

**Healthcare Privatisation and the Right to Health in Europe: Empirical Challenges and
Legal Responses to Socio-Economic Inequalities in Self-Reported Health**

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Abstract

Efforts to privatise healthcare systems raised concerns for socio-economic inequalities in Self-Reported Health (SRH) in Europe. This study set out to empirically analyse the effects of healthcare privatisation on SRH inequalities along socio-economic lines; and to position these inequalities in the framework of the right to health under Article 12 of the International Covenant on Economic, Social, and Cultural Rights (ICESCR). To this end, a random intercept linear regression model with a cross-level interaction was performed on data from the ESS (2023). Additionally, a legal doctrinal analysis was performed on the right to health, examining the state's obligations when healthcare privatisation occurs, as derived from Article 12 of the ICESCR. Results indicate that the effect of education on SRH is moderated by healthcare privatisation. As a healthcare system gets more privatised, SRH disparities between high and low educated individuals increase. Based on prior literature, this was attributed to privatised hospitals circumventing unprofitable low-educated patients, and a lack of health care literacy among low educated individuals, which becomes more essential in privatised systems. The results of the doctrinal analysis suggest that the right to health adequately addresses these equity concerns. That is, as it includes the government's obligation to protect the right to health from private parties, and the government's obligation to fulfil the right to health, by engaging in policies helping individuals with low health literacy optimally use healthcare.

Keywords: socio-economic status, self-reported health, healthcare privatisation, ICESCR, right to health

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List of Abbreviations

CESCR = United Nations Committee on Economic, Social and Cultural Rights

ESS = European Social Survey

GDP = Gross Domestic Product

ICESCR = International Covenant on Economic, Social and Cultural Rights

ICC = Intraclass Correlation Coefficient

ISEI = International Socio-Economic Index of Occupational Status

OHCHR = Office of the United Nations High Commissioner for Human Rights

REML = Restricted Maximum Likelihood

SES = Socio-Economic Status

SRH = Self-Reported Health

SDOH = Social Determinants Of Health

WHO = World Health Organisation

Healthcare Privatisation and the Right to Health in Europe: Empirical Challenges and Legal Responses to Socio-Economic Inequalities in Self-Reported Health

Rich, highly educated individuals at the top of the professional ladder have a better Self-Reported Health (SRH) than those with low Socio-Economic Status (SES) (Barakat & Konstantinidis, 2023). This empirical *gradient* between SES and SRH has been established beyond any doubt (Adler & Ostrove, 1999; Goldman, 2001). Although European health inequalities seemed stable at the beginning of the 21st century (Mackenbach et al., 2018), recent waves of healthcare privatisation, moving healthcare from the public realm to the private realm, have raised concerns among scholars about the deepening of SRH disparities in Europe (Goodair & Reeves, 2024).

Importantly, going beyond merely scrutinising the potential implications of healthcare privatisation, this thesis seeks to position the potential negative effects of healthcare privatisation within a framework of international human rights law. It does so by examining the government's obligations when healthcare privatisation occurs, in relation to the right to health as articulated in Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR). As such, the complete research question becomes:

To what extent does healthcare privatisation drive inequality in self-reported health in Europe along socio-economic dimensions, and to what extent can Article 12 of the ICESCR provide normative guidance to reduce this inequality?

This thesis argues that healthcare privatisation increases disparities in SRH along the socio-economic dimension of education and that the right to health provides comprehensive and multi-faceted normative guidance in addressing the unequal effects of privatisation on SRH.

To underpin these claims and effectively address different components present in the research question, it is pertinent to divide the research question into two sub-questions.

Exploration of the sub-questions will be informed by the Social Determinants of Health (SDOH) framework, which situates social characteristics as fundamental causes of health outcomes. Additionally, going beyond the individual, the thesis applies the lens of political epidemiology as a framework that emphasizes the role of political structures, such as privatisation, in shaping population health outcomes.

- (I) First, the moderating effect of healthcare privatisation on the SES-SRH gradient is assessed through the question: *To what extent does healthcare privatisation affect the strength of the relationship between SES and SRH in Europe?* Based on the literature, the hypothesis predicts that healthcare privatisation increases the effect of SES on SRH. This will be tested with a multilevel random-intercept linear regression analysis.
- (II) Second, the results of the empirical studies will be used to position healthcare privatisation within the framework of the human right to health, by exploring the legal sub-question: *What are the state's obligations when healthcare is privatised in relation to Article 12 of the ICESCR: "The right to the highest attainable standard of health"?* This will be investigated with a legal doctrinal analysis.

The paper is structured as follows. Firstly, societal and academic relevance is discussed. Subsequently, prior literature is discussed, establishing the SES-SRH relationship, reviewing the potential effects of healthcare privatisation, and positioning these effects with regard to the legal right to health. Thereafter, the political epidemiology and the SDOH frameworks are proposed as the theoretical basis of the analysis. The methodology section then outlines a mixed-effects multilevel regression and a doctrinal analysis, each corresponding to one of the sub-questions. This is followed by the presentation of the results, which are then discussed in relation to the overarching research question. The thesis concludes with a summary and suggestions for future policies and research.

Relevance

European healthcare services have been privatised in different European countries (Goodair & Reeves, 2024). This privatisation moves healthcare from the public sphere to the private sphere. According to Goodair and Reeves (2024), privatisation introduces competition, financial incentives, and private financing to a part of the health sector that was previously administered, financed, and governed by the state. They posit that, as ageing populations are putting strain on national budgets, privatisation is increasingly seen as a solution to maximise efficiency, innovation, and quality of care, while cutting costs.

However, privatisation may have adverse consequences for SRH inequalities in the population, particularly harming low SES people (Goodair & Reeves, 2024). Evidence from individual hospitals indicates that privatisation may increase inequalities in healthcare access and decrease healthcare quality for low-income and uninsured populations (Alayed et al., 2024). Additionally, at a macro-scale, a recent study on privatising reforms concluded that they increase the distance in SRH between the well-educated and high-income, and low-educated and low-income individuals (Moise & Popic, 2024). As such, individuals on the lowest rungs of society may see their health worsening as a result of healthcare privatisation. While self-assessed health is not equivalent to objective health measures, it has significant implications for individuals' health, as it has been shown to have high empirical correlations with objective health measures (Wu et al., 2013).

Academically, this paper addresses multiple gaps in the literature. Firstly, by using a random-intercept model to test the effect of healthcare privatisation on the SES-SRH correlation, it adds to the field of epidemiology. While the SES-SRH correlation has been extensively studied, statistical research including healthcare privatisation in this relationship is relatively scarce. Moreover, no paper has yet quantified the interaction effect of the absolute degree of healthcare privatisation on said correlation, by using a random intercept

model.

The main strength, however, is that this interdisciplinary thesis bridges the gap between past political and legal work. Past political papers stopped their inquiry at the empirical establishment of problems with privatisation (Moise & Popic, 2024). At the same time, past legal studies started based on tenuous empirical evidence (Toebe, 2006), while the right to health in ICESCR specifically calls for a health strategy “on the basis of epidemiological evidence” (Saul et al., 2014, p.1008). As such, there is a tangible gap between the disciplines in the literature.

To bridge this gap, this study leverages the strengths of a political statistical analysis, robustly establishing the empirical consequences of privatisation, with the strengths of doctrinal analysis, exploring the legal obligations of governments in relation to these empirical consequences. In doing so, this thesis creates a more holistic understanding of the problem of socio-economic inequities in SRH and the legal solutions available under the human right to health.

Literature Review

The following literature review will first discuss the body of research that established the gradient between SES and SRH. Thereafter, different perspectives on the consequences of healthcare privatisation on health inequalities will be reviewed. Subsequently, a legal perspective will be presented to position the empirical consequences of healthcare privatisation within the framework of the right to health. Lastly, based on the gap identified in the literature, an interdisciplinary research question will be formulated.

The Relationship between SES and SRH

The Whitehall study on British civil servants was the first study to convincingly prove the presence of a social gradient in health in a modern Western context (Marmot, 1991; Goldman, 2001). Studying British civil servants, they found a steep correlation between

social class and health, as both SRH and objective measures indicated better health for higher-up employees. This study disproves the previously held belief that health inequities disappear after a certain threshold of SES, and as such, lies at the root of our current understanding of health inequalities along socio-economic dimensions (Goldman, 2001).

The empirical health inequalities found by the Whitehall studies have been consistently found in the decades after the study (Goldman, 2001). Using increasingly complex statistical models, the SES-health relationship has been identified across time, space, gender, age, and disease in both self-reported and objective health measures (Goldman, 2001; Adler & Ostrove, 1999). Currently, health disparities along socio-economic dimensions are still found. A recent literature review by Barakat and Konstantinidis (2023) found that high SES individuals and individuals in upward social mobility consistently have better health outcomes than low SES individuals and people experiencing downward social mobility.

The aforementioned research on the relationship between SES and SRH has primarily been conducted on the scale of individual countries; however, the past decades witnessed an increase in cross-national studies in Europe (Alvarez-Galvez et al., 2013). Specifically, Alvarez-Galvez et al. analysed the relationship between SES, operationalised as income, education, occupation, and SRH between 2002 and 2008 across European countries (2013). They found strong, but diverging correlations between income, occupation, education, and SRH over time. These findings were later corroborated by Hu et al. (2016), who expanded the time horizon to scrutinise the relationship between occupation, education, and SRH in Europe between 1990 and 2010. They found that across Europe, relative inequalities in SRH increased, and that both lower education and manual work correlated with a worse SRH.

The validity of SES as a predictor of SRH is widely accepted in the literature. Nonetheless, this strand of research receives criticism regarding the tenuous claim to causality behind the correlation (Kröger et al., 2015). A systematic literature review by

Kröger et al. (2015) posits that there are two main competing interpretations of the relationship. Importantly, there is no consensus on the winner.

The first explanation, social causation, contends that socio-economic factors cause health outcomes. In this line of thought, the main explanations revolve around (1) accessing preventative and curative healthcare and health resources (e.g., safe housing, healthy food) and (2) socialisation into certain health behaviours (e.g., exercise, non-smoking) (Baker, 2014). However, researchers also found explanations related to healthcare literacy (Stormacq et al., 2019), exposure to stress (Baum et al., 1999), environmental factors like work or living conditions (Liao et al., 2023), ability to control one's environment (Zajacova & Lawrence, 2018), and social relationships (Aartsen et al., 2017).

The second explanation reverses the direction of causality. In this line of thought, the SES-health relationship is caused by unhealthy individuals self-selecting into socio-economic outcomes (Kröger et al., 2015). One of the main mechanisms through which this happens is the labour market, as individuals with worse health attend less school, work fewer days, and have a lower income.

Lastly, they propose that spurious factors might explain part of the relationship, as most studies acknowledge potential spurious variables. In the systematic review, nearly all studies included found that both social causation and self-selection play a role in the general relationship. However, they note that social causation is likely the most important factor for health inequalities measured by general socio-economic variables like education, income, and occupation.

Healthcare Privatisation and Health Inequalities

While the exact mechanisms are debated, the empirical relationship between the socio-economic determinants of health and SRH has been well-established in a European context. However, how this relationship is influenced by the extent of healthcare privatisation

remains understudied. Most research on this conceptual interaction effect is either quantitative, but exclusively focused on individual hospitals, or exclusively qualitative.

On the level of individual hospitals, a recent literature review found that while privatisation increases cost-effectiveness, it also increases inequities in healthcare access and decreases quality of care for low-income and uninsured populations (Alayed et al., 2024). Within their literature review, a paper focused on Sweden found that healthcare privatisation harmed the vulnerable populations and the least insured, by reducing healthcare quality and access (Dahlgren, 2014). This happened as hospitals prioritised more profitable patients with less complex conditions, moved to wealthier areas, and increased out-of-pocket costs. The mechanism of private hospitals selecting more profitable patients is referred to as *cream-skimming* and was also found in Italy, and with less certainty in England (Berta et al., 2010; Mason et al., 2010).

In contrast, a study in Sweden by Lindström et al. (2018) presents opposing findings. The study analysed unmet healthcare needs in Sweden, performing a logistic regression analysis on the 2012 public health survey. They found no significant differences in unmet healthcare needs between people at private and public providers, suggesting that there are likely no large differences in organisation, access, and quality. While these studies illustrate the effect of privatisation on health inequities at a local and regional level, the extent to which socio-economic determinants of (self-reported) health are affected by privatisation at the European level remains relatively unexplored. Although there are some notable exceptions.

Firstly, a statistical study by Alvarez-Galvez & Jaime-Castillo (2018) analysed a similar cross-level interaction effect. The study scrutinised the impact of social expenditure by the state on the relationship between SES and SRH. Using multilevel logistic regression models, their model examined the moderating effect of social expenditure on the correlation between SES and SRH across European countries. They measured SES as education, income,

and occupation. Their results showed that the relationship between education and SRH was moderated by the amount of social expenditure. While social expenditure is not the same as healthcare privatisation, their study shows how to quantify the effect of macro-level structures, such as government expenditure, on health inequalities.

Secondly, Moise and Popic (2024) studied the effect of healthcare privatisation on health in Europe. They used fixed-effects time-series models to look at the effects of privatising reforms on general SRH and the SRH of the highest and lowest education and income groups. They found that on national levels across Europe, healthcare privatisation leads to worse health outcomes in general and an exacerbation of health inequalities between the highest and lowest income and education groups, several years after privatising reforms were passed. While their unique model can conclude that privatisation reforms disproportionately harm people with the lowest income and shorted education, it doesn't quantify the extent to which the SES-SRH correlation is moderated by the absolute degree of privatisation in a country. This is where a cross-level interaction effect similar to Alvarez-Galvez & Jaime-Castillo (2018) is well-suited.

Based on these studies, the following hypothesis, corresponding to sub-question 1, can be formulated: *“Healthcare privatisation increases the strength of the relationship between SES and SRH.”*

Healthcare Privatisation in Relation to the Right to Health

Both Alvarez Galvez & Jaime-Castillo (2018) and Moise & Popic (2024) underscore the importance of government policy in shaping relative health outcomes. However, neither explores how the government can legally be held accountable for the health of citizens. To bridge the gap between the empirical problems associated with privatisation and legal solutions, this thesis will not only analyse the effects of healthcare privatisation on inequalities in SRH, but also position these effects in the legal framework of the right to

health. Specifically, it considers governments' obligations derived from Article 12 of the ICESCR, which affirms “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health” (ICESCR, 1966, p.4). The following section reviews work by legal scholars, analysing healthcare privatisation in the framework of the right to health.

In a Dutch context, Toebe (2006) analysed the 2006 privatisation reforms with regard to the right to health. Arguing that Article 12 is the most relevant, she attempts to reconcile the potential effects of Dutch healthcare privatisation with the right to health. She concludes that there are tensions between healthcare privatisation and the government's obligation to protect the right to health. In the context of privatisation, she highlights the duty of the Dutch government to govern private healthcare actors by setting up monitoring systems and legal pathways for citizens whose right to health is infringed.

Similar conclusions were reached by O'Brien (2013), who posits that, while governments can completely rely on the private sector to administer healthcare, they remain primarily responsible for the realisation of the right to health under Article 12 of the ICESCR. Derived from this responsibility, O'Brien underscores the need to have a monitoring system in place, ensuring that private parties will not infringe on citizens' right to health.

On the other hand, Gross (2007), providing a slightly more critical perspective, questions whether recognising the right to health can effectively change outcomes in court cases. Looking at past cases in Canada, he argues that the right to health would not have ensured that the courts would have ruled in favour of the public health care services. However, he suggests that under a broad interpretation of accessibility, and specifically, economic accessibility for low SES individuals, the courts may have ruled in a way that required the state to reduce waiting times and increase accessibility in public healthcare services.

A limitation of the work of the mentioned legal scholars is reliance on empirical assumptions proven in different contexts, and a lack of engagement with empirical evidence at all. Specifically, Toebeles relies excessively on empirical findings of the UK to speculate on the effects of privatisation in the Netherlands, while O'Brien (2013) and Gross (2007) rely on limited empirical evidence in general. While traditional legal doctrinal analysis may not include empirical evidence, the broader field of human rights law necessitates it. This is affirmed by the special rapporteur on the right to health who posits that “statistical indicators are powerful tools in human rights” (Saul et al., 2018, p.1051). Therefore, this limitation underscores the need for an integrated approach to the right to health, where legal analysis is conducted against the backdrop of empirical evidence.

Research Gap and Research Question

As this literature review indicates, there is a lack of research scrutinising the way healthcare privatisation interacts with the well-documented SES-health gradient. Most research on this interaction effect is conducted at the micro-level. Although there is quantitative research that has proven that privatisation may widen the SRH gap between the highest and lowest educated groups in Europe, no study has yet quantified the influence of the absolute degree of privatisation on the correlation between SES and SRH.

Moreover, no statistical study has fully exhausted its potential by combining its results with an analysis of the legal framework governing the right to health. Past political research cited has halted their analysis at the establishment of a problem, not entering the realm of solutions. At the same time, legal analyses have been limited in their conclusions by relying on scant empirical evidence, showcasing the need for a robust empirical basis of legal research. Bridging the gap between political and legal methods demands an interdisciplinary approach. As such, this thesis proposes the following interdisciplinary research question:

“To what extent does healthcare privatisation drive inequality in self-reported health in Europe along socio-economic dimensions, and to what extent can Article 12 of the ICESCR provide normative guidance to reduce this inequality?”

This research question can be divided into the following political and legal sub-questions:

- (I) *To what extent does healthcare privatisation affect the strength of the relationship between SES and SRH in Europe ?*
- (II) *What are the state’s obligations when healthcare is privatised in relation to Article 12 of the ICESCR: “The right to the highest attainable standard of health”?*

Theoretical Framework

The theoretical foundation that this study uses to approach the research question, is the idea that political outputs matter for population health. This idea has been formalised by Mackenbach (2014), who proposed “political epidemiology” as a field that analyses how political structures, processes, and – most importantly for this paper – outputs like laws and policies ultimately produce societal health outcomes. Fittingly, he proposed that research should focus on creating empirical evidence for these processes. Seen as this study scrutinises the effect that privatisation of the health care sector has on societal health inequities, political epidemiology lends itself especially well as a theoretical framework.

In this thesis, healthcare privatisation is understood as the extent to which responsibility for healthcare provision is assigned to the public or private individuals (Moise & Popic, 2024). Specifically, the distinction is drawn between healthcare financed, governed, and accounted for by the government versus healthcare financed, governed, and accounted for by private individuals and enterprises in the free market. For the statistical study, privatisation will be operationalised in line with Bambra’s (2005) framework of decommodification in the health care sector. Her framework quantifies the part of the healthcare system that falls within the free market and measures “the financing, provision,

and coverage” of the private sector within the healthcare system (Bambra, 2005, p.34). To standardise nomenclature in this thesis, the terms privatisation and commodification are used interchangeably. As such, decommodification must be understood as de-privatisation.

However, analysing the effect of privatisation on the SES-SRH gradient does not only involve the effect of macro-structures on static variables. In order to theoretically underpin the individual-level relationship between SES and SRH, this thesis relies on the Social Determinants of Health (SDOH) framework (Marmot, 2005; World Health Organization, 2008). The idea that the social world matters for health goes back decades; however, currently, the SDOH framework is the most relevant framework. Popularised by Marmot and the World Health Organisation, the SDOH are defined as “the conditions in which people are born, grow, live, work and age, and people’s access to power, money and resources” (Marmot, 2005; World Health Organization, n.d.). Importantly, the SDOH are at the root of health outcomes. As such, the SDOH framework looks beyond the direct medical causes of illnesses and scrutinises social factors such as SES, which are understood as fundamental causes of health outcomes.

The main SDOH considered in this thesis is SES. Within health research, different versions of “social class”, “socio-economic position”, and “socio-economic status” are often used interchangeably (Galobardes et al., 2007). For conceptual clarity, this thesis relies on Oakes & Rossi’s (2003) conceptualisation of SES within health research, as a concept which captures an individual’s position in a social hierarchy and their realised and potential access to resources. This interpretation of SES includes the more traditional conceptualisation of SES as a measure of one’s material ability to consume valued goods. But it also considers status or prestige-related capital, which grants access to goods, services, and knowledge.

In the empirical part of this thesis, political epidemiology and the SDOH framework must not be seen as separate explanations. They support each other, as the SDOH framework

highlights the importance of considering social characteristics when studying health outcomes, political epidemiology helps position the importance of those characteristics within a larger macro-context. Combined, they underpin the assumption of the interaction effect studied, that macro-structures such as healthcare privatisation affect the way socio-economic characteristics affect SRH.

Methodology

To answer the research question, this thesis combines political and legal methods. The methods are not only used beside each other, but mutually reinforce each other to gain a shared understanding. Specifically, the strength of the interdisciplinary combination of methods lies in a combination of a statistical empirical study, generating a generalisable and robust insight into how healthcare privatisation affects health inequalities, and a doctrinal analysis, which will scrutinise the right to health specifically concerning those priorly established mechanisms. Firstly, to empirically analyse the effect of privatisation on the relationship between SES and SRH, a multilevel random-intercept linear regression analysis with a cross-level interaction is proposed. Thereafter, the principles of legal doctrinal analysis are discussed as the appropriate method to analyse the right to health in Article 12 of the ICESCR.

The following section describes the methods, variables, and data used to test the empirical hypothesis established in the literature review: “Healthcare privatisation increases the strength of the relationship between SES and SRH.”

Statistical Method

In order to answer the hypothesis, this thesis will rely on a random intercept multilevel linear regression model with a cross-level interaction. A random intercept model is better suited than a basic linear regression analysis for studies in which the individual-level data are not truly independent, but nested within a larger aggregate context (McNeish, 2014).

In this study, the different contexts are the diverging healthcare systems in each country. Practically, this means that the baseline value of SRH will be allowed to differ for each country in the dataset. The strength of this method is to prevent the likelihood of type 1 errors, as ignoring data clustering tends to underestimate standard errors (McNeish, 2014). Additionally, as the hypothesized interaction effect is a country-level variable affecting an individual-level relationship, the model contains a cross-level interaction.

The analysis will be done in two steps. First, the model will be performed without the interaction effect, only measuring the relationship between SES and SRH (Model 1). Thereafter, the interaction variable will be introduced, measuring the effect of healthcare privatisation on the relationship between SES and SRH (Model 2). In essence, this means that the effect of SES on SRH will be allowed to depend on the degree of healthcare privatisation. The model will be run in RStudio; the R script can be found in Appendix B.

Dependent Variable

The dependent variable in the model is SRH. Similar to prior work, SRH was chosen due to the unavailability of high-quality objective health measures in cross-national surveys (Alvarez-Galvez et al., 2013). The survey item measuring health in the European Social Survey (ESS) asks “How is your health in general? Would you say it is...” with 1 being “*very good*”, and 5 being “*very bad*” (ESS, 2025). This item was reverse-coded in RStudio to have a higher score indicate better health. Sentinel values 7, 8, and 9 were removed before analysis. In the model, this variable will be modelled as if it were a continuous variable. This was done for practical reasons, as a random intercept logistic model was not possible with the available data, likely due to the limited number of countries. This is justified, as SRH is a Likert-scale style variable, parametric statistics can be used without “fear of coming to the wrong conclusion” (Norman, 2010, p.631).

Independent Variables

The main independent variable is SES. Following prior cross-national research, SES is measured using income, education, and occupation (Alvarez-Galves et al., 2013; Hanibuchi et al., 2012). Firstly, income is measured in the ESS as a 10-decile survey question, asking the respondent to rank where their household income ranks (ESS, 2025). Sentinel values 77, 88, and 99 were removed before analysis. Secondly, education is measured using years of completed full-time education, where values above 30 were removed as they are likely to be outliers or misinterpretations of the question. Lastly, occupation is measured under the ISCO-08 classification system in the ESS. Similar to Alvarez-Galvez (2013), ISCO-08 was recoded to the ISEI-08 scale of occupations. The International Socio-Economic Index of Occupational Status (ISEI) is a cross-nationally comparable ranking of occupations, optimally scaled based on occupational status, education, and income. The scale ranges from 10 = kitchen helper, to 89 = specialist medical practitioners. This variable did not present exceptionally high collinearity with either income (Pearson's $r = 0.38$) or education (Pearson's $r = 0.54$).

Interaction Variable

The cross-level interaction variable is the degree of healthcare privatisation. As mentioned, this will be based on Bambra's operationalisation of decommodification (2005). Bambra proposed a composite measure of (1) private health expenditure as a percentage of Gross Domestic Product (GDP), (2) private hospital beds as a percentage of total hospital beds, and (3) percentage of the population covered by the health care system. As mentioned, this measures "the financing, provision, and coverage" of the private sector within the healthcare system, respectively (Bambra, 2025, p.34). In this sense, decommodification must be conceptually understood as de-privatisation.

Due to limited data availability, the provision measure (2) will be substituted with private healthcare spending as a percentage of total healthcare spending, as it will gauge the

ratio of private to public care allocation, similar to hospital beds. Additionally, the coverage measure (3) will be substituted with the WHO's "Universal Health Coverage index" defined as "the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access" (WHO, n.d). This serves as a valid substitute as it is a standardised measure of the part of the population whose essential services are covered. The decommodification score will be calculated according to Bambra's formula (2005). Data can be found in Table A1 (Appendix A).

Control Variables

On the individual level, the model will not include any control variables, similar to Alvarez-Galves et al. (2013). This is because when examining the relationship between SES and health, there is a high risk of overcontrolling. This is theoretically justified, as the SDOH framework understands SES as a fundamental cause, lying at the root of health behaviours, decisions, and conditions.

On the country-level, the model includes controls for the wealth of a country by including GDP per capita, similar to Moise and Popic (2024). This control variable is necessary because very rich or very poor countries might have more equal health outcomes because of their wealth levels, regardless of how privatised their healthcare system is. As the goal is to isolate the effect of privatisation on health equity, the model controls for country wealth.

Additionally, the model will control for inequality within countries. Existing literature suggests that it might be economic inequality itself driving health inequalities along socio-economic dimensions (Beckfield & Olafsdottir, 2013; Lago et al., 2018). Since the model aims to isolate the effect of healthcare privatisation, a control variable for economic

inequality will be included in the form of countries' Gini coefficients. Data regarding both control variables are presented in Table A2 (Appendix A).

Model Hypotheses

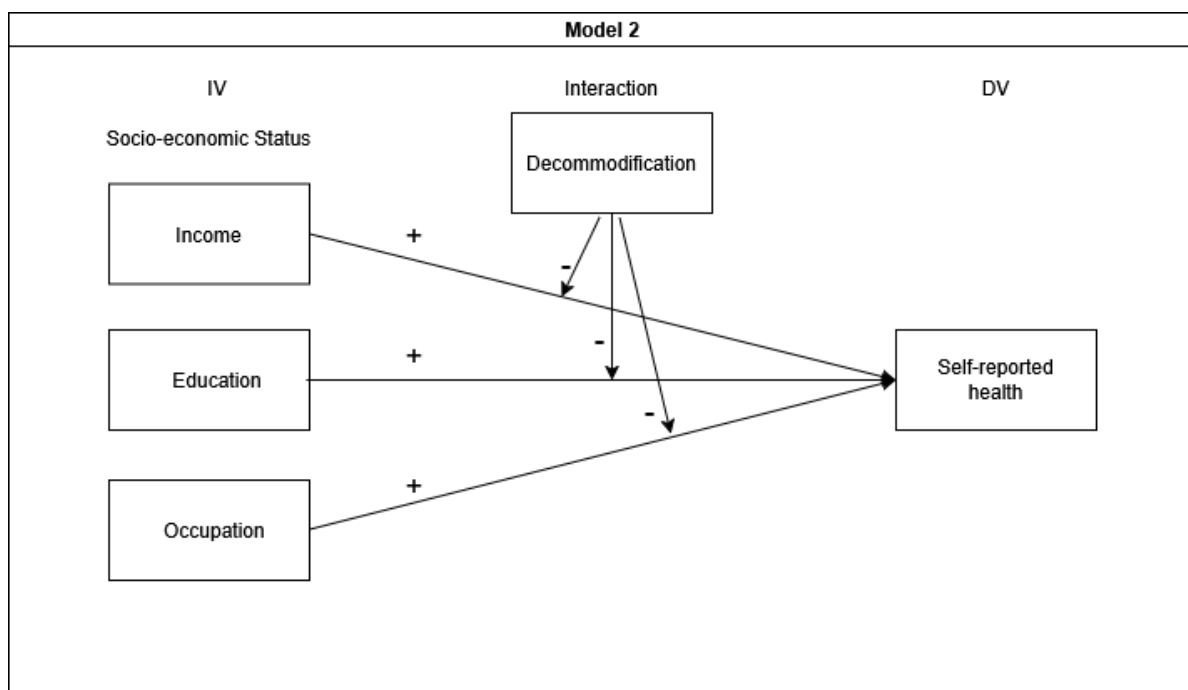
The specific operationalisation of the variables has implications for the hypothesis. Specifically, SES is operationalised as education, income, and occupation, while privatisation is operationalised using Bambra's decommodification framework. Therefore, the hypothesis for the statistical models can be rephrased to the following:

1. Healthcare decommodification decreases the strength of the relationship between SES and SRH.
 - 1a. Healthcare decommodification decreases the effect of income on SRH.
 - 1b. Healthcare decommodification decreases the effect of education on SRH.
 - 1c. Healthcare decommodification decreases the effect of occupation on SRH.

The figure below presents a visualisation of the expected direction of effects in the model.

Figure 1

Hypothesized interaction effect of income, education, occupation with decommodification



Regression Formula and Variable Table

The regression formula, based on the included variables, is presented below. The different variables in the regression formula, as well as the measurement, meaning, and identifiers of the variables, are explained in Table 3.

$$Y_i = \beta_0 + \beta_{1a}X_{1a} + \beta_{1b}X_{1b} + \beta_{1c}X_{1c} + \beta_2X_2 + \beta_{3a}(X_{1a} * X_2) + \beta_{3b}(X_{1b} * X_2) + \beta_{3c}(X_{1c} * X_2) + \beta_4X_4 + \beta_5X_5 + \varepsilon_i$$

Table 3

Variables Measurement, Operationalisation, and Identifiers

Variables	Measurement	Operationalises	Identifier
Dependent variable			
$Y_i = \text{SRH}$	Survey item rating general health 1-5	SRH	health
Independent variables			
$\beta_{1a} = \text{Education}$	Years of completed full- time education	Education as a component of SES	eduyrs
$\beta_{1b} = \text{Income}$	Household income ranked on 10-decile ranking	Income as a component of SES	hinctnta
$\beta_{1c} = \text{Occupation}$	ISEI-08 international occupational ranking	Occupation as a component of SES	isei08
$\beta_2 = \text{Decommodification}$	See Bambra (2005)	Degree of (de-) privatisation	decom

Variables	Measurement	Operationalises	Identifier
Interaction variables			
$\beta_{3a} =$ Education*Decommodification	—	Interaction effect of education and decommodification on SRH	eduyrs*decom
$\beta_{3b} =$ Income*Decommodification	—	Interaction effect of income and decommodification on SRH	hinctnta*decom
$\beta_{3c} =$ Occupation*Decommodification	—	Interaction effect of occupation and decommodification on SRH	isei08*decom
Control variables			
$\beta_4 =$ GDP per capita	GDP per capita/1000	Country wealth	gdp_per_cap_k
$\beta_5 =$ Gini-coefficient	Gini coefficient	Country income inequality	gini

Data

Data regarding SRH, income, education, occupation, and country will be drawn from the most recent round 11 of the European Social Survey, collected in 2023 (European Social Survey, 2025). Data on the decommodification index of countries' healthcare sectors will be drawn from the most recent complete year (2022) of the World Health Organisation's Global Health Expenditure database (World Health Organisation, 2025). Data necessary for the control variables of GDP per capita (2023) and Gini coefficient (2021) will be sourced from the World Bank's most recent complete dataset (World Bank, 2025a, 2025b). Due to limited data availability, the data used to construct the decommodification score and the Gini coefficient are not from 2023. While this is a limitation, healthcare decommodification scores (2022) and Gini coefficients (2021) are unlikely to have changed in a way that affects the

results, as this would necessitate a one-sided shift in health expenditure or income inequality, in only high or low decommodification countries.

Robustness Checks

As the different compartments of socioeconomic status are interrelated, there is a risk of multicollinearity. To test for multicollinearity, Generalized Variance Inflation Factors (GVIFs) were calculated to assess how much of the estimated variance is increased due to multicollinearity, while taking account of the interaction term in the model. This test was performed on the fixed structure of Model 2. The results, presented in Table A4 (Appendix A), show that all predictor variables have GVIFs below 2, indicating acceptable risk of multicollinearity (Leppänen et al., 2022).

Lastly, to test the assumption of continuity of the variable health, a logistic regression was performed using the same predictors and control variables as Model 2 (Appendix A, Table A5). To this end, the variable “health” was recoded into a binary variable “health_binary”, where a SRH of 4 (*good*) and 5 (*very good*) equals 1, while the rest equals 0. This logistic regression showed the same significant relationships in the same direction as Model 2, indicating that treating the SRH as continuous is justified.

Using the R Influence.ME pack, Cook's distance was calculated for each country to estimate which countries were the most influential. Results, presented in Table A6 (Appendix A), show that Greece and Switzerland are driving a disproportionately large part of the results. This is unsurprising, as they have the two most privatised healthcare systems in the sample. As an additional test, Model 2 was run without Greece and Switzerland. Notably, in this model, the interaction effect between income and decommodification turned highly significant (Appendix A, Table A7). However, seen as Greece and Switzerland are valid data points, they are still included in the main model.

Because of the large sample size ($N = 28,735$), the significance of relationships

operating at the individual level will be considered significant only at a threshold of $p < .001$, at a significance of 99.9%.

Doctrinal Method

The following section elaborates upon the method, principles, and techniques of legal doctrinal analysis, the legal method used to explore the second sub-question:

What are the state's obligations when healthcare is privatised in relation to Article 12 of the ICESCR: "The right to the highest attainable standard of health"?

Legal doctrinal analysis is considered the cornerstone of legal analysis as it serves as the central and most commonly used method of legal studies (Smits, 2015). However, defining doctrinal analysis as a method has proven much harder for legal scholars than using it. To answer the aforementioned question, this thesis relies on the legal methodological framework proposed by Smits (2015). Smits (2015, p.5) defined legal doctrinal analysis as a method that attempts to "give a systematic exposition of the principles, rules and concepts governing a particular legal field or institution and analyses the relationship between these principles, rules and concepts with a view to solving unclarities and gaps in the existing law."

Importantly, doctrinal analysis operates within the law, using the law not only as its object of study, but also as its normative framework (Smits, 2015). As such, no considerations from outside the legal framework can be included. Moreover, the analysis must consider current law. Lastly, doctrinal analysis entails making connections between different strands of law, rather than being a mere summation of legal sources.

Results

The following section combines the results from both the statistical study and the doctrinal analysis. Firstly, the results from the statistical models will be reviewed; thereafter, the legal doctrinal analysis will be presented separately. Interpretation and synthesis of the results is left for the discussion.

Statistical Analysis

Table 8

Descriptive Statistics

Variable	Mean	SD
SRH (health)	3.83	0.89
Education (eduyrs)	13.66	3.53
Income (hinctnta)	5.65	2.68
Occupation (isei08)	43.77	17.24
Decommodification (decom)	31.16	6.27

Note: N (Observations) = 28,735, N (Countries) = 24

The descriptive statistics in Table 8 show that the mean SRH of the sample was 3.83, indicating that the average respondent rates their general health between *fair* and *good*. The mean duration of education was 13.66 years of completed full-time education. Additionally, on the 10-band scale, the average household income was ranked at 5.65, indicating that the average respondent rated their household income in between the fifth and sixth decile. Furthermore, the average occupational ranking was 43.77, corresponding to an ISEI-08 score of a bank teller or travel attendant. Lastly, the mean decommodification score is 31.16, which ranks between Lithuania and Hungary's degree of healthcare decommodification (See Appendix for complete overview).

Table 9*Fixed effects of multi-level Random Intercept Models 1 and 2*

	Model 1	Model 2
Individual variables		
Intercept	2.956*** (.044)	2.912*** (.468)
Education (eduyrs)	.036***(.0016)	.077*** (.0078)
Income (hinctnta)	.071*** (.0021)	.086*** (.0115)
Occupation (isei08)	-.0002 (.0004)	-.006*** (.0018)
National variables		
Decommodification (decom)	—	-.0008 (.0064)
GDP per capita (k)	—	.0039* (.0015)
Gini index	—	-.0036 (.012)
Cross-level interaction variables		
Education × Decommodification	—	-.0013*** (.0002)
Income × Decommodification	—	-.0005 (.0004)
Occupation × Decommodificaiton	—	.0002*** (.00006)

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, Standard errors in brackets. N (Observations) = 28,735, N (Countries) = 24.

Model 1 analyses the effect of the socio-economic characteristics of education, income, and occupation on SRH. Results, presented in Table 9, indicate a significant positive

correlation between education and SRH ($\beta = 0.036, p < 0.001$). Substantively, this means that 1 more year of education, on average, leads to a predicted increase in SRH of 0.036 on the 5-point SRH scale. Additionally, on income, the analysis reveals that a higher reported household income corresponds with a higher SRH ($\beta = 0.071, p < 0.001$). To be precise, an increase of 1 on the 10-band scale of household income corresponds with an increase in SRH of 0.071. Remarkably, occupation, measured on the ISEI-08 scale, shows no significant relationship with SRH, despite the large sample size ($N = 28,735$).

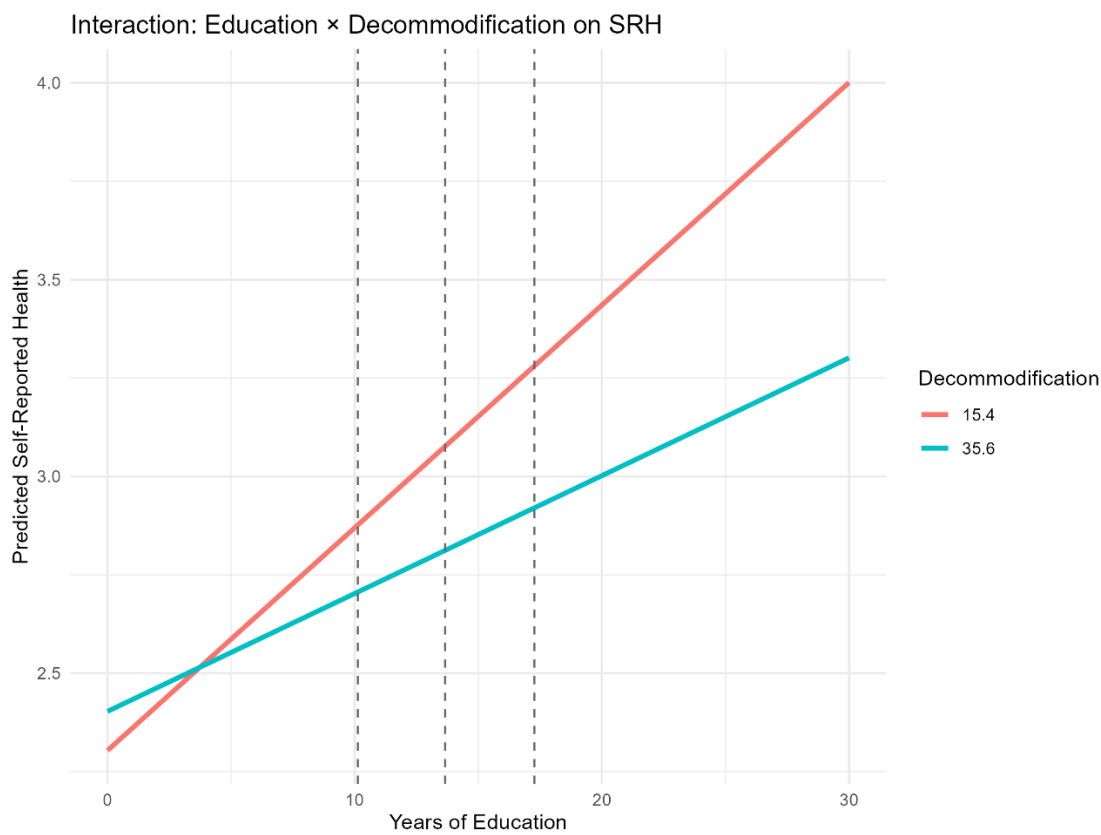
Model 2 forms the analytical centrepiece of this analysis and introduces the cross-level interaction term “decommodification” to test Hypotheses 1a, 1b, and 1c. The results of the fixed effects indicate that the main effect of education on SRH is positive ($\beta = 0.077, p < 0.001$). Specifically, when decommodification is 0, every year longer of education leads to a predicted increase in SRH of 0.077. Additionally, the main effect of income on SRH is also positive ($\beta = 0.086, p < 0.001$). This means that in a completely privatised healthcare system, every increase of 1 in reported household income on the 10-band scale is associated with a 0.086 increase in SRH. Surprisingly, in this model, occupation is negatively related to SRH when decommodification is 0 ($\beta = -0.006, p < 0.001$). Beyond the socio-economic predictors, the control variable GDP per capita was significantly correlated with SRH, indicating that richer countries have better SRH ($\beta = 0.0039, p = 0.002$), while the control variable of Gini coefficient was insignificant, suggesting that inequality has no relation with SRH. The main effect of decommodification is insignificant.

Importantly, in this model, the effect of the predictors is allowed to depend on the degree of decommodification. In order to highlight this interaction effect, a comparison will be made between countries with the highest (Iceland = 35.6) and lowest (Greece = 14.4) decommodification scores in the sample. The first socio-economic variable, education, appears to be significantly moderated by decommodification. Specifically, for every 1 point

increase in the decommodification score of a country, the effect of education on SRH decreases by 0.0013 ($p < 0.001$). Practically, this means that in a healthcare system as public as Iceland's, moving from low ($\mu - \sigma = 10.13$) to high ($\mu + \sigma = 17.27$) education increases predicted SRH by 0.21. In contrast, the same shift in education level increases predicted SRH by 0.40 in a healthcare system as privatised as Greece's. Figure 2 is provided to illustrate this interaction effect, with the dotted lines signifying low, average, and high years of education.

Figure 2

Predicted values of SRH based on Education in two different healthcare systems



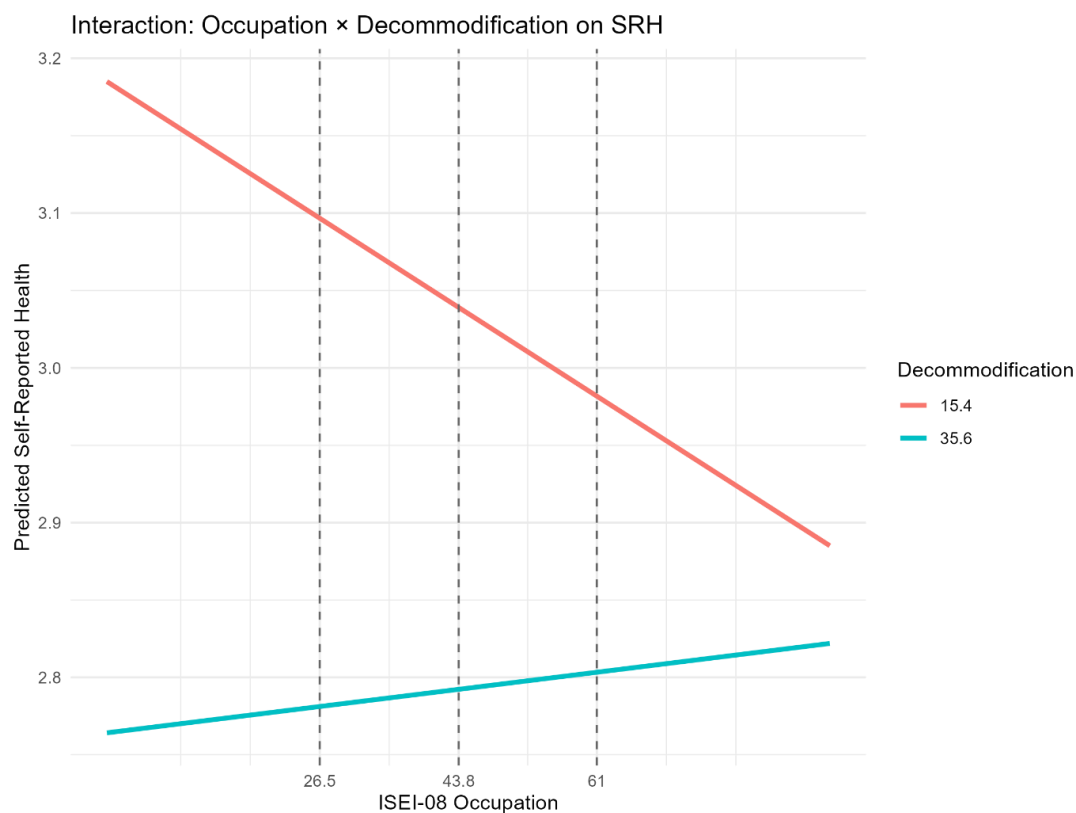
Note: Dotted lines signify low, medium, and high years of education.

The second socio-economic predictor, income, is not significantly moderated by the degree of decommodification in the model. The third socio-economic predictor, occupation,

is significantly moderated by decommodification ($\beta = 0.0002, p < 0.001$). Specifically, the negative main effect of occupation on SRH is weakened by an increase in decommodification, to the point of a decommodification score of 30, above which the main effect turns positive. Greece and Iceland exemplify this, as in a healthcare system as commodified as Greece's (14.4), an increase in occupational status along the ISEI-08 ranking predicts a decrease in SRH of -0.003. While in a healthcare system as decommodified as Iceland (35.6), an increase of 1 in occupational ranking predicts an increase in SRH of 0.00112. Figure 3 is provided to illustrate this interaction effect, and specifically, the change in direction of occupation's relationship with SRH.

Figure 3

Predicted values of SRH based on occupation in two different healthcare systems



Note: Dotted lines signify low, medium, and high years of education.

Table 10*Random effects of multi-level Random Intercept Models 1 and 2*

Component	Model 1	Model 2
Country (Intercept) Variance	.03805 (.1951)	.02928(.1711)
Residual Variance	.69900 (.8361)	.69822(.8356)
N (Observations)	28,735	28,735
N (Countries)	24	24
REML	71392.7	71422.4

Note: * $p < .05$, ** $p < .01$, *** $p < .001$, Standard deviations in brackets.

Lastly, the results of the random effects in Table 10 show that there is a slight between-country variation in baseline SRH in both models. Calculating the Intraclass Correlation Coefficient (ICC), as the ratio of between-group variance to total variance, shows that approximately 5.2% of the variance is between countries in Model 1 and 4% of the variance is between countries in Model 2. This decrease indicates that the predictors added in Model 2 explain some of the between-country variance. The low ICCs indicate that most of the variation remains at the individual level. Nonetheless, the non-trivial baseline variation on the country level shows that a random intercept model was justified.

Additionally, the Restricted Maximum Likelihood (REML) decreased approximately 30 points by adding the controls and cross-level interaction. This signifies a slightly worse model fit, most likely due to the statistical complexity added with the additional variables. However, the inclusion of the complete model remains justified, based on the theoretical motivation and the significant interaction terms that were found.

Doctrinal Analysis

The following section applies the legal doctrinal method to explore the following legal question: *What are the state's obligations when healthcare is privatised in relation to Article 12 of the ICESCR: "The right to the highest attainable standard of health"?*

Article 12 of the ICESCR states that "States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health" (ICESCR, 1966, p.4). Importantly, this right is not the same as the right to be healthy, seen as plenty of factors paramount for health outcomes, like genetics, and health behaviours, are beyond the government's protection. Alternatively, General Comment 14, paragraph 9 specifies that the right to the highest attainable health is to be understood as the right to enjoy a system of general health protection that is necessary for the realisation of the highest attainable standard of health (United Nations Committee on Economic, Social and Cultural Rights [CESCR], 2000).

In defining the elements of the right to health, the Committee describes the AAAQ (Availability, Accessibility, Acceptability, and Quality) framework as essential (CESCR, 2000). First, availability dictates that healthcare must be available in sufficient quantity. Secondly, accessibility proclaims that health facilities, goods, and services must be accessible to everyone without discrimination. Thirdly, acceptability dictates that the healthcare system must be culturally appropriate. Lastly, quality proclaims that health services must be medically and scientifically appropriate.

Within the AAAQ framework, accessibility is further defined in four dimensions. Firstly, non-discrimination declares that the system of health protection must be accessible to all, particularly the most vulnerable members of society. This principle is further interpreted by Saul et al. (2014, p.987) as prohibiting discrimination on the grounds of the following:

race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, physical or mental disability, health status, sexual orientation and civil, political, social or other status, which has the intention or effect of nullifying or impairing the equal enjoyment or exercise of the right to health.

Secondly, the requirement of physical accessibility entails that health facilities, goods, and services must be within safe physical reach of all segments of the population (CESCR, 2000). The third aspect concerns economic accessibility, proclaiming that access to the system of health protection must be affordable for all, and does not disproportionately burden poorer households. Fourthly, information accessibility encompasses the right to seek, receive, and communicate health-related information.

Prima facie, it may appear reasonable to expect private healthcare actors to live up to the requirements set out by the AAAQ framework. However, Toebe (2006) argues that it is difficult to derive health obligations for private actors directly from Article 12, the right to health. This is because it's primarily a right that citizens have in relation to the government. Importantly, she argues, deferring healthcare to private actors, as occurs under privatisation, does not lessen the responsibilities governments have to citizens' right to health.

General Comment 14 outlines these responsibilities. Specifically, governments have the obligation to *respect*, to *protect*, and to *fulfil* the right to health. Firstly, according to General Comment 14, states have the obligation to *respect* the right to health by "ensuring equal access for all persons" to health facilities, goods, and services (CESCR, 2000, § 34). According to the UN High Commissioner for Human Rights, this means that the state cannot interfere with the right to health of any individual (Office of the United Nations High Commissioner for Human Rights & World Health Organization [OHCHR & WHO], 2008).

Secondly, states must *protect* by adopting legislation that ensures equal access for all

(UNCESCR, 2000, § 35). Specifically regarding privatisation, this responsibility goes as far as to confirm that states must “ensure that privatization of the health sector does not constitute a threat to the availability”. Drawing on Fact Sheet 31 from the UN High Commissioner for Human Rights, these obligations are for the state to prevent third parties, including private health care facilities, from interfering with the right to health (OHCHR & WHO, 2008). Additionally, according to Saul et al. (2014), a failure to regulate corporations to prevent them from infringing upon the right to health of others constitutes a violation of the obligation to protect.

Lastly, the states must *fulfil* the right to health, which gives states the positive duty to undertake actions that “create, maintain and restore the health of the population” (CESCR, 2000, § 37). According to the UN High Commissioner for Human Rights, this is to ensure that people can fully realise their right to health (OHCHR & WHO, 2008). In particular, General Comment 14 stresses, among others, that the state has the following obligations “(iii) ensuring that the State meets its obligations in the dissemination of appropriate information relating to healthy lifestyles and nutrition, harmful traditional practices and the availability of services; (iv) supporting people in making informed choices about their health” (CESCR, 2000, § 37). According to Saul et al. (2014), a failure to take measures to reduce inequities in the distribution of health facilities goods and services is a violation of the obligation to fulfil.

Based on these responsibilities, Toebes (2006) argues that when a state privatises formerly public healthcare, its role shifts from fulfilling a right to protecting individuals from potential infringements of that right by private actors. Importantly, governments can only offer this protection if they develop a system to monitor right violations, and provide legal pathways for potential victims. She concludes that – while privatisation is not prohibited – the government must ensure its obligation to protect, which might come under pressure from privatisation.

While Toebe's case study articulates strong obligations for the Dutch government, Gross (2007) highlights a potential caveat to her conclusions. Specifically, he applies the right to health to past court cases in Canada regarding the public healthcare system. In doing so, he argues that the adoption of Article 12 may not in itself change the outcome in court. However, if interpreted broadly, the right to health would open up pathways for Canadian courts to rule in ways that improve healthcare access for all.

In short, accessibility under the AAAQ framework of Article 12 of the ICESCR grants individuals entitlements to non-discriminatory, physically reachable, economically affordable, health services and health information. These rights are matched by state obligations to respect, protect, and fulfil this accessibility. Privatisation itself is not incompatible with the right to health. However, where services are delivered by private actors, the obligation of the state to protect is pivotal, as the state must ensure private actors do not infringe on individuals' right to the highest attainable standard of health. This obligation, in turn, requires governments to systematically monitor private actors for violations of the right to health, and open up pathways for courts to rule against privatising reforms.

State obligations with regard to the accessibility of healthcare have important implications for the legality of privatisation policies in relation to the right to health. These implications, and more importantly, the capacity for Article 12 to address health inequalities associated with privatisation, will be considered in the discussion below.

Discussion

The following section discusses the results of the statistical and doctrinal analysis, in light of the overarching research question. Firstly, the results of the multi-level random intercept models are discussed, reviewing the effect of healthcare privatisation on health inequalities along the dimensions of education, income, and occupation. Thereafter, the

results of the doctrinal analysis are reviewed, discussing the extent to which the right to health offers normative guidance for addressing the challenges of healthcare privatisation.

Statistical Analysis

Two random intercept models were performed to analyse how the degree of healthcare privatisation affects the strength of the SES-SRH relationship. Firstly, regarding education, results indicate that having a more public healthcare system decreases the positive effect of education on SRH. This supports Hypothesis 1a, as it suggests that privatising healthcare has the consequence of deepening SRH disparities between the lowest and highest educated groups.

Based on the literature, this could be interpreted in different ways. Firstly, it could be attributed to healthcare literacy. Lower education is linked to lower healthcare literacy across Europe (Sørensen et al., 2015). Lower healthcare literacy is in turn linked to a lower ability to know when and how to seek advice from specialists, and how to use that advice effectively (Lazar & Davenport, 2018). In line with this, healthcare literacy partially mediates the relationship between SES and SRH in Italy (Lastrucci et al., 2019). This could relate to privatisation, as privatisation makes healthcare less accessible in general (Alayed et al., 2024; Dahlgren, 2014), which could make healthcare literacy even more of a prerequisite to reach optimal health outcomes, disproportionately burdening the low educated with low healthcare literacy.

Secondly, the finding may reflect the health characteristics of low-educated people. Health behaviours such as smoking, physical inactivity, and alcohol use are all related to educational attainment and have been found to be an important mediator in explaining mortality rates of different socio-economic groups (Puka et al., 2022). Related to health behaviours, less educated people are most often the ones with the most complex conditions (Pathirana & Jackson, 2018). This may interact with privatisation, as it makes them

particularly vulnerable to be cream-skimming, where hospitals select patients based on profitability, and exclude the less profitable patients (Kruse et al., 2018). This happens more in private hospitals (Berta et al., 2010; Kruse et al., 2018).

Pertaining to income, Model 2 didn't find a significant interaction effect with decommodification. This finding could be explained in two ways. Firstly, it might be that, indeed, the degree of healthcare privatisation has no effect on the isolated effect of income on SRH. Research assessing the relationship between income and health, as mediated by healthcare access, shows mixed results (Orentlicher, 2018). As such, it might be that income's effect on health is not related to healthcare, which could explain the nonsignificant interaction effect.

To explore how robust this finding was, each interaction effect was tested individually. For income, this resulted in a significant interaction effect (Appendix A, Table A11). Additionally, when removing the countries with the highest Cook's distance (i.e., driving the results the most), Switzerland and Greece, this interaction effect became highly significant (Appendix A, Table A8). These diverging findings may be explained by pointing to the limited sample size of 24 countries. Having this limited sample size, and adding multiple interaction variables might increase statistical complexity to the extent where the model doesn't have enough data points to confidently estimate the interaction effect. This suggests that the interaction between income's effect on SRH and healthcare system structure may exist, but is sensitive to sample size and composition. However, seen as Model 2 did not find significant results, and to maintain analytical caution, Hypothesis 1b is still rejected. Nonetheless, this noteworthy change in significance forms an avenue of research to be further explored, potentially using a larger sample of healthcare systems.

Lastly, concerning occupation, the results of Model 2 counter prior expectations. The results show a significant interaction effect, weakening the negative effect of occupation on

SRH as decommodification increases. Notably, beyond a decommodification score of 30, this interaction term turns the main effect of occupation positive, indicating a disordinal interaction effect. Importantly, most countries in the sample have a decommodification score above 30, indicating that in most countries, the effect of occupation on SRH is positive.

Evaluating the validity of these results prompts consideration of multiple factors. Firstly, it could be that in privatised healthcare systems, higher-up occupations have a worse SRH, while in less privatised systems they have a better SRH. However, based on the literature review, this seems questionable, as people with high SES are hypothesized to relatively benefit in SRH from privatisation. Another explanation could be that this split interaction is a result of limitations in the ISEI-08 scale. The literature indicates that different occupations affect SRH in complex ways (Barnay, 2016), which may not be captured by the ISEI-08 ranking. Supporting this explanation, Model 1 included only the socio-economic predictors and did not identify occupation as a significant predictor of SRH. All in all, there is limited support for the finding of Model 2 that the direction of the occupation-health gradient changes at a certain threshold of privatisation. As such, even though the interaction is significant, Hypothesis 1c is rejected.

To conclude, the results of the random-intercept models only support Hypothesis 1a. As such, they suggest that healthcare privatisation increases the strength of education as a predictor of SRH. Substantively, this means that healthcare privatisation disproportionately harms the SRH of less educated people compared to highly educated individuals. Based on prior research, this effect likely has to do with low-educated people having less health literacy, and often being patients with bad health behaviours and complex conditions. The former makes optimally using health systems more difficult, while the latter is a barrier to accessing hospitals for low-educated people, as private hospitals may prioritise more profitable patients.

Doctrinal Analysis

The legal doctrinal analysis aimed to examine the state's obligations when healthcare privatisation occurs, as articulated by Article 12 of the ICESCR. The following section will discuss the results and assess whether this provision can serve as a normative framework to address the challenges associated with healthcare privatisation discussed above.

The doctrinal analysis showed that privatisation is not prohibited under the right to health. However, there are legal boundaries in which privatised healthcare actors must operate, which give entitlements to the least educated individuals. These legal boundaries are specified under the AAAQ framework, postulating that healthcare facilities, goods, and services must be present in enough quantity, accessible for all without discrimination on any of the prohibited grounds, culturally appropriate, and of adequate quality. Specifically, accessibility encompasses physical, economic, and informational accessibility for all members of society. Importantly, these entitlements are of citizens vis-à-vis their governments, and the government has the obligation to respect them, protect them from third parties, and fulfil them with policies. This legal framework offers guidance in addressing education-based SRH inequalities after healthcare privatisation in multiple ways.

Firstly, the right to health addresses cream-skimming, the process by which less profitable individuals are excluded because of their complex health conditions. Under the AAAQ framework, Accessibility is protected. Specifically, the dimension of non-discrimination specifies that health facilities must be accessible to all, which includes a prohibition on discrimination based on health status. Privatised hospitals engaging in cream-skimming are third parties infringing on the non-discriminatory enjoyment of the right to health, and the government, under the obligation to *protect*, would be obliged to prevent this. To this end, it is paramount that a monitoring system is set up to meet this obligation by monitoring private actors and providing citizens with legal pathways to remedy abuses.

Secondly, concerning health literacy, the obligation to fulfil specifies that the

government has a positive duty to create and maintain the health of the population. This entails engaging in policies that would increase health literacy or generally facilitate the optimal use of health systems for vulnerable populations. To this end, General Comment 14 specifies policies such as disseminating information and helping people make health decisions. While health illiteracy is not explicitly addressed, interpreted broadly, this obligation could be understood to entail policies specifically aimed at increasing health literacy.

Therefore, the doctrinal analysis shows that while the Covenant doesn't prohibit privatisation, it offers a comprehensive and multi-faceted normative protection to low SES, and specifically, low-educated individuals when healthcare privatisation occurs.

Conclusion

As Europe continues down a path of healthcare privatisation, there is a clear need for research that not only looks at the problems, but also at potential solutions. This is especially the case, as healthcare privatisation efforts may harm the very people who most urgently need healthcare. Echoing the famous words of Rudolf Virchow, “politics is nothing but medicine at a larger scale” (Mackenbach, 2014), this thesis examined the effects of healthcare privatisation on socio-economic health inequalities within a framework of the human right to health.

Findings suggest that healthcare privatisation disproportionately harms the SRH of less educated individuals. Multi-level random intercept linear regression models were employed to analyse the moderating effect of healthcare privatisation on the relationship between SES, operationalised as education, income, and occupation, and SRH. The model showed that the positive effect of education on SRH is significantly increased by healthcare privatisation across Europe.

Based on prior literature, this effect is partially explained through healthcare literacy,

as low education is linked to low health literacy, while privatised healthcare systems may demand more health literacy to optimally use. Additionally, it is attributed to the health characteristics of less educated people. As they tend to have the worst health behaviours and most complex conditions, they face the greatest risk of exclusion by privatised hospitals, which filter out unprofitable clients.

Going beyond past epidemiological research, a legal doctrinal analysis was performed against the backdrop of the statistical models to analyse to what extent the right to health provides a normative framework addressing the previously identified concerns. Specifically, the analysis scrutinised state obligations when healthcare is privatised, as articulated by Article 12 of the ICESCR: the right to the highest attainable standard of health.

The findings demonstrate that while the right to health poses no direct restriction on privatising healthcare, it offers a holistic and multi-faceted normative framework to protect the SRH of low-educated individuals when privatisation occurs. Specifically, under the obligation to protect, the government remains responsible to protect the accessibility of healthcare services for all, prohibiting the exclusion of unprofitable patients. Moreover, under the obligation to fulfil, the government has the duty to engage in positive policies to create and maintain the health of the population, which could include policies addressing health illiteracy.

Several limitations are noted. The statistical analysis is limited in its claim to causality due to the cross-sectional design. Additionally, the model's accuracy is constrained by the limited country sample size and outliers driving the results. The legal analysis, while grounded in international law, lacks enforcement power, as it is not legally binding in many European countries. Finally, the synthesis of political and legal methods is limited by the quantitative nature of the empirical analysis. Although generalisable and robust, quantitative methods cannot discern clear mechanisms by which Article 12 might be infringed upon.

While this gap was filled with prior literature, future research should strive to incorporate qualitative political methods to gain a more holistic understanding.

All in all, the findings underscore the relevance of questioning privatisation efforts as a health policy, specifically with regard to the lowest educated groups of society. With healthcare privatisation on the horizon, this thesis calls for the right to health to be transposed into national law across European countries, alongside the establishment of rights-monitoring mechanisms, to safeguard against the exacerbation of health inequalities.

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Appendix A

Table A1

Health Expenditure and Coverage Data

Country	1. Private health expenditure as a percentage of GDP	2. Private health expenditure as % of total expenditure (2022)	3. The percentage of the population covered by the public health care system	Decommodification score
Austria	2.5	22.5	85	34.0
Belgium	2.7	24.8	86	34.4
Croatia	1.1	15.5	80	32.0
Cyprus	1.7	18.7	81	32.4
Finland	1.8	18.3	86	34.4
France	2.9	24.6	85	34.0
Germany	2.5	19.7	88	35.2
Greece	3.9	45.7	77	15.4
Hungary	1.9	27.7	79	31.6
Iceland	1.4	15.3	89	35.6
Ireland	1.4	22.6	83	33.2
Italy	2.3	25.6	84	33.6
Lithuania	2.5	34.0	75	30.0
Netherlands (Kingdom of	3.2	31.5	85	34.0

the)				
Norway	1.1	14.3	87	34.8
Poland	1.7	26.7	82	32.8
Portugal	3.9	37.5	88	17.6
Serbia	3.7	38.4	72	14.4
Slovakia	1.6	20.1	82	32.8
Slovenia	2.5	26.4	84	33.6
Spain	2.5	26.0	85	34.0
Sweden	1.5	14.0	85	34.0
Switzerland	7.6	65.0	86	17.2
United Kingdom of Great Britain and Northern Ireland	1.9	16.9	88	35.2
MEAN	2.26*	24.64*	83.42	30.675

*Adjusted mean excluding extreme outlier Switzerland, which is more than 2 standard deviations removed from mean.

Table A2

GDP per Capita and Gini Coefficient by country

Country	GDP per capita	Gini coefficient
Austria	56030	26,6
Belgium	54700	30,7
Croatia	21870	28,9
Cyprus	36550	31,3
Finland	52930	27,7
France	44690	31,5
Germany	54340	32.4*

Greece	23400	32,9
Hungary	22140	29,2
Iceland	79640	26.1*
Ireland	103890	30,1
Italy	39000	34,8
Lithuania	27790	36,7
Netherlands (Kingdom of the)	64570	25,7
Norway	87930	27.7*
Poland	22060	28,5
Portugal	27330	34,6
Serbia	12280	33,1
Slovakia	24490	24,1
Slovenia	32610	24,3
Spain	33510	33,9
Sweden	55520	29.8
Switzerland	99560	33.7*
United Kingdom of Great Britain and Northern Ireland	49460	32,4

Note: * numbers sourced from earlier years, due to data unavailability

Table A4

Generalized Variance Inflation Factors (GVIF) for Predictors in the Fixed Effects

Model

Predictor	GVIF	Df	$GVIF^{1/(2 \cdot Df)}$
Years of Education (eduyrs)	20.681	3	1.657
Decommodification (decom)	1.213	7	1.014
Income (hinctnta)	18.099	3	1.620
Occupational Status (isei08)	26.845	3	1.730

GDP per Capita (k)	1.123	1	1.060
Gini Coefficient	1.134	1	1.065

Note. $\text{GVIF}^{1/(2 \cdot \text{Df})}$ values below 2 indicate low multicollinearity.

Table A5

Logistic Regression Predicting Binary Health Outcome (N = 28735)

Predictor	Estimate	Std. Error	z	p	Significance
Intercept	-2.332	0.319	-7.32	<.001	***
Years of Education (eduyrs)	0.173	0.021	8.09	<.001	***
Income (hinctnta)	0.167	0.031	5.43	<.001	***
Occupational Status (isei08)	-0.025	0.005	-5.47	<.001	***
Decommodification (decom)	-0.014	0.008	-1.67	.096	
GDP per Capita (k)	0.0065	0.0006	10.89	<.001	***
Gini Coefficient	-0.0066	0.0050	-1.31	.190	
Education × Decom	-0.0035	0.0007	-5.21	<.001	***
Income × Decom	-0.0018	0.0010	-1.88	.060	
Occupational Status × Decom	0.00077	0.00015	5.27	<.001	***

Note. p values: ***p < .001, **p < .01, *p < .05, †p < .10. Coefficients are in log-odds units.

Table A6

Cook's Distances by Country

Country	Cook's Distance
AT	0.118
BE	0.021

CH	1.680
CY	0.081
DE	0.093
ES	0.091
FI	0.072
FR	0.044
GB	0.035
GR	1.016
HR	0.127
HU	0.261
IE	0.053
IS	0.061
IT	0.110
LT	0.243
NL	0.056
NO	0.015
PL	0.019
PT	0.213
RS	0.342
SE	0.033
SI	0.008
SK	0.073

Table A7

Linear Mixed Effects Regression Predicting Self-Rated Health, excluding Greece and Switzerland

Predictor	Estimate	Std. Error	t	p-value	Sig.
Intercept	1.245	0.443	2.81	0.011	*
Education (eduyrs)	0.089	0.011	7.95	<.001	***
Decommodification (decom)	0.017	0.008	2.21	0.036	*
Income Decile (hinctnta)	0.130	0.016	8.11	<.001	***
Occupational Status (isei08)	-0.011	0.003	-4.09	<.001	***
GDP per Capita (k€)	0.003	0.002	2.18	0.043	*
Gini Index	-0.001	0.010	-0.10	0.920	
eduyrs × decom	-0.0017	0.0003	-4.90	<.001	***
decom × hinctnta	-0.0018	0.0005	-3.65	<.001	***
decom × isei08	0.0003	0.00008	4.08	<.001	***
Random Effects					
Effect	Std. Dev.				
Country Intercept	0.141				
Residual	0.841				

Note. REML criterion at convergence = 66097.1. Number of observations = 26,451; number of countries = 22.

Significance codes: *** p < .001, ** p < .01, * p < .05

Table A11

Linear Mixed Model Predicting Health with Income, Education and Occupation. Cross-level interaction Income X decommodification.

Fixed effects:

Predictor	Estimate	Std.	df	t	p	Significance
		Error				

Intercept	2.113	0.472	20.47	4.48	.0002	***
Years of Education (eduyrs)	0.036	0.002	28,720	22.61	<.001	***
Income (hinctnta)	0.096	0.010	28,730	9.22	<.001	***
Decommodification (decom)	-0.007	0.006	23.83	-1.17	.255	
Occupational Status (isei08)	-0.0002	0.0004	28,720	-0.61	.541	
GDP per Capita (k)	0.004	0.001	19.86	2.47	.023	*
Gini Coefficient	-0.004	0.012	19.82	-0.30	.768	
Income × Decommodification	-0.0008	0.0003	28,730	-2.44	.015	*

Random effects

	Effect	Variance	SD
Country	Intercept	0.030	0.175
Residual	—	0.699	0.836

Model summary:

- Number of observations: 28,735

Note. p values: ***p < .001, **p < .01, *p < .05.

Appendix B

R-script for Statistical Analysis

```
# download necessary packages
if (!require("pacman"))
  install.packages("pacman")
pacman::p_load(tidyverse,
               ggeffects,
               modelsummary,
               flextable)
```

```

install.packages("lme4")
install.packages("lmerTest")
library(lme4)
library(lmerTest)

#Redirect to own wd
setwd("C:\\Users\\david\\OneDrive - UvA\\Rstudio")

#Copy own file path to ESS subset
thesis <- read.csv("C:/Users/david/OneDrive -
UvA/Rstudio/ESS11-subset(extended)/ESS11-subset.csv")

unique(thesis$health)
unique(thesis$eduyrs)
unique(thesis$hinctnta)
unique(thesis$cntry)
unique(thesis$isei08)
unique(thesis$decom)
#Checking which unique values it has so to can clean data

#Taking out meaningless values
thesis <- thesis %>%
  filter(eduyrs <= 30) %>%
  filter(!(hinctnta %in% c(77, 88, 99))) %>%
  filter(!(health %in% c(7,8,9))) %>%
  filter(!(isco08 %in% c(66666, 77777, 88888, 99999)))

#Coding higher health = better health
thesis <- thesis %>%

```

```

mutate(health = 6 - health)

#Double check, if idno 50030 has health 4, it's coded higher
score = better health (reverse from ESS)

# A different script where I have the conversion table ISCO-08
to ISEI

source("isco_isei_lookup.R")

# Adding a new column with isei08 scores corresponding to
isco08 occupations

thesis <- thesis %>%
  left_join(isco_isei_lookup, by = "isco08")

# New column with decommodification index values
thesis <- thesis %>%
  mutate(decom = case_when(
    cntry == "AT" ~ 34,
    cntry == "BE" ~ 34.4,
    cntry == "HR" ~ 32,
    cntry == "CY" ~ 32.4,
    cntry == "FI" ~ 34.4,
    cntry == "FR" ~ 34,
    cntry == "DE" ~ 35.2,
    cntry == "GR" ~ 15.4,
    cntry == "HU" ~ 31.6,
    cntry == "IS" ~ 35.6,
    cntry == "IE" ~ 33.2,
    cntry == "IT" ~ 33.6,
    cntry == "LT" ~ 30,
    cntry == "NL" ~ 34,

```

```

cntry == "NO" ~ 34.8,
cntry == "PL" ~ 32.8,
cntry == "PT" ~ 17.6,
cntry == "RS" ~ 14.4,
cntry == "SK" ~ 32.8,
cntry == "SI" ~ 33.6,
cntry == "ES" ~ 34,
cntry == "SE" ~ 34,
cntry == "CH" ~ 17.2,
cntry == "GB" ~ 35.2,
TRUE ~ NA_real_
))

```

#New column with GDP per capita data from world bank

```
thesis <- thesis %>%
```

```

mutate(gdp_per_capita = case_when(
  cntry == "AT" ~ 56030,    # Austria
  cntry == "BE" ~ 54700,    # Belgium
  cntry == "HR" ~ 21870,    # Croatia
  cntry == "CY" ~ 36550,    # Cyprus
  cntry == "FI" ~ 52930,    # Finland
  cntry == "FR" ~ 44690,    # France
  cntry == "DE" ~ 54340,    # Germany
  cntry == "GR" ~ 23400,    # Greece
  cntry == "HU" ~ 22140,    # Hungary
  cntry == "IS" ~ 79640,    # Iceland
  cntry == "IE" ~ 103890,   # Ireland
  cntry == "IT" ~ 39000,    # Italy
  cntry == "LT" ~ 27790,    # Lithuania

```

```

cntry == "NL" ~ 64570,    # Netherlands
cntry == "NO" ~ 87930,    # Norway
cntry == "PL" ~ 22060,    # Poland
cntry == "PT" ~ 27330,    # Portugal
cntry == "RS" ~ 12280,    # Serbia
cntry == "SK" ~ 24490,    # Slovak Republic
cntry == "SI" ~ 32610,    # Slovenia
cntry == "ES" ~ 33510,    # Spain
cntry == "SE" ~ 55520,    # Sweden
cntry == "CH" ~ 99560,    # Switzerland
cntry == "GB" ~ 49460,    # United Kingdom
TRUE ~ NA_real_

))

thesis$gdp_per_capita_k <- thesis$gdp_per_capita / 1000

#Creating column with gini coefficients sourced from world
bank

thesis <- thesis %>%
  mutate(gini = case_when(
    cntry == "AT" ~ 26.6,    # Austria
    cntry == "BE" ~ 30.7,    # Belgium
    cntry == "HR" ~ 28.9,    # Croatia
    cntry == "CY" ~ 31.3,    # Cyprus
    cntry == "FI" ~ 27.7,    # Finland
    cntry == "FR" ~ 31.5,    # France
    cntry == "DE" ~ 30.34,   # Germany
    cntry == "GR" ~ 32.9,    # Greece
    cntry == "HU" ~ 29.2,    # Hungary
    cntry == "IS" ~ 30.34,   # Iceland
    cntry == "IE" ~ 30.1,    # Ireland

```

```

cntry == "IT" ~ 34.8,      # Italy
cntry == "LT" ~ 36.7,      # Lithuania
cntry == "NL" ~ 25.7,      # Netherlands
cntry == "NO" ~ 30.34,     # Norway
cntry == "PL" ~ 28.5,      # Poland
cntry == "PT" ~ 34.6,      # Portugal
cntry == "RS" ~ 33.1,      # Serbia
cntry == "SK" ~ 24.1,      # Slovak Republic
cntry == "SI" ~ 24.3,      # Slovenia
cntry == "ES" ~ 33.9,      # Spain
cntry == "SE" ~ 30.34,     # Sweden
cntry == "CH" ~ 29.8,      # Switzerland
cntry == "GB" ~ 32.4,      # United Kingdom
TRUE ~ NA_real_

))

#Testing if measuring same thing ISEI, eduyrs and income
cor.test (thesis$isei08, thesis$eduyrs)
cor.test (thesis$isei08, thesis$hinctnta)

#Descriptive statistics
vars <- c("health", "eduyrs", "hinctnta", "isei08", "decom")

# Compute means and standard deviations
descriptives <- data.frame(
  Variable = vars,
  Mean = sapply(thesis[vars], mean, na.rm = TRUE),
  SD = sapply(thesis[vars], sd, na.rm = TRUE)
)

```

```
print(descriptives)
```

```
#Linear model
```

```
#Random intercept version model 1, without interaction
```

```
thesismodellrandom<- lmer(health ~ eduyrs + hinctnta + isei08  
+ (1 | cntry) , data = thesis) # testing wihtout controls
```

```
summary(thesismodellrandom)
```

```
#Random intercept model 2, all variables
```

```
thesismodel2 <- lmer(health ~ eduyrs * decom + hinctnta *  
decom + isei08 * decom + gdp_per_capita_k + gini + (1 |  
cntry) , data = thesis)
```

```
summary(thesismodel2)
```

```
#Running it without Greece and Switzerland
```

```
thesis_excl <- thesis[!thesis$cntry %in% c("GR", "CH"), ]
```

```
thesismodelnoGR_CH <- lmer(health ~ eduyrs * decom + hinctnta  
* decom + isei08 * decom + gdp_per_capita_k + gini + (1 |  
cntry) , data = thesis_excl)
```

```
summary(thesismodelnoGR_CH)
```

```
#Testing individual interactions:
```

```
#ISEI08XDECOM INSIGNIFICANT
```

```
thesismodel2.1 <- lmer(health ~ eduyrs + hinctnta + isei08 *  
decom + gdp_per_capita_k + gini + (1 | cntry) , data =  
thesis)
```

```

summary(thesismodel2.1)

#trying it for hcincta! SIGNIFICANT!

thesismodel2.2 <- lmer(health ~ eduyrs + hinctnta * decom +
isei08 + gdp_per_capita_k + gini + (1 | cntry) , data =
thesis)

summary(thesismodel2.2)

#eduyrs

thesismodel2.3 <- lmer(health ~ eduyrs * decom + hinctnta +
isei08 + gdp_per_capita_k + gini + (1 | cntry) , data =
thesis)

summary(thesismodel2.3)


#Checking VIFS

fixed_model <- lm(health ~ eduyrs * decom + hinctnta * decom +
isei08 * decom + gdp_per_capita_k + gini, data = thesis)

summary (fixed_model)

install.packages("car")

library(car)


#Robustness checks

vif(fixed_model)

vif(fixed_model, type = "predictor")


#USING INFLUENCE.ME TO see which countries influence the
outcome most


install.packages("influence.ME")

library(influence.ME)


infl <- influence(thesismodel2, group = "cntry") # based on
your random grouping factor

```

```

summary(infl)

cooks <- cooks.distance(infl)
print(cooks)

#s logistic regression as control for linearity assumption
thesis$health_binary <- ifelse(thesis$health >= 4, 1, 0)

logit_model <- glm(
  health_binary ~ eduyrs * decom + hinctnta * decom + isei08 *
  decom + gdp_per_capita_k + gini,
  data = thesis,
  family = binomial(link = "logit")
)

# View model summary
summary(logit_model)

nobs(logit_model)

#PRedicted outcome Greece, 1= eduyrs 1 sd below, 2= eduyrs 1
sd above mean
pred1 <- ggpredict(thesismodel2, terms = c(
  "eduyrs[10.13]",
  "decom[15.4]"))
pred1

pred2 <- ggpredict(thesismodel2, terms = c(

```

```

    "eduyrs[17.27]",
    "decom[15.4]"))
pred2

pred2-pred1

pred3 <- ggpredict(thesismodel2, terms = c(
  "eduyrs[10.13]",
  "decom[35.6]"))
pred3

pred4 <- ggpredict(thesismodel2, terms = c(
  "eduyrs[17.27]",
  "decom[35.6]"))
pred4
# No doing the same, but for occupation
pred4-pred3

pred5 <- ggpredict(thesismodel2, terms = c(
  "isei08[26.53]",
  "decom[15.4]"))
pred5

pred6 <- ggpredict(thesismodel2, terms = c(
  "isei08[61.01]",
  "decom[15.4]"))
pred6

pred6-pred5

```

```
pred7 <- ggpredict(thesismodel2, terms = c(
  "isei08[26.53]",
  "decom[35.6]"))
```

```
pred7
```

```
pred8 <- ggpredict(thesismodel2, terms = c(
  "isei08[61.01]",
  "decom[35.6]"))
```

```
pred8
```

```
pred8-pred7
```

```
# Graph comparing interaction with eduyrs-health
```

```
library(ggeffects)
```

```
library(ggplot2)
```

```
#Visualising interaction effects education
```

```
predicted_interaction <- ggpredict(
  thesismodel2,
  terms = c("eduyrs", "decom [15.4, 35.6]"))
)
```

```
# Graph showing the interaciton effect education x decom on
SRH, with vertical lines and tags at the lines
```

```
interaction_plot2 <- ggplot(predicted_interaction, aes(x = x,
y = predicted, color = group)) +
  geom_line(size = 1.2) +
```

```

    geom_vline(xintercept = c(10.13, 13.66, 17.27), linetype =
"dashed", color = "gray40") +
    scale_x_continuous(
      name = "Years of Education",
      breaks = c(10.13, 13.66, 17.27),
      labels = c("10.1", "13.6", "17.3")
    ) +
    labs(
      title = "Interaction: Education × Decommodification on
SRH",
      y = "Predicted Self-Reported Health",
      color = "Decommodification"
    ) +
    theme_minimal()
print(interaction_plot2)

```

```

# Visualising interaction effect decom with Income-SRH
library(ggeffects)
library(ggplot2)

```

```

predicted_interactionB <- ggpredict(
  thesismodel2,
  terms = c("isei08", "decom [15.4, 35.6]")
)

interaction_plotB <- ggplot(predicted_interactionB, aes(x = x,
y = predicted, color = group)) +
  geom_line(size = 1.2) +
  geom_vline(xintercept = c(26.5, 43.8, 61), linetype =
"dashed", color = "gray40") +

```

```

scale_x_continuous(
  name = "ISEI-08 Occupation",
  breaks = c(26.5, 43.8, 61),
  labels = c("26.5", "43.8", "61")
) +
labs(
  title = "Interaction: Occupation × Decommodification on
SRH",
  y = "Predicted Self-Reported Health",
  color = "Decommodification"
) +
theme_minimal()
print(interaction_plotB)
ggsave("interactionplotB.png", plot = interaction_plotB, width
= 8, height = 6, dpi = 300)

```