employment status for both genders. All expected cell frequencies were greater than five in the female as well as the male sample. The association for Swedish men (n = 603) was $x^2(1) = 12.604$, $p = .000$ and $x^2(1) = 17.013$, $p = .000$ for Swedish women (n = 620).

6.2. Results of the binary logistic regression analysis

In this chapter, the results of the model for binary logistic regression analysis for Austria and Sweden are presented. Each country is presented in a separate table, stratified by gender. Due to methodological objections against comparing odds ratios of similar models across samples or groups expressed by Mood (2010), the logistic regression results of Austrian and Swedish men and women will instead be discussed according to significance of the predictor variables (Chapter 7). The underlying reason for refraining from a cross-sample comparison of odds ratios is the problem of unobserved heterogeneity in the models. Although effect sizes in form of odds ratios are often compared across groups by sociologists, it is this procedure is advised against as unobserved heterogeneity cannot be assumed to be the same across the compared samples. Therefore, interpretation could lead to an incorrect conclusion which could potentially lead to mistaken advice for policy-makers (Mood, 2010, pp. 67–73).

6.2.1. Logistic regression results for Austria

For the Austrian sample, a binary logistic regression was performed to ascertain the effects of income, education and employment status on the likelihood that participants consider themselves as in “less than good health” (Table 11). In addition, the models were adjusted for age. The logistic regression model was performed separately for men and women and each of the models was statistically significant, $x^2(9) = 66.563$, $p < .001$ for the male sample and $x^2(9) = 55.861$, $p < .001$ for the female sample. The model for the male sample explained 16.9% (Nagelkerke R^2) of the variance in “less than good health” and correctly classified 83.4% of cases, whereas the model for the female sample explained 12.4% (Nagelkerke R^2) of variance in the sample and correctly classified 80.9% of cases. In the sample of Austrian males, employment status and education were found to be significant predictors as well as two categories of the variable income and the control variable age. The same is true for the sample of Austrian females, except that the income variable showed three significant categories.

Binary logistic regression on the association between education, income employment status and age and less than good health, stratified by country and gender						
	Austria					
	Men (n=634)			Women (n=695)		
	B	SE	OR	B	SE	OR
Constant	-1.92 ***	0.56	0.15	-1.71 ***	0.51	11.22
Income Quintile						
2nd Quintile	-0.37	0.37	0.32	-0.50	0.31	0.61
3rd Quintile	-0.56	0.37	0.57	-0.87 **	0.32	0.42
4th Quintile	-0.40	0.42	0.67	-1.07 **	0.36	0.34
5th Quintile	-1.74 *	0.72	0.18	-1.05	0.54	0.36
refused	-0.90 *	0.38	0.41	-0.72 *	0.30	0.49
(base= 1st Quintile)						
Education						
middle	-0.99 ***	0.29	0.37	-0.56 *	0.25	0.57
high	-0.92 *	0.40	0.40	-0.69 *	0.34	0.50
(base=low)						
Employment Status						
In paid work	-0.65 *	0.26	0.52	-0.44 *	0.22	0.64
(base=not in paid work)						
Age	0.05 ***	0.01	1.05	0.04 ***	0.01	1.04
-2LL	499.753[b]			624.043[b]		
	x^2 = 66.563, df = 9, p < 0.001			x^2 = 55.861, df = 9, p < 0.001		
Nagelkerke R^2	16.9%			12.4%		
Hosmer & Lemeshow test	p = 0.743			p = 0.829		
Classification accuracy	83.4%			80.9%		

*** p ≤ 0.001, ** p ≤ 0.01, *p ≤ 0.05

Table 11: Binary logistic regression results for Austria

Austrian men

According to the model for the male sample (Table 11), the B coefficient for Austrian men belonging to the fifth income quintile was negatively related to “less than good health” at a significance level of p ≤ .05 (B = -1,74), same as those who refused to give an answer regarding their income (B = -0,90).

Expressed in odds ratios, Austrian males belonging to the fifth income quintile were 5.55 times less likely (inverse of 0.18, calculated 1/0.18) and those who did not answer the question were 2.44 times less likely (inverse of 0.41) to report “less than good health” compared to people in the first income quintile. A negative relation was also found for the education variable. Compared to people with a low educational attainment level, those who had at least middle education were 2.7 times less likely (inverse of 0.37) to report “less than good health” (B = -.99, p ≤ .001). This is the same as those with higher educational

attainment (B = -.92, p ≤ .05) who were 2.5 times less likely (inverse of 0.4) to have “less than good health”. The B coefficient for people in paid work indicates also a negative relation (B = -.65, p ≤ .05), thus Austrian males who had a job were 1.92 times less likely (inverse of 0.52) to suffer from “less than good health” than those who did not have a paid job. When looking at the control variable age, it can be seen that increasing age is associated with higher probability of reporting “less than good health” (B = .05, p ≤ .001). In fact, with every additional year in age, Austrian males were 1.05 times as likely to report “less than good health”.

Since income is only a significant predictor when people in the highest income quintile were compared to the lowest one, income does not seem too have a big effect on health for Austrian men. Education on the other hand is already significant when comparing middle to low educational groups. Thus, education and also being engaged in paid employment seem to have the largest effect.

Austrian women

In the model for the Austrian female sample (Table 11), the B coefficient for women in the third income quintile (B = -.87, p ≤ .01) and the fourth income quintile (B = -1.07, p ≤ .01) as well as those who have refused to answer the question (B = -.72, p ≤ .05) is significant and indicates a negative relation to “less than good health”.

When looking at the odds ratio, this means that women in Austria who belonged to the third income quintile were 2.38 times less likely (inverse of 0.42), women in the fourth income quintile were 2.94 times less likely (inverse of 0.34) and women who gave no answer were 2.04 times less likely (inverse of 0.49) to consider their health as less than good. There is also a significant negative relation indicated for the education variable. Women in Austria with middle educational attainment (B = -.56, p ≤ .05) were 1.75 times less likely (inverse of 0.57) to report poor health and women with higher education (B = -.69, p ≤ .05) were two times less likely (inverse of 0.5) compared to the group of women with low education. Women who were engaged in paid work were 1.56 times less likely (inverse of 0.64) to consider their health as less than good than those in the group who were not engaged in paid employment (B = -.64, p ≤ .05). The control variable age is positively related to “less than good health” (B = .04, p ≤ .001) and indicates that women in Austria were with every additional year in age 1.04 times more likely to report “less than good health”.

Compared to Austrian women in the lowest income quintile, women with middle household income (third and fourth quintile) seem to have a health advantage. This advantage cannot be seen anymore when compared to women in the highest income quintile. The same

advantage can be seen for women with middle and higher education compared to those with only low education and for women engaged in paid work. Thus, for Austrian women, all the chosen health determinants seem to have an effect on the quality of health.

6.2.2. Logistic regression results for Sweden

As with the Austrian sample, also for the Swedish sample a binary logistic regression was performed on “less than good health” and the three predictor variables income, education level and employment status (controlled for the continuous variable age) (Table 12). Again, the logistic regression analyses were performed separately for men and women and each of the models was statistically significant, with $x^2(8) = 66.563$, $p < .001$ for the male sample and $x^2(9) = 63.684$, $p < .001$ for the female sample. The model for the male sample explained 10.6% (Nagelkerke R^2) of the variance in “less than good health” and correctly classified 86% of cases, whereas the model for the female sample explained 15.4% (Nagelkerke R^2) of variance in the sample and correctly classified 80.7% of the cases. In the male sample only the predictor variable employment status (respondent in paid work) contributed significantly to the model, whereas the other predictors concerning education and income were not significant. In the sample of Swedish women, however, different categories of income and educational attainment were found to be significant predictors, whereas employment status was not significant.

Swedish men

In the model for the Swedish male sample (Table 12), apart from the control variable age ($B = .04$, $p \leq .001$) only the B coefficient for men who were engaged in paid work was significant at the $p \leq .01$ level and showed a negative relation to “less than good health” ($B = -.75$). In other words, Swedish men who were in paid employment were 2.13 times less likely (inverse of 0.47) to report “less than good health” than Swedish men who were not engaged in paid work. In addition, with every additional life year, Swedish men were 1.04 times more likely to report “less than good health”. The other predictors did not make any significant contribution to the model.

Binary logistic regression on the association between education, income, employment status and age and less than good health, stratified by country and gender						
	Sweden					
	Men (n=599)			Women (n=618)		
	B	SE	OR	B	SE	OR
Constant	-2.24 ***	0.63	0.11	0.12	0.59	1.12
Income Quintile						
2nd Quintile	-0.24	0.45	0.79	-0.47	0.40	0.62
3rd Quintile	-0.80	0.50	0.45	-0.95 *	0.39	0.39
4th Quintile	-0.61	0.43	0.54	-1.02 **	0.38	0.36
5th Quintile	-0.84	0.43	0.43	-1.78 ***	0.40	0.17
refused	-0.84	0.43	0.43	-1.34 *	0.58	0.26
(base= 1st Quintile)						
Education						
middle	-0.118	0.36	0.89	-0.90 *	0.42	0.03
high	-0.30	0.45	0.74	-1.22 **	0.46	0.30
(base=low)						
Employment Status						
In paid work	-0.75 **	0.29	0.47	-0.40	0.25	0.67
(base=not in paid work)						
Age	0.04 ***	0.01	1.04	0.02 *	0.01	1.02
-2LL	446.011[b]			561.409[b]		
	x^2 = 36.003, df = 8, p < 0.001			x^2 = 63.684, df = 9, p < 0.001		
Nagelkerke R^2	10.6%			15.4%		
Hosmer & Lemeshow test	p = 0.084			p = 0.342		
Classification accuracy	86.0%			80.7%		

*** p ≤ 0.001, ** p ≤ 0.01, *p ≤ 0.05

Table 12: Binary logistic regression results for Sweden

Swedish women

According to the model for the female sample (Table 12), the B coefficient indicated a significant negative relation to “less than good health” for belonging to the third income quintile (B = -.95, p ≤ .05), the fourth income quintile (B = -1.02, p ≤ .01), the fifth income quintile (B = -1.78, p ≤ .001) and for those who did not answer the question (B = -1.34, p ≤ .05).

Expressed in odds ratios, this means that Swedish women who belonged to the third income quintile were 2.56 times less likely (inverse of 0.39) to report “less than good health” than women in the first income quintile. Moreover, women in the fourth income quintile were 2.78 times less likely (inverse of 0.36), those who gave no answer were 3.85 less likely (inverse of 0.26) and women in the fifth income quintile were 5.88 times less likely (inverse of 0.17) to report “less than good health” compared to women in the first income quintile. The B

coefficients for people in the middle education group (B = -.90, p ≤ .05) and the higher education group (B = -1.22, p ≤ .01) were also negatively related to the outcome. In other words, Swedish women with middle educational attainment were 33.33 times less likely (inverse of 0.03) and women with higher education were 3.33 times less likely (inverse of 0.3) to report “less than good health” than women in the lowest education group. With every additional year in age, Swedish women were 1.02 times more likely to report “less than good health” (B = 0.02, p ≤ .01).

So, the sample of Swedish women shows a health advantage for women in middle and higher income classes compared to those in the lowest class as well as an advantage for women with middle and higher education compared to those with only low education. Whether or not Swedish women were in paid employment seems to have no significant effect on their self-rated health.

7. Discussion and Conclusion

A comparison of welfare regime classification with current policy fields in Austria and Sweden has shown that general policy characteristics are still in accordance with overall welfare state principles. A summary of the policy comparison conducted in Chapter 4 is illustrated in Table 14 at the end of this chapter.

It shows that Austria, which is considered to be representative of a corporatist welfare state regime, still has a policy landscape that resembles the impact of the originally assigned components of corporatism, status differences and a traditional family image (Esping-Andersen, 2007 [1990], p. 27). This is most evident when looking at social insurance which is arranged according to field of occupation and location of the employer and is based on activity or the status of a co-insured family member. Social policies in Sweden also still work largely according to the original principles of social democratic welfare regimes, which include universalism, generous services and benefits as well as minimizing reliance on family structures for welfare provision (Esping-Andersen, 2007 [1990], pp. 27–29). In Sweden, this is visible especially through eligibility for insurance based on residency and more flexible benefits with regard to child allowance (Table 14).

Benefits in case of sickness are also different in Austria and Sweden. The Austrian benefit arrangement seems more generous in the first few weeks of sickness offering full remuneration, whereas people with longer periods of sick leave enjoy more generous protection in Sweden (80% of salary multiplied by 0.97 in Sweden, versus 50% of gross pay in Austria) (Table 14).

A comparison of family policy showed that efforts to enable gender equality go further in Sweden than in Austria. Even though family allowance in Austria encourages the contribution of fathers in parenting by extending the available payment period, there is no fixed period solely reserved for fathers. This is not so in Sweden; here the father has an equally long claim on family allowance as the mother does and only part of this period can be transferred to the mother. Moreover, Swedish parents enjoy more flexibility in the arrangement of child allowance, which can be saved up to the child's twelfth birthday, or can even be taken part time. Thus, Sweden encourages shared parenting and a more flexible arrangement of family life, whereas Austria's benefit system appears more rigid and not as progressive in encouraging a more active role of the father. The effect of these different welfare state regimes and their policies is also reflected in the difference between Austria and Sweden concerning certain OECD indicators. Not only is the overall labour market participation higher in Sweden (men 83.6%, women 79.3%) than in Austria (men 80%, women 70.8%), also the employment rate of mothers with young children is higher in Sweden (83.1%) than in Austria (76.2%) (OECD, 2016a, 2016c).

The indicators also echo the family policy dimensions assigned to Austria and Sweden by Korpi et al. (2013). According to this classification Austria belongs to the traditional family dimension and Sweden to the dual-earner dimension. The support for Swedish dual-earner structures is also evident when looking at the proportion of children in childcare; for under three year olds it is 47.3% in Sweden and only 19.7% in Austria. This trend continues with children at the age of three to five years old, where 94% of Swedish children are in formal childcare compared to only 84.1% of Austrian children. Generous family policies might also be reflected in fertility rate, which is with an average of 1.88 children per woman higher in Sweden than in Austria (1.46 children) (OECD, 2016a).

When looking at employment indicators of both countries, Austria has a lower unemployment rate (men 5.9%, women 5.5%) compared to Sweden (men 8.4%, women 7.8%). Yet, Sweden has a higher overall labour force participation rate. The proportion of people in part-time employment is also lower in Sweden (men 10.5%, women 18.3%) and there is not such a large difference in this regard between men and women as there is in Austria (men 8.5%, women 34.9%) (OECD, 2016c). From a policy perspective, altogether, unemployment benefits in Sweden are more accessible than comparable benefits in Austria. While in Sweden it is only required to have worked six months during the last year to reach eligibility for unemployment benefits, almost a year is needed in Austria (52 weeks). Additionally, unemployment benefits can be higher in Sweden than in Austria (Table 14).

Moreover, characteristics of tertiary education, according to the adaptation of Esping-Andersen's welfare regime typology by Willemse and Beer (2012), can be found in present

Austrian and Swedish policies. The most remarkable difference is that Sweden offers support in the form of loans and grants also for people who decide to enter tertiary education later in their life, while Austria offers support only on the basis of social need (including the financial situation of the family) and only for younger people (Table 14). Thus, Swedish policies offer de-commodification throughout the life course as well as independence from financial support by family or spouses.

In the light of these particular welfare state environments created by policies and normative assumptions, results of the statistical analysis are discussed. With a summation of the results from chi-square tests (Table 13), this study shows that while the health of women is only slightly worse than that of men in Austria, the difference in Sweden is much larger and also statistically significant. When looking back at Table 4, in Austria 16.4% of men and 19.4% of women in the sample regarded their health as less than good; in Sweden this was 13.9% of men and only 20.5% of women. However, when it comes to the association of health with the predictor variables income, education and employment status, statistically significant associations can be found in both countries for both men and women.

Overview of the main statistical results				
Chi-square and crosstabulation results	**Austria**		**Sweden**	
Association of health and **gender**	Women reported slightly worse health than men (association statistically not significant)		Women reported worse health than men (statistically significant association)	
	Men	**Women**	**Men**	**Women**
Association of health and **income quintile**	Better health in higher income quintiles (statistically significant association for both genders)		Better health in higher income quintiles (statistically significant association for both genders)	
Association of health and **education level**	Better health in higher education levels (statistically significant association for both genders)		Better health in higher education levels (statistically significant association for both genders)	
Association of health and **employment status**	Better health of people in paid work (statistically significant association for both genders)		Better health of people in paid work (statistically significant association for both genders)	
Binary logistic regression	**Austria**		**Sweden**	
	Men	**Women**	**Men**	**Women**
Probability of reporting "less than good health" based on **income quintile**	Highest quintile less likely compared to the lowest quintile	Third and fourth quintile less likely than lowest quintile	Not significant	Third, fourth and fifth income quintile less likely than lowest quintile
Probability of reporting "less than good health" based on **education level**	Middle and high education level less likely compared to the lowest level	Middle and high education level less likely compared to the lowest level	Not significant	Middle and high education level less likely compared to the lowest level
Probability of reporting "less than good health" based on **employment status**	In paid work less likely compared to not in paid work	In paid work less likely compared to not in paid work	In paid work less likely compared to not in paid work	Not significant

Table 13: Overview of the main statistical results

This gap in the health of men and women in Sweden is particularly interesting since Sweden is considered as one of the most gender egalitarian countries. Women-friendly policy making is usually found to reduce gender differences in health as well as encouragement of men in care work is considered to take away pressure from women and is therefore associated with health benefits. As a consequence, women in countries with a higher level of gender equality usually tend to report better health (Palencia et al., 2014, p. 29). According to the European Commission, Sweden's population also enjoys a higher number of healthy life years. The indicator HLY (healthy life years) measures "the number of remaining years that a person of a certain age is still supposed to live without disability" (European Commission, 2016). Data from 2014 shows that in Sweden the number of healthy life years at birth for men as well as women (from 2004 onwards) is 73.6 years, whereas it is only 57.6 years for Austrian men and 57.8 years for Austrian women (European Commission, 2014).

More substantial results concerning the influence of social determinants, such as income, education and employment status, on the health of women and men in the two countries could be generated with binary logistic regression (Table 13). When comparing the health of Austrian men of the first quintile of total household income to higher income classes, only the richest people (fifth income quintile) were less likely to suffer from poor health. So for Austrian men, income does not really mean a health advantage. For Austrian women this looks a bit different. Austrian women who had at least middle or high total household income (third or fourth income quintile) were significantly less likely to have poor health than women in the lowest income quintile. So, while belonging to a higher income class seems to have no or only a weak effect on men's health, it seems to have a larger effect on women's health in Austria. However, results for the association between income and less than good health should be interpreted with caution, since 24.9% of the male and 25.5% of the female sample refused to answer questions about their income (Table 3), thus information of a quarter of the sample who additionally were significantly less likely to suffer from poor health (Table 11) cannot be used for the analysis of income-related health inequalities.

Income does not seem to have an important impact on the health of Austrian men and the impact of income on Swedish men is even weaker. In Sweden, none of the men in higher income classes had any significant health advantage compared to Swedish men in the first income quintile. However, women showed completely opposite results. Swedish women in the third, fourth and fifth income quintile were less likely to suffer from poor health when compared to the lowest income group. The effects of education on health seem to be similar for all groups, but again with the exception of Swedish men, where no significant effect could be found. Austrian men and women, as well as Swedish women, who have obtained secondary or tertiary education were less likely to report poor health than those with only low

education, according to the results of this study. Employment status also had an effect on health for almost all groups with the exception of Swedish women. Swedish women who were in paid work were not significantly less likely to suffer from poor health than women who were not engaged in paid work.

In summation, this analysis shows that in the corporatist welfare state Austria, health inequalities due to education and employment status are present for men and women, whereas health inequalities due to income are only statistically significant for women. The difference in significance of social determinants for Austrian men and women could be the eligibility criteria to receive social benefits, which depends mostly on length of activity and previous income (Table 14) and subsequent wage replacement rates. Keeping in mind the high rate of women working part-time and the generally lower labour market participation of women (and especially those with children), it seems likely that Austrian women often do not qualify for higher social insurance benefits (Bambra & Eikemo, 2009, pp. 95–97).

In the social democratic welfare state Sweden, there was found to be inequality in health due to income and education for women and employment-related health inequality for Swedish men. So, when comparing only the male samples of Austria and Sweden, results would match the general expectation that welfare states with more universal characteristics have lower socially determined health inequality, but taking into account the female samples this perception is contradicted. Other studies as well have found that socially determined inequalities in health are not necessarily lower in social democratic countries (Dahl et al., 2006; Eikemo, Huisman, Bambra, & Kunst, 2008; Espelt et al., 2008). Supposed reasons for persisting inequalities in highly developed welfare states are that generous social policies can only benefit health to a certain point and negative health behaviour, such as smoking, is more concentrated in lower socioeconomic groups than in others. Other suggestions are relative deprivation or social exclusion of newer populations (Eikemo, Bambra, Joyce et al., 2008, p. 597). Copeland et al. (2015, p. 18) even argue that social democratic welfare states are “a victim of their own success” because they have improved the health of all (cf. HLY), and while they have achieved a high level of health of the middle class, relative health inequalities may even rise. However, this would not explain the particularly poor results for women. Backhans et al. (2007) argue that gender equality in Sweden has been interpreted too one sided, in the sense that women only entered formerly male dominated sectors, while men did not really enter more female dominated sectors (especially regarding the division of labour in the private sphere) subsequently resulting in a double burden for women.

Given these uncertain and contradictive results in public health literature, Bambra (2011) speaks of a literal “public health puzzle”. Trying to explain this phenomenon, the author discusses several theories like artefact, selection, cultural-behavioural, materialist,

psychosocial, and life course approaches. In addition, methodological and conceptual limitations in comparative social epidemiology could contribute to the puzzle. However, no satisfying explanation for the puzzle of health inequalities has been found thus far (Bambra, 2011, pp. 740–745). Yet, the findings in the literature, which state that social democratic welfare states do not have the lowest health inequalities could not be confirmed either, since in this study this was only true for Swedish women with regard to education and income and not for Swedish men. Consequently, the puzzle is expanded by a gender dimension.

To return to the original research question "*What effect, if any, do different welfare state environments have on the importance of social determinants of health and how does it vary between men and women?",* the following answer can be given.

Both countries have been found to employ policies in the field of sickness, family, employment and tertiary education that, according to the policy comparison in this study, still reflect very well the original characteristics and normative value system assigned in Esping-Andersen's The Three Worlds of Welfare Capitalism. According to public health scholars, health is socially determined by non-medical and non-lifestyle factors including income situation, educational attainment or employment situation. These are all factors that can be widely governed by the welfare state and its policy decisions, thus creating an environment that shapes lives and opportunities. In these two different welfare state environments, lower socioeconomic groups (measured along the dimension of income level, education level and employment status) are more likely to report poor health in Austria's welfare state environment as well as Sweden's. Consequently, health inequalities due to social determinants of health are not restricted to only one welfare state type. In Sweden, however, women seem more affected by social determinants of health than men.

This study reinforces the claim that there is a "public health puzzle", although the findings of the comparison between Austria and Sweden suggest that this problem is more evident in the gender dimension than in the cross-country dimension. Further research should therefore focus more on the different reality of life of men and women within a welfare state. Health disadvantages especially of the lowest socioeconomic group, with regard to the full range of health determinants suggested by the Rainbow Model of Dahlgren and Whitehead (1991) should therefore be central to future studies in order to find out what the welfare state and its institutions can do in each of the Rainbow Model's layers to prevent persisting health inequalities.

Overview of regime type and main aspects of policy comparison		
	Austria	**Sweden**
Welfare state regime type	Corporatist/Conservative	Social democratic
Family policy dimension	Traditional family dimension	Dual-earner dimension
Social policy fields		
Sickness	▪ Insurance based on activity or role in the family ▪ Arranged by field of occupation and region ▪ Duration and level of sick pay by the employer: 6 to 12 weeks, full remuneration ▪ Duration and level of insurance based sickness benefits: 6 to 12 months (depending on tenure), 50% of gross pay	▪ Insurance based on residence ▪ Arranged by Swedish Social Insurance Agency and Pension Agency ▪ Duration and level of sick pay by the employer: 2 weeks (1 waiting day), 80% of salary (or collective agreement) ▪ Duration and level of insurance based sickness benefit: 364 days, 80% of salary *0.97, further 550 days with 75% * 0.97
Family	**Family allowance** ▪ Paid to the parent who runs household until child is 19 years old, further support until the age of 24 if the child is in education or training ▪ Four flat rate options, one income-related option, extendable if the father claims a share of time	**Child allowance** ▪ Payment can be split between parents and is paid until the child is 16 years old, further support until the age of 20 if the child is in education or training ▪ Basic option and income-related option, equally long period for both parents (only partly transferable) ▪ Can be claimed as full days or half days, certain period for both parents together, part of time can be saved and consumed until the child turns twelve
Employment	▪ Employment conditions and payments regulated by collective agreements **Unemployment** ▪ Eligibility of unemployment benefits after 52 weeks of labour market participation during the last twelve months ▪ Capability and willingness to accept job offers (sanctions if rejected) ▪ Unemployment benefit level: 55% of former net income for 20 to 52 weeks depending on former contributory years ▪ Unemployment assistance: up to 92% of unemployment benefit level (means-tested against the partner's income) for up to 52 weeks ▪ Means-tested minimum income: the person does not qualify for other benefits	▪ Employment conditions and payments regulated by collective agreements **Unemployment** ▪ Eligibility of unemployment benefits after six months of labour market participation during the last twelve months ▪ Capability and willingness to accept job offers (sanctions if rejected) ▪ Unemployment benefit level: basic option with fixed amount irrespective of former income or voluntary income related insurance with 80% of former income for the first 200 days and 70% for the next 100 days ▪ Social assistance for those who cannot maintain themselves
Tertiary Education	▪ Family allowance (until the age of 24) paid to parents ▪ Study grants paid to students, based on social need and start of studies before the age of 30 (or 35)	▪ Study grants until the age of 56 paid to the student ▪ Student loans (higher than grants, but have to be paid back) until the age of 47

Table 14: Overview of regime type and main aspects of the policy comparison in Chapter 4

8. Final Remarks

In this study, the well-established dataset of the European Social Survey (ESS) was used. It offers harmonized and comparable data for more than a decade. Thus, ESS provides a widely used data source for questions related to health inequalities in the context of welfare states as shown for instance in studies of Bambra and Eikemo (2009), Eikemo, Bambra, Joyce et al. (2008), Alvarez-Galvez et al. (2013) and Dahlin and Härkönen (2013). Moreover, this study focuses only on two representative countries of the different welfare state regimes. Therefore, it avoids obscured results caused by the heterogeneity of policy environments within the different countries of one welfare regime cluster as criticized by Bambra (2011). Consequently, the results of the quantitative analysis can be related more directly to policies in the respective country.

A limitation of this study is the use of a subjective health measure such as subjective general health. The problem with this measure is that it might be understood differently in the two countries due to different employment status, socioeconomic background or culture (Bambra & Eikemo, 2009, p. 97). The welfare state itself might even be a factor that influences one's own perception of health, because in order to qualify for many benefits people have to be "labelled" as having poor health. A difference in the perception of health was found for example in a study that investigated the subjective health of people with disabilities living in different welfare states. Those living in more developed European welfare states rated their health worse than people with disabilities living in informal-security regimes of Latin American and Asian countries (Foubert, Levecque, van Rossem, & Romagnoli, 2014, p. 10).

However, there is a substantial number of studies that have investigated this problem and found that subjective health measures are an adequate outcome variable for health. A Finnish long term study attests poor self-rated health as a high predictive power for mortality (Heistaro, 2001, p. 227). The same with a study from China which found out that subjective health measures are consistent with the objective health status determined by a prevalence of diseases, laboratory parameters and other health-related aspects (Wu et al., 2013, p. 7). Subjective health measures are moreover a recommended instrument for comparing health across countries in Europe (Robine, 2003, p. 8) and a strong predictor of mortality in all socioeconomic groups (Burstrom, 2001, p. 836). It is argued that they are even preferable to mere mortality measures since they capture not only mortality but "the full array of illnesses a person has", including yet undiagnosed health problems (Idler & Benyamini, 1997, p. 27). As a consequence, it can be assumed that subjective general health is a legitimate indicator for health and a suitable measure for cross-country comparison at least at a European level.

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