Democratic Representation and Health: Re-Addressing the Question of Inequalities, and Its Policy Implications: An Observational Study on a Cross-European Sample

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An Observational Study on a Cross-European Sample

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Democratic Representation and Health: Re-Addressing the Question of Inequalities, and Its Policy Implications

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Abstract In the current demographic trends, the future health of the society is more dependent on the politics than ever. But are people with poor health conditions represented equally? The negative relationship between poor health and participation has been well established. It could lead to a representation inequality since the demands of the poor health group are not translated into votes. However, we do not know how health status influence the opinions and demands of the voters which are supposed to be represented at the elections. Are poor health individuals have distinctive policy preferences? By exploring these opinions, first, I will show the possible substantive consequences of the participation gaps between health groups. Second, I will investigate the inter-sectional nature of the health representation inequalities caused by the moderating role of income and education on opinions and participation. I conduct a multivariate analysis on a cross-European sample using the 2014 ESS data to test my hypotheses. I show an evidence for the unequal representation of the different opinions in the elections between the healthy and the poor health group, and within the poor health group, explained by the level of income. Based on the results, I revisit the policy discussion about the solutions for the health disparities in voting.

Keywords health inequalities; representation; participation; social protection; vote facilitation

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Signature

The Hague,

4th of June, 2021

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List of Abbreviations

OLS Ordinary Least Squared Regression

Logit Binomial Logistic Regression

ESS European Social Survey

SRH Self-Reported Health Status

CCT Conditional Cash Transfer

HUI Health Utility Index

PR Proportional Electoral System

SMD Standardized Mean Differences

1 Introduction

Motivation

The future health of our society is a crucial public policy problem at the global level. The population is aging, and the changing composition of the societies also threaten the sustainability of our welfare systems. The public healthcare systems may become overburdened and underfinanced at the same time. In these trends, health inequalities in the society may be amplified.

On the other hand, the voices of those who are the most vulnerable to these changes – the people with poor health status – may not be represented equally. The vulnerable health group's opinions is critical to influence what future steps are taken to mitigate these problems. However, the responsiveness of the policy-makers around the world may be contingent on the electoral dynamics. Therefore, in order to advance to the mitigation of the health inequalities itself, the policy and scientific community may have to solve first the problem of what and whose opinions are represented in our democracies. In order to do so, the political behavior of the health groups have to be mapped to understand how the opinions vary by health and a multitude of other, cross-cutting factors, and how it is related to the gaps in their participation. The effectiveness and adequacy of the policy tools to facilitate an equal representation hinges on the precise understanding of the nature, the causes, and the structure of these political inequalities in health.

Research Summary

In this project, I aim to contribute to the academic research on the representation inequalities and health status. Prior research suggested that poor health decreases the affected individuals' likelihood of participating in the elections (Mattila et al., 2013, 2017; Burden

et al., 2016; Pacheco & Fletcher, 2015; Denny & Doyle, 2007b). Unequal participation may present problems for the democratic representation of, and the policy responsiveness to the special needs of these groups, considering the electoral logic of partisan democracies (Lijphart, 1997). This could arguably lead to a 'health bias' (Pacheco & Fletcher, 2015, 14) in the democratic representation. Furthermore, it could constitute a vicious dynamic in which health disparities may lead to even more unequal participation, representation, and in the end more health inequalities. Regarding the greater picture, because of the voluntary or forced passivity of the vulnerable health groups at the polls, the mass democratic ways of representation may threaten the principles underlying our welfare systems[1].

However, we can not not fully understand the representation inequalities of the health groups caused by this unequal participation unless we also test their opinions at the same time. As for the first research question, do poor health individuals hold opinions that are different from those of the healthy population? Unequal participation is only a problem for representation if individuals hold distinctive preferences based on their health status. In other words, inequalities in the representation have two necessary conditions: the gap in participation and the differences in the opinions along this gap. In the literature, it is implicitly assumed that the opinions or demands of the poor health groups are substantially different from the healthy population, and consequently, unequal participation creates a bias in representing these opinions. Providing evidence for the divergence of opinions is the first goal of the study. I argue that poor health status increases the support for social protection related policies. Since the extent of social protection can influence the future health of the individuals with poor health, an inequality of the representation in these domains can be highly consequential.

Second, we are also not familiar with the underlying structure of the inequalities in these opinions beyond the general differences explained by health. Beyond health, some

[1] Importantly, I will only focus on the demand-side disparities in representation caused by the unequal participation of health groups. Another feature of the representative democracies, the supply of alternatives manifested by the parties may also create a representation problem for health opinions. Even though we assume an equal participation, the distinct preferences of the health groups may not be possible to be expressed in the limited choice sets offered by the party systems.

cross-cutting, socio-economic attributes could also influence both the opinions and the participation likelihood of the poor health individuals at the same time. This could further distort the representation of their voices. As for the second research question, does higher socio-economic status create a within group inequality in the representation of the poor health group? Even those who are likely to vote amongst the poor health individuals may misrepresent the opinions and demands of the group. Inequalities in health representation may be multiple and inter-sectional. This would complicate the related policy challenges too, which may have to tackle several sources of the inequalities in question. This, again, can only be studied by examining the differences in the opinions of the individuals across these factors, in addition to their participation likelihoods. I argue that poor health individuals with more resources, motivations and mobilization potential (Verba et al., 1996) will be more likely to participate and will have more moderate policy preferences compared to the less affluent in this group. In other words, poor health status does not form a homogeneous group when it comes to participation and preferences, and this opens up the way for additional representation inequalities of the disadvantaged health group's opinions.

Therefore, the novelty I offer in this study is the combined analysis of the participation and the opinions of the health groups. This could contribute to our current state of knowledge and assumptions about health-based representation inequalities by exhibiting the substantive consequences of the participation gaps between health groups, and by discovering the additional dimensions of the representation inequalities by interacting health status with other socio-economic factors in studying participation and opinions. In terms of the practical contribution, exploring the inter-sectional nature of health inequalities could potentially help to engineer more adequate policy instruments that tackle the diverse underlying sources of the representation inequality in health.

I test these arguments on a cross-sectional, cross-European sample retrieved from the European Social Survey (Wave 7, 2014). I provide two operationalizations for the health status: a measure of subjective well-being, captured by the self-reported health status, and a more objective classification into health groups based on the measurement of a list of

chronic health conditions. I test their associations with self-reported voting in the last elections, and on three proxies for the preferences for social protection: Opinions about the government's responsibility to protect its citizens from threats, support for reducing income gaps, and finally opinions on the state of the healthcare in the respondents' respective countries. To analyse participation gaps, I conduct binomial logistic regressions for each model specifications. To analyse the views, I perform ordinary least square regressions. I interpret these effects together, in order to make implications for the representation inequality. Furthermore, in each regressions, I add the moderator variables of income and education to test for the hypotheses on the moderating effects that may create an additional source of the representation disparities for the poor health groups' demands.

Research Structure

I will proceed as the following: First, I offer an overview of the relevant literature focusing on how health influences political engagement. Then, I introduce my research question based on addressing the gap between inferring from unequal participation to representation inequality. Third, I discuss my predictions along with the assumed underlying mechanisms. Fourth, I present the plan of the analysis in the empirical design chapter: the data source, the measurement of the theoretical concepts, and the modelling strategy. Fifth, I describe the obtained data along the main variables of interest. Sixth, I present the multivariate regression models and study the associations. Seventh, I offer a discussion on how the implications of these results can be embedded in the broader policy discussion about the representation inequalities of the health groups. Finally, I summarize the main findings, address the limitations of the study, and I offer an outlook for the topic.

2 Theory

Health, Participation, Representation

Studying the health status of individuals occupies a large space in the social science literature. Some of these studies look at the social determinants of health outcomes (Eikemo et al., 2017) by testing different theories on the possible causes of individual health outcomes. Others examine how the macro-political environment – such as the welfare state regime – influences general health outcomes (Bambra, 2011) and health inequalities (Huijts & Eikemo, 2009).

A different approach is to look at the consequences – rather than causes – of the health inequalities. In the health consequences literature, the effects of health status on political behavior has been gaining ground lately. A growing number of studies look into the relationship between health status and political participation. Studies observe a negative relationship between poor health and voting turnout on cross-sectional and cross-country samples (Mattila et al., 2013) and panel studies (Burden et al., 2016). Other studies nuance the association between health and participation by examining the positive relationship between poor health and non-institutional modes of political participation like protesting (Mattila, 2020) or signing petitions (Couture & Breux, 2017). A related inquiry is the study of the potential mechanisms between these associations by observing the mediating role of political efficacy (Shore et al., 2019), trust (Mattila & Rapeli, 2018), or the strength of partisan identities (Papageorgiou et al., 2019). Studies also varied the type of health status under inspection, discovering differential effects of health conditions on political participation when looking at some specific illnesses. For example, it was shown that in contrast with generally poor health conditions, cancer may actually increase voting likelihood (Gollust & Rahn, 2015; Sund et al., 2017). Finally, there are also studies which addressed these relationships through institutional explanations, by controlling for the macro-political context of the observed associations like welfare regime type or social spending (Mattila et al., 2017; Shore et

al., 2019; Reeves & Mackenbach, 2019).

The underlying motivation behind studying health status and political participation is the potential downstream effects of unequal participation on democratic representation and policy responsiveness. It is a general wisdom that there is a bias in election turnout based on the society's socio-economic stratification. Those who have greater resources, motivation and mobilization potential will turn up to vote eventually at a higher rate (Lijphart, 1997; Verba et al., 1996). In representative democracies, political actors will have an incentive to prioritize the needs of those whose voice can be converted into mandates. Since the original theories of the socio-economic inequalities in participation, individual health status was added to the list of these inter-connected resources as separate predictor (Mattila, 2020): Even taking into account the potential cross-cutting effects of the other socio-economic factors, health was shown to elicit a separate effect with a magnitude comparable to the other factors such as income level (Pacheco & Fletcher, 2015).

Altogether, health status could have a crucial consequence for the democratic representation: Participation may influence whose interests are represented in the policy-making. If individuals with poor health stay away from institutional politics, their special needs may be underrepresented. This sets off a vicious circle since the effective policy interventions on the causes of poor health outcomes may remain insufficiently addressed by the public policy-making. Therefore, the political behaviour of different health groups posits a relevant public policy problem beyond the democratic ideals. The social input and political output nexus in policy-making (Easton, 1967) could be severely distorted.

Health Group Opinions

However, there is a gap in this literature. There is a hidden, untested assumption in most of the studies that probe the relationship between health status and political participation with a motivation to infer for potential representation deficits: They all implicitly suggest that the preferences or attitudes of the individuals with poor health are determined by their health conditions. Thereby, by the lower likelihood to participate, their group-specific attitudes

are not fully translated into demands, and in turn, the demands may not be followed by adequate policy responses. The prior research on health and political engagement paid little attention to the role of surveying the opinions — or the demands – of the different health groups, especially with a special focus on social policies. Here, I aim to test the similarities or differences in the health groups' opinions on these domains in order to complete the assumptions about the representation inequalities in health.

I argue that in order for the assumed argument between health inequalities, unequal participation, and its downstream representation consequences to stand, it first has to be empirically confirmed that the various health groups actually differ in their preferences for the policies that would affect their health. In other words, the divergence of views is a necessary condition for the unequal representation besides the unequal participation. An empirical confirmation would point out the substantive policy consequences of health groups' unequal political participation.

So far, prior research offers an unsystematic, scarce and mixed evidence on the preferences and attitudes of different health groups. There are three main weaknesses in the current literature on the opinions of the health groups: First, the two conditions of representation inequality – unequal participation and divergent views – has not been studied yet together. Second, we do not know the extent to which health can influence opinions, since the prior studies measured preferences in different ways, ranging from basic values, ideological self-placement, and party preferences, to opinions on specific bills and legislative proposals. Some of these are non-relevant and less consequential for the individuals' health status. Therefore, these may have omitted the opinion differences in the crucial policy domains which could matter for the baseline health status, and therefore could actually vary the opinions of the individuals based on their health condition substantially. Third, the way health is measured – or the form and specificity of the health condition – also vary across these studies. Mixed evidence could be due to the fact different health conditions could affect opinions in different ways.

In terms of the left-right orientations and party preferences, Gastil (2000) found that individuals with disabilities are more likely to vote for the Democrats in an American context. On the other hand, however, the same connection was falsified by Schur and Adiya later (2013). Similarly, in a recent study on disability and ideological self-positioning, Reher (2021) found that in the UK there is no significant difference between health groups' ideological preferences after controlling for partisanship. When it comes to the more general health conditions, in an US context, Pabayo and colleagues (2015) found that after controlling for socio-economic factors, better health does not predict higher propensity for voting for Republicans. However, with the same measurement of health, Subramanian and colleguaes (2009) found that in Europe, poor health predicted an increased support for leftist positions. Finally, Mattila (2017) showed in a Finnish context that long-standing illness and disability predicts more support for the left, however, the effect is small. As shown, the evidence on the consequences of the health conditions for the ideological and party preferences is mixed at best.

When it comes to policy-specific views, the empirical evidence is similarly scarce (Mattila et al., 2017; Pacheco & Ojeda, 2020), and the increased specificity of the questions on policy views make this few evidence even more unsystematic. Studies many times include policy subjects that are irrelevant for the poor health groups' future health conditions (see for example a study by Pacheco and Ojeda, 2020). The potential underrepresentation of the poor health groups' opinions in these areas could be still important, but less consequential for the determinants of the original health inequalities. Furthermore, it could be that the more irrelevant is the measured opinion to the life condition under investigation, the less likely to find divergence between health groups. A strong evidence in this domain is offered by Robert and Booske 2011 who showed in an US context that poor health makes people emphasize more the socio-economic and institutional causes of bad health such as income, access to healthcare, and insurance. Studies also showed that people with disabilities are more supportive of egalitarian values and prefer more public healthcare (Gastil, 2000), greater state involvement (Schur & Adya, 2013), and greater public spending, healthcare spending, and re-

distribution in general even after controlling for partisanship (Reher, 2021). Although these findings outline a clear direction for the relationship, a study by Mattila and his colleagues 2017 somewhat complicates the implications: Even though poor health groups indeed are more supportive of social policies and redistribution, the differences between health groups are not remarkable except for the question of basic income.

As seen, policy views of the different health groups may vary by the modes of conceptualizing health conditions, the measurement of the kinds of preferences, the inclusion of the cross-cutting factors such as partisanship, and by the country contexts too. To account for the limitations in establishing the connection between health, unequal participation, and policy views, I will test both conditions of the representation inequality simultaneously, while using a universal measurement of health, and apply it on the relevant domains of policy preferences which are consequential for the health status. According to my plans, this will achieve to show the general effect of health status, where the specific health conditions' heterogeneous effects are balanced out, and therefore make the results suitable for generalization. Generalizability will also be supported by a cross-country sample. Furthermore, measuring preferences in policy domains that are relevant for the baseline health conditions also increase the likelihood that we observe a divergence in the opinions between health groups, and thereby we are able to provide an evidence for a substantial representation inequality in domains that bear substantial consequences for these groups.

Inter-Sectional Representation Inequalities

Furthermore, measuring the opinions alongside the participation gaps may have an additional benefit in further exploring and understanding the representation inequalities between health groups: There may be additional sources of inequalities beyond the general level disparities caused by health status. Cross-cutting, socio-economic factors like income and education can simultaneously increase participation and moderate the policy opinions within the poor health group. Even though poor health groups at large could have different policy preferences from healthy groups, it would be important to see how this relationship is moderated by other

socioeconomic variables such as income and education which are important factors in both the political engagement (Verba et al., 1996) and the views on redistribution (Breznau, 2010).

It is possible, for example, that poor health groups may have different preferences in average from healthy groups, however, when we look at higher income or education groups, these differences may vanish or may be moderated. In return, individuals with higher income or education amongst the poor health population may be more likely to participate because of their advantages in resources (Mattila et al., 2017, 23-24). In simple words, this would mean that even those who may vote in the poor health group may misrepresent the group opinions, and underrepresent the real gaps in the demands of different health groups. Therefore, the combined study of participation and opinions by intersecting health and other socio-economic factors can reveal the multi-level, inter-sectional inequalities in representation.

Assumptions

I formulate my predictions to address the relationship between health status, opinions on social protection, and voting. Representation inequalities in health are predicted to be present at two levels: At the general level, between the health groups, and within the poor health group, between the more and less affluent and educated. In general, I assume that lower health is negatively associated with the participation likelihood in the elections, and positively associated with a higher support for social protection, resulting in the representation problem. This inequality then is further aggravated by the moderator effects of income and education, which are expected to be negatively associated with the preferences on social protection, but positively associated with participation when we compare less or more resourceful within the health groups.

First Level of Inequality: Health Status

As for the first necessary condition of representation inequality, the participation of the different health groups will be studied in a confirmatory fashion. I argue, that in line with the previous evidence,

Hypothesis 1: *Poor health individuals participate at a lower likelihood in general elections compared to healthy individuals.*

There are two conflicting mechanisms to consider when it comes to the political engagement of the least advantaged social groups (Verba et al., 1996). First, resource theory (Mattila et al., 2017, 23-24) suggests that health is amongst the socio-economic conditions that deprives people of resources to engage in politics. On the other hand, the exact lack of resources may increase the stake of elections, and therefore boost the motivation and a resentment-based mobilization to participate on the bases of self-interest (Mattila et al., 2017, 24-25). However, the same motivation to engage could be hampered by the lower level of perception of political efficacy in the case of poor health (Shore et al., 2019). Altogether, even though poor health was shown to activate certain modes of participation (Söderlund & Rapeli, 2015), and certain kind of health conditions actually increase voting (Gollust & Rahn, 2015; Sund et al., 2017), there is an overwhelming evidence for the negative association when we treat health conditions in general terms, and if we look at voting as the form of participation in particular (Mattila et al., 2017, 2013; Denny & Doyle, 2007a; Pacheco & Fletcher, 2015).

As discussed previously, one contribution planned by this study is to validate the concerns raised by previous studies on the representation-related consequences of the unequal participation of different health groups in elections. It is done by showing the divergence of their policy opinions on social protection. As for the second necessary condition for representation inequalities, I argue that,

Hypothesis 2: *Poor health individuals express more support for social protection compared to healthy individuals.*

Regarding the theories between higher support for social policies and poor health, there are two mechanisms to consider – both supporting the positive direction of the hypothesized association: First, there is the self-interest theory implying that individuals with poor health may simply support more redistribution due to the fact that they are the most likely to gain from these policies. A less egoistic explanation for the higher support among lower health

groups is that this support is the result of the greater tolerance and social solidarity due to one's own experiences (Mattila et al., 2017, 104). As presented earlier, the prior evidence seems to support these explanations: Even though the general differences in the ideological positions and party preferences are not entirely supported between health groups (Pabayo et al., 2015; Reher, 2021; Schur & Adya, 2013; Mattila et al., 2017), when preferences are asked on specific policy measures such as healthcare spending, the differences are more consistently detected, and greater in size (Robert & Booske, 2011; Schur & Adya, 2013; Reher, 2021; Mattila et al., 2017). The higher detectability of the differences between the health groups in the case of health-specific policies therefore hints at the relevance of the self-interest, own experience, or solidarity based mechanisms behind the difference in the opinions.

Second Level of Inequality: Poor Health, Income and Education

Two moderation effects will be observed: The effect of the poor health status on the policy views and voting by the income levels, and by the education levels. In general, both income and education are important determinants of political participation (Verba et al., 1996). Even though health status was shown to elicit an effect on its own on participation (Pacheco & Fletcher, 2015), the size of this effect on participation preferences may still vary at the different moments of income and education. Higher income and education may attenuate the negative effect of health on participation likelihood. Alternatively, poor health may resist the moderating effects of these factors. These moderating effects on participation could be especially important if the more affluent or educated poor health individuals hold different opinions on social protection from their less affluent or educated counterparts, since they will become the most likely representatives of the poor health group in the elections. In general terms, this claim has some support too: Both income and education was shown to moderate preferences in social policies (Breznau, 2010). Therefore, the question is how robust is the effect of poor health against these influences.

Moderation effects by income and education on the health status can mean two things: First, as an absolute effect, higher income and/or education can increase participation and

moderate views within the poor health group itself. Second, as a relative effect, higher income and/or education can decrease the distance between the groups with poor and excellent health when it comes to participation and opinions.

I pose the following predictions:

> Hypothesis 3: *The increase in the income level also increases the poor health individuals' participation likelihood, and reduces the relative gap compared to the healthy individuals.*
>
> Hypothesis 4: *The increase in the education level also increases the poor health individuals' participation likelihood, and reduces the relative gap compared to the healthy individuals.*
>
> Hypothesis 5: *The increase in the income level moderates the poor health individuals' support for social protection both in an absolute and relative terms.*
>
> Hypothesis 6: *The increase in the education level moderates the poor health individuals' support for social protection both in an absolute and relative terms.*

The hypotheses suggest that both income and education moderates the opinion of the poor health group, while increase the likelihood of their participation. With regards to participation, as stated earlier, resource-based theories of political engagement would support an increase in participation as the net socio-economic status of the individual improves despite of the poor health. In the case of views, it is expected that based on theories of self-interest (Mattila et al., 2017) and instrumental rationality (Breznau, 2010), the more resourceful will favor less redistribution because of their own material gains, their goals and values.

However, we should be careful with assuming a straightforward relationship between income or education, and participation and views when it comes to the differences between the health groups: Even though in the absolute terms the moderation effects may be confirmed – i.e. within the poor health group the more affluent and more educated will be more likely

to participate and have lower support for social protection –, the relative differences between the poor health and the healthy groups could still increase by higher income and education. The two are not necessarily connected. As individuals with lower material resources are on the baseline less likely to participate, health could make a larger difference for those who otherwise would have the resources to participate (Pacheco & Ojeda, 2020, 1249-50). The same could be said about the policy views: When health becomes a unique, and therefore more salient deteriorating factor amongst the otherwise resourceful individuals, its effects on the policy preferences could be greater. Therefore, even though income and education may increase the likelihood of participation and moderate the opinion in the absolute terms – within the poor health group –, the relative distances between the health groups may increase in the case of both outcomes, instead of a convergence. These would mean that my hypothesis about the inter-sectional representation inequality would receive only a partial support. Even though the more affluent and educated people would represent more moderate opinions at a higher participation rate than their peers in the poor health group, in relative terms, that opinion would be more radical compared to the healthy population.

Now, I turn to the discussion how these concepts will be measured, and how the assumptions will be tested in an empirical analysis.

3 Empirical Design

I conduct a cross-country multivariate analysis to test these hypotheses. This section offers a consideration for the data sources, an overview of the variables that were selected to measure the theoretical concepts, and a modelling strategy for gathering evidence for the hypotheses.

Data

Ideally, a longitudinal panel data would be chosen to study these relationships to account for the potential confounding relationships, however the access to such data is limited. Furthermore, in such data, the availability of the demographic and socioeconomic factors, the political outcomes, or the health variables are not always guaranteed. On the other hand, good quality cross-sectional data is available for studying the relationships between health status and political behavior. This data also offers a wide set of socio-demographic control variables to compensate for the causal weaknesses in cross-sectional surveys.

Therefore, the 7th wave of the *European Social Survey (ESS)*[2] is selected for the analysis of these relationships. It is a cross-sectional data with large sample size, and a high-quality probability sampling, offering a potential for geographical generalizability of the findings. Furthermore, it offers a rich set of variables on basic demographics, political engagement, and the health status indicators. Therefore, it allows the precise and multiple operationalizations of health status and the political behavioral outcomes, and also the substantiation of these associations by the conditioning on a number of available covariates.

[2] The ESS7 Codebook for the variables and their coding can be consulted here: `https://www.europeansocialsurvey.org/docs/round7/survey/ESS7_appendix_a7_e01_0.pdf`

Variables

Dependent Variables:

As introduced in the theory chapter, to test the inequality in the representation of the health groups, two outcomes have to be observed related to the individuals' political behavior: First, their political participation. Participation here is restricted to the voting in the general elections. Participation is not a 'one-way street' when it comes to health (Mattila et al., 2017, 19), and there is a variation in the trends when it comes to institutional a non-institutional forms of participation of health groups (Söderlund & Rapeli, 2015), mediated by trust in the political system (Mattila, 2020). However, voting is arguably is the most important link to influence the government composition, and therefore, the policy outputs in representative democracies. The ESS survey locates the respondents' self-reported participation in the last general election ('vote', yes/no/not eligible). A potential bias to consider with this measurement is the time-related problems: ESS measures current health conditions, but records past participation when the health condition may not have been present yet.

The second outcome to be observed under the inequality of representation is the differences of policy opinions between the health groups. I selected social protection specific opinions because these are highly relevant and consequential for the primary condition of the individuals observed here, their health status. It is consequential, because an inequality in the representation of the health groups' specific opinions on social protection could uphold or even worsen the baseline health inequalities. For the same reason, it is relevant for the respondents with poor health, and therefore, a variance is expected in the opinions between health groups.

The ESS standard module contains questions on how much government should be involved in 'ensuring safety from all threats' ('ipstrngv', 1-6), and how much the government should reduce 'differences in income levels' ('gincdif', 1-5). In the case of the government protection variable, even though its sufficiency as a proxy could be easily argued for, there is a threat that this question diffuses health-induced preferences with ideological values. The

preference for reduced income gaps on the other hand offer a more explicit measurement of preferences on redistribution, addressing an important cause or consequence of health status: Financial hardships. Finally, there is also a health policy specific question on how respondents would evaluate the state of health services in their country ('stfhlth', 1-10). This offers good proxy for how much more (less) public spending the different health groups could see necessary on healthcare.

It is likely that these questions which differ on the specificity of the social protection measures would show different extent of variance between health groups. In sum, the three separate measures of social policy opinions can give us a clue on what extent health makes individuals to hold different opinions: The differences are only motivated by and restricted to questions that concern their specific life situation and interests, or whether there is a broader attitudinal separation, and health status changes the underlying values as well.

Explanatory Variables:

The explanatory variable selected for this study is health status. There is a major trade-off in the modes of the measurement of this variable. Self-reported health (SRH) is probably the most frequently used operationalization of the individuals' health status. The advantage is that it offers a flexible, inclusive measurement of a variety of health issues since it is an open question about self-perceived general health. The disadvantage is that it is a fully subjective and perceptual measure which may over- or underestimate objective health status: It is exclusively relies on the individual's sensation of well-being that could be influenced by time comparisons, or other relational factors. Nevertheless, the SRH based measurement of the health status is actually not out of touch with the objective reality, and SRH corresponds well to objective health conditions (Jylhä, 2009). However, it can rather predict precisely only the physical conditions (Mavaddat et al., 2011), and there is an overall concern how much it can capture mental conditions. Therefore, SRH is still not without critic. Second, creating a list of specific chronic conditions is also a viable option for the more objective measurement of health in this study. The potential problem with these closed lists is that there is a multitude of health issues that are hard to be exquisitely enumerated in survey

questions, and therefore, any objective measure of general health status will be restrictive, and may incorrectly classify unhealthy individuals as healthy, given that the respondent's specific condition is not in the closed list. In turn, this condition could still determine preferences, and/or hinder participation.

The ESS standard module includes the SRH question, asking respondents about their general health ('health', very good-very bad, 1-5). As an extra robustness check, I will also utilize the ESS7 rotating module on health, which includes several questions about the availability of chronic conditions that hamper the respondent's daily activities ('hltph.', yes/no). The conditions included heart and circulation problems, high blood pressure, breathing problems, allergies, stomach or digestion issues, skin issues, severe headaches, and diabetes. When classifying people into healthy and unhealthy, I collapsed these variables into a binary variable where any respondent who mentioned at least one of the hampering chronic conditions was coded as unhealthy.

Variable Name	ESS Questionnaire	ESS Code	Original Scale	New Scale
Voted at the Last National Elections	Some people don't vote nowadays for one reason or another. Did you vote in the last [country] national election in [month/year]?	vote	1-3: Yes - No - Not eligible	0-1: No - Yes
Government Protection	It is important to her/him that the government ensures her/his safety against all threats.	ipstrgv	1-6: Very much like me - Not like me at all	1-6: Not like me at all - Very much like me
Reduce Income Gaps	The government should take measures to reduce differences in income levels	gincdif	1-5: Agree strongly - Disagree strongly	1-5: Disagree strongly - Agree strongly
State of Healthcare	What do you think overall about the state of health services in [country] nowadays	stfhlth	1-10: Extremely Bad - Extremely Good	–
Self-Reported Health	How is your health in general?	health	1-5: Very good - Very bad	Good (1-2) - Fair (3) - Poor (4-5)
Hampering Health Condition	Which of the health problems that you had or experienced in the last 12 months hampered you in your daily activities in any way? [health condition]	hltph.	0-1: Marked - Not marked	Collapsed all conditions: 0-1: Marked - Not marked

Table 1: Variables Coding and Source Questionnaire

Moderators and Controls:

As I laid out in the previous chapter, income and education are considered for their potential moderating effect on the studied relationship between health status, policy preferences and voting. Both variables are available in the general ESS modules. For income-level, there are two operationalizations available: either the perceived economic well-being of the individual ('hincfel', 1-4) or the reported household-level incomes ('hinctnta', 1-10). Whilst the latter is less subjective, it usually suffers from high non-response rates, in contrast with the perceived income. As this is the case for ESS7 too[3], perceived economic well-being is selected for the analysis. For education-level, standard ISCED categories are available ('eisced', 1-7).

Besides the individual-level moderators – income and education – which will be also used as control variables in the baseline models, I will consider the following controls based on prior literature: Gender, age, and the cohabitation with a partner (Mattila et al., 2013, 2017; Pacheco & Ojeda, 2020; Reher, 2021). Some of these variables are clearly earlier in the causal chain than health (age, gender), and can both influence health, and policy preferences and participation, whilst health cannot influence these covariates.

The relationship of health with the other controls (income, education, partner) is more complicated, and likely to be reciprocal – since we are not exclusively taking into account only the illnesses which are present from early life. Income, education or cohabitation with a partner can influence health in later life-stages (both physical and mental conditions), while health conditions in the early life can influence later economic resources and social status. Furthermore, these controls can arguably be associated with policy preferences and participation too (Verba et al., 1996; Breznau, 2010). Therefore, these variables can be both confounders or mediators in the relationship between health status and political behavior. Nevertheless, in order to gauge the direct effect of health, they will need to be controlled for – regardless of their causal role.

[3] The number of the missing values for the reported household income is 8296 (21%), while for perceived economic well-being the same number is only 376 (0.01%)

Modelling Strategy

In the first stage of the analysis, evidence is collected for the general health inequality hypotheses (*H1-H2*). First, voting will be regressed on SRH and hampering chronic conditions in a binomial logistic regression (logit) model. These baseline models will also condition for the control variables. As a result, both the separate effect of health and the relative size of the effect can be gauged compared to the other socio-economic and demographic variables. For the policy preferences, the same strategy will be used to derive evidence, now using a ordinary least squares (OLS) regression for the categorical outcomes. These coefficients interpreted together will allow us to see whether poor health individuals have an inequality in representing their probably distinct opinions from the general population.

In the second stage of the analysis, the added level of the potential representation inequality of the poor health individuals is assessed through the analysis of the moderating effects of income and education (*H3-H6).* As discussed previously, the main moderating effect to be observed is how income or education changes the relationship between health groups on the participation likelihood and policy preferences, and how income or education changes the poor health group's average opinion. Therefore both the relative, between group, and the absolute, within group changes will be objects of interest in investigating these additional inequalities in representation. To assess the relative changes between the health groups at different moments of the moderating variables, two-way interactions will be included in the extra models of the stage one regressions, and these will be plotted as well for the ease of interpretation. To assess the absolute changes in participation and opinions as an effect of income and education, first these plots will be visually analysed. Additionally, sub-population regressions will be also conducted within the poor health group, where I will include these moderators as the explanatory variables in order to analyze their numeric effect on the outcomes.

4 Analysis

In this chapter, I discuss the results of the statistical analysis on the obtained data. I begin with the description of data and the bivariate relationships between health, participation and policy opinions. Then, I turn to the multivariate models to look for an evidence for the hypotheses on the effects of health status, and the structure of representation inequalities in health. The links to access the unique data set, the code book, and the coding script produced for this analysis can be found in Appendix A.

Description

The sample is constructed based on the ESS Wave 7 data (2014). 20 European countries and Israel have participated in this round[4]. The survey implemented a multi-stage, random probability sampling in each countries[5]. The size of the obtained cross-country sample is therefore 40185 observations – before excluding missing data. The units of the analysis are the individual respondents.

Missing observations were excluded before performing the calculations[6]. After the exclusion, the resulting sample had 33936 and 32273 observations. In the case of the SRH, approximately 66% reported excellent or good health condition, approx. 26% a fair health condition, while approx. 8% indicated that their health is bad or very bad. In the case of the hampering conditions, approx. 77% did not indicate any conditions from the closed list, while approx. 23% indicated at least one of the conditions.

[4] Austria, Belgium, Switzerland, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France United Kingdom, Hungary, Ireland, Israel, Lithuania, Netherlands, Norway, Poland, Portugal, Sweden, Slovenia.

[5] See more details on the dataset and the methodology at `https://www.europeansocialsurvey.org/methodology/`

[6] Find the summary of the missing data in Appendix B. In the case of voting, the large missing observations are attributable to respondent who were not eligible to vote at the time of the survey.

Table 2 describes the characteristics of the sample used for the analysis[7]. It shows the mean values for the control variables across the different levels of the explanatory variables. In general, groups with worse health conditions tend to be older, female, less wealthy and less educated, and are also less likely to live with a partner. The imbalanced distribution of the key socio-economic and demographic variables within the health groups highlights the necessity of the co-variate-adjusted regression models, because of the potential confounding relationships.

	Self-Rated Health	$n = 33936$		**Hampering Condition**	$n = 32273$
Mean	Good	Fair	Poor	Not Mentioned	Mentioned
Age	46.8	58.2	63	50.3	53.8
Gender (1 = F)	0.51	0.56	0.60	0.51	0.60
Education (1-7)	4.27	3.56	3.03	4.00	3.77
Income (1-4)	3.20	2.86	2.52	3.12	2.92
Partner (1 = Yes)	0.65	0.61	0.52	0.64	0.59
n	22383 (66%)	8912 (26.2%)	2641 (7.8%)	24926 (77.2%)	7347 (22.8%)

Table 2: Sample Characteristics by Health Groups

When it comes to the bivariate relationships between health and participation, both operationalizations of the health conditions lend some preliminary support to the main hypotheses. Figure 1 summarizes the relationship between the SRH or the hampering health conditions, and the likelihood that the respondent reported a participation in the general elections. Without controlling for the potential cross-cutting effects of the key demographic variables, self-reported health status seem to decrease voting likelihood by 8% points. These preliminary associations support my assumption (*H1*). Measuring health by the availability of a hampering health condition shows a negative relationship too in terms of voting likelihood, but the size of this effects is significantly smaller: The difference in reported voting is reduced to approximately 2% points.

[7] Appendix C also includes plots to assess the covariate balance across health groups in terms of standardized mean differences between the covariates.

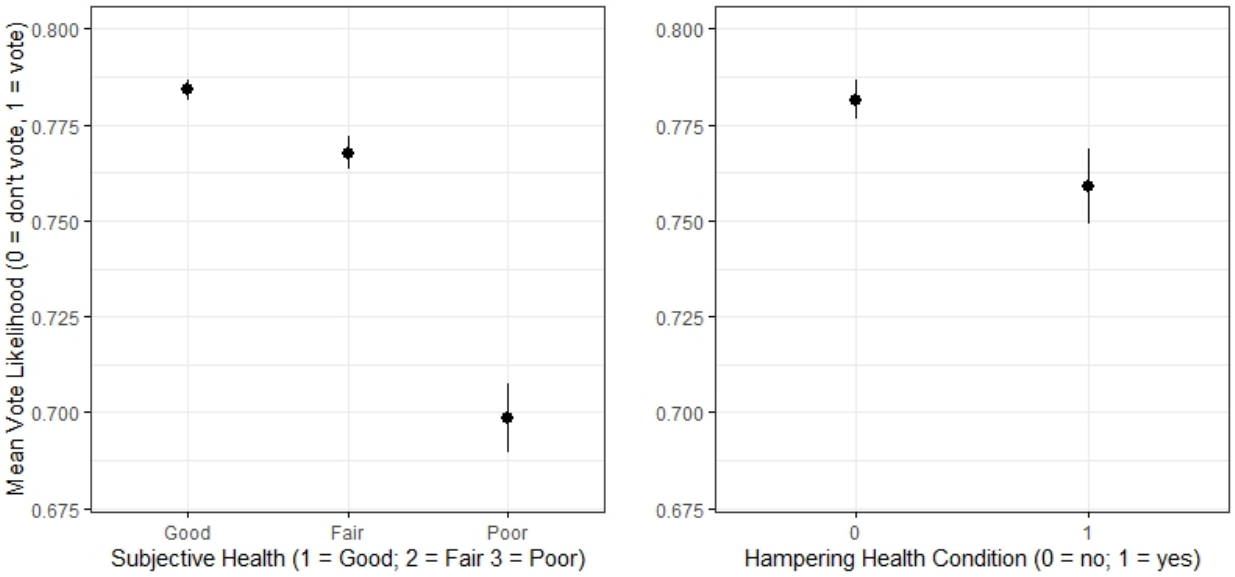

Figure 1: Plotted Means of Voting Likelihood - Bivariate Relationships

However, this variable arguably captures only a part of the potential health conditions that may hinder participation in the elections. In contrast, these types of health conditions are successfully captured by the more flexible measurement of self-reported health. In the sample, there are 1193 respondents who reported poor health, but at the same time did not mention a hampering health condition. This is almost 39% of all individuals with poor self-reported health. Arguably, their inclusion as healthy in the hampering condition-based measurement of health closes the expected participation gap between healthy and not healthy. Furthermore, there is also a significant number of people who indicated a hampering health condition, but still answered the SRH as 'good': 3724 people – which amounts to the 9% of the total sample – fits this category.

When it comes to SRH and the policy preferences on redistribution, the preliminary associations in Figure 2 support *H2* which anticipated a higher support for government responsibility (approx. 5% points), for reducing income gaps (approx. 8% points), and a more negative assessment of the state of healthcare (approx. 10% points) in the poor health group compared to the healthy group. Similarly to the case of participation, the SRH-based measurement of health shows larger effect sizes compared to the availability of a hampering

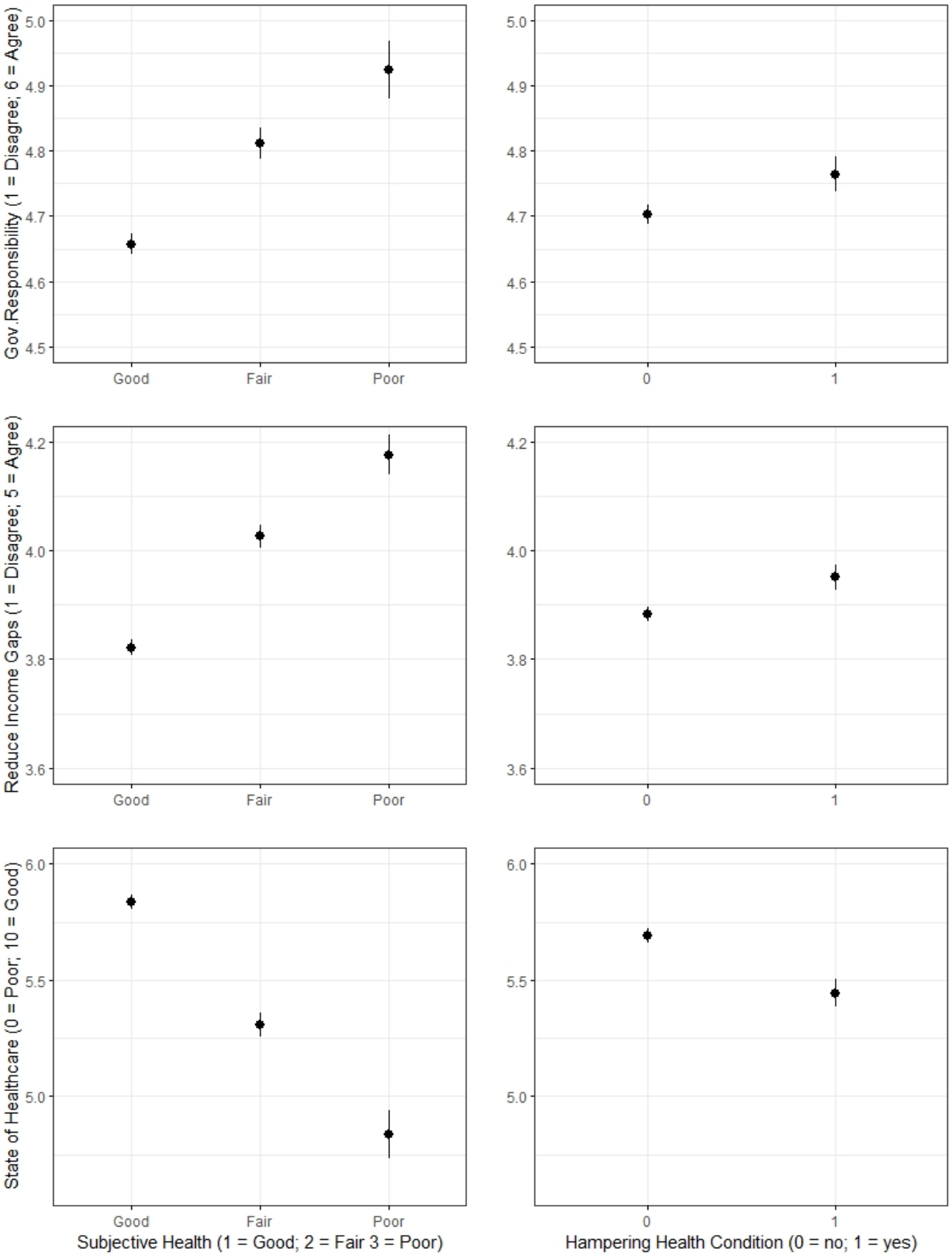

Figure 2: Plotted Means of Policy Preferences - Bivariate Relationships

health condition. In the case of the latter, the differences in the policy domains decrease to a minimal level. For the government responsibility and income gaps it is effectively zero percentage points, while for the state of healthcare it is approx. 4% points.

So far these preliminary associations suggest that individuals with lower health are less likely to participate in the general elections compared to the fully healthy people. When we measure health by a more objective variable – but also a more restrictive one, as argued previously –, this effect shrinks significantly. But do people with poor health – who are more likely to stay home in elections – hold distinct preferences from the healthy – and politically more active – individuals? The depicted relationships hint at some differences, especially in the case of the assessment of the state of the national healthcare system. This also lends some support for the self-interest theory (Mattila et al, 2017), as the health-specific policies have a relatively greater personal relevance for people with poor health conditions.

Multivariate Results

Now, I proceed to the discussion of the multivariate analysis which aims to achieve two goals: First, these models can help us to test the effects of health condition on voting and distributive preferences against other, and potentially confounding socio-economic factors such as age, gender, income, education, or living with a partner. This will not only show whether health has a *separate effect* on the examined outcomes, but will also show its *relative importance* compared to other influential factors. Finding out the role of health status in the political behavior – whether it has only an indirect or mediating effect, or if it works as a direct cause – is an important inquiry for the policy-making when different solutions are designed for increasing the political representation of vulnerable groups in society.

Second, the multivariate models will also allow us to dig deeper into the relationship between health status and other significant socio-economic variables, such as income and education, through their interaction effects. This will help to answer whether at higher levels of these variables poor health individuals are more likely to participate *and* have different opinions, or the influence of health status stays robust to participation and/or

policy opinions. This step is crucial to gather evidence for the hypotheses on the intersectional inequalities in health representation.

Participation

Participation in the elections is analysed with the help of binomial logistic regression (logit) models due to the binary outcome. Table 3 shows all the model specifications with the SRH variable that I used to analyse the relationships between health and participation. For now, the the model of interest is the baseline model (Model 1).

This shows the separate effect of health on the participation likelihood in the general election when controlled for other variables. The SRH coefficient is negative and significant (β = -0.490,p $<$ 0.001). Since the coefficients show the log odds, for the ease of interpretation, I calculated the predicted probabilities of voting in each health group based on Model 1 (Table 4). Individuals with poor health status are approximately 9% points less likely to participate in the elections compared to the fully healthy individuals. Again, this effect was acquired while other variables were kept constant in the model. Therefore, the magnitude and the significance of the health effect on voting virtually remained the same as in the bivariate model. This is a quite surprising result, considering the reciprocal relationships between social status and health: Where each variables can be a cause of the other, or the mediator of the other's effects on our outcomes.

Beyond confirming the substantial and separate effect of health on participation, it is also worth to compare this effect to the other variables that were shown to influence participation. When we look at the coefficients in Model 1, we can see that the size of the health effect is greater than the effect of a unit increase in income (1-4) (β = 0.307 ,p $<$ 0.001), a unit increase in education (1-7) (β = 0.200,p $<$ 0.001), or living with a partner (β = 0.333,p $<$ 0.001). However, when we compare the lowest and highest income and education groups, the differences that add up are much greater. Health has a separate and substantial effect on turnout, but it would be an overstatement to say that it is in par with income or education (Pacheco and Fletcher, 2015) based on the current analysis.

Table 3: Logit Regression Models, Voting by SRH and Hampering Conditions

	DV: Voted Last Election					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	β/SE	β/SE	β/SE	β/SE	β/SE	β/SE
SRH:Fair	−0.191***	0.114	−0.115			
	(0.033)	(0.111)	(0.072)			
SRH:Poor	−0.490***	−0.127	−0.408***			
	(0.051)	(0.140)	(0.100)			
Hampered				−0.100***	−0.256**	−0.222***
				(0.033)	(0.109)	(0.074)
Income (1-4)	0.307***	0.354***	0.306***	0.331***	0.316***	0.330***
	(0.017)	(0.022)	(0.017)	(0.017)	(0.020)	(0.017)
Education (1-7)	0.200***	0.199***	0.208***	0.206***	0.206***	0.198***
	(0.008)	(0.008)	(0.010)	(0.009)	(0.009)	(0.010)
Female	−0.087***	−0.087***	−0.088***	−0.101***	−0.101***	−0.102***
	(0.027)	(0.027)	(0.027)	(0.028)	(0.028)	(0.028)
Age	0.030***	0.030***	0.030***	0.028***	0.028***	0.028***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Partner	0.333***	0.335***	0.333***	0.339***	0.339***	0.338***
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
SRH:Fair × Income		−0.106***				
		(0.037)				
SRH:Poor × Income		−0.138***				
		(0.051)				
SRH:Fair × Education			−0.021			
			(0.018)			
SRH:Poor × Education			−0.025			
			(0.029)			
Hampered × Income					0.056	
					(0.037)	
Hampered × Education						0.035*
						(0.019)
Log Likelihood	-16,814.210	-16,808.010	-16,813.290	-15,913.910	-15,912.770	-15,912.180
Observations	33,936	33,936	33,936	32,273	32,273	32,273
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 3 shows the same models after changing the health variable to the hampering health conditions. Similarly, Model 4 offers the baseline results. The coefficient for health is still negative and statistically significant (β = -0.100, p $<$ 0.001), however there is a remarkable change in the size of the effect: After deriving the predicted probabilities of voting based on Model 4 (Table 4), the difference between individuals of poor and good health shrinks to only 2 % points.

Self-Reported Health	**Predicted Prob. of Participation**
Good	0.81
Fair	0.78
Poor	0.72
Hampering Condition	**Predicted Prob. of Participation**
Not Hampered	0.80
Hampered	0.78

Table 4: Predicted Probability of Participation by SRH, Hampering Condition (Model 1 and 4)

In sum, the participation gap across the health groups (*H1*) is sustained by these results. Furthermore, the effect size in the case of the SRH variable is identical to other cross-European research from earlier years (Mattila et al., 2013). Some uncertainty is posed by the results with the hampering health conditions based measurement. However, again, a closed list of these conditions may average out group differences, since many individuals with undetected, but hampering condition could be classified as healthy.

Policy Views

The participation gap between health groups have been established and confirmed by the multivariate models. This result suggests that the preferences of those who are the most affected by social policies are heard the least by policymakers. This part of the analysis focuses on the policy views of the health groups. By doing so, I proceed to the other necessary

condition of the input-sided policy representation problem of groups with poor health: The differences in their policy views on social protection. As outlined in the research design chapter, there will be three outcomes of interest: First is the government's responsibility to protect its citizens from threats, second is the preference for reducing income gaps in the society, and third is the opinion about the state of healthcare in the country. Policy views are analysed in ordinary least squared regressions (OLS).

Government Protection:

Table 5 summarizes the results for government protection. Taking the first measurement of health – the SRH –, the relevant model for the general policy views across health groups is Model 7, showing the baseline specification. In the case of OLS, the interpretation of the coefficients is straightforward: Poor health has a positive and statistically significant impact on individuals' preferences for greater involvement of the government in protecting the citizens ($\beta = 0.07$, $p < 0.01$). However, this effect is minimal: On a 1-6 scale, being in poor health condition compared to being healthy only increases the support by 0.07 points, which amounts to a 1.2% points difference only. However, it is worth to mention that the other variables' effects are not too great either: For example, a unit increase in income (1-4), decreases the same support by only 0.1 points ($p < 0.001$), which amounts to a 1.6% points change. However, comparing the extremes in income (the highest and the lowest quartile), this difference can add up to approx. 5% points in the linear models. Looking at the same relationship when health is measured by the hampering conditions (Model 10), the effect of health disappears completely ($\beta = 0.004$, $p = 0.75$). In sum, these low effect sizes show that maybe this variable is not a good proxy for measuring the preferences on social protection – confirming the concerns discussed in the research design section. Therefore, we may not want to reject the hypothesis about the differing policy views by health status solely based on this measurement.

Income Gaps:

Preferences for reducing income gaps may offer a much more explicit measure of opinions on social protection. Table 6 shows the results. Model 13 summarizes the results of the SRH-based measurement, while Model 16 the results based on hampering conditions. When it comes to SRH, poor health has a positive and statistically significant impact on these preferences (β = 0.119, p < 0.001). On a 1-5 scale, being in a poor health condition increases the support for reducing income gaps by 0.12 points, which amounts to 2.4% points increase compared to the healthy. Although this is still not a too large effect. To take this into perspective, a unit increase in income (1-4) decreases the support by 0.21 points (p < 0.001), which amounts to 4.2% points by each unit change. However, considering that the respondents' income level may be the most influential predictor of support (under self-interest theory), this difference is not too surprising. On the flip side, this could also mean that when it comes to the health-specific policy question – the state of healthcare – this difference can be the opposite, now larger based on the respondent's health status. When it comes to hampering conditions, again, the effect of health virtually disappears (β = 0.007, p = 0.606).

State of Healthcare:

Due to being the arguably the most relevant question for the health groups, I expected the differences in the effects to be the highest in the case of this outcome. Table 7 summarizes the results. Model 19 shows the results for SRH, while Model 22 for hampering conditions. In the case of SRH, poor health has a negative and a statistically significant effect (β = -0.703, p < 0.001). Being in a poor health condition decreases the evaluation of the healthcare system by 7% points. This is a much larger effect than in the case of the previous two policies. However, again, income has a higher overall predictive effect: A unit increase in income (1-4), increases the evaluation by 5.2 % points (p < 0.001). Nevertheless, it seems health groups' positions vary the most in the case of the most tangible, relevant or consequential policy domain for health status. However, again, this difference is very small when it comes to hampering conditions (β = -0.108, p < 0.001).

Table 5: OLS Regression Models, Gov.Protection by SRH and Hampering Conditions

	DV: Government Protection (1-6)					
	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
	β/SE	β/SE	β/SE	β/SE	β/SE	β/SE
SRH:Fair	0.036**	−0.166***	−0.057*			
	(0.016)	(0.056)	(0.034)			
SRH:Poor	0.070***	−0.075	−0.061			
	(0.026)	(0.074)	(0.051)			
Hampered				0.005	0.016	−0.031
				(0.016)	(0.056)	(0.036)
Income (1-4)	−0.109***	−0.134***	−0.109***	−0.113***	−0.112***	−0.114***
	(0.008)	(0.011)	(0.008)	(0.008)	(0.010)	(0.008)
Education (1-7)	−0.040***	−0.040***	−0.049***	−0.044***	−0.044***	−0.047***
	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)
Female	0.107***	0.107***	0.107***	0.103***	0.103***	0.102***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Age	0.004***	0.004***	0.004***	0.004***	0.004***	0.004***
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Partner	0.045***	0.044***	0.045***	0.043***	0.043***	0.042***
	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)	(0.014)
SRH:Fair × Income		0.068***				
		(0.018)				
SRH:Poor × Income		0.050*				
		(0.026)				
SRH:Fair × Education			0.024***			
			(0.008)			
SRH:Poor × Education			0.039***			
			(0.014)			
Hampered × Income					−0.004	
					(0.018)	
Hampered × Education						0.009
						(0.008)
Adjusted R^2	0.023	0.023	0.023	0.022	0.022	0.022
Observations	33,936	33,936	33,936	32,273	32,273	32,273
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 6: OLS Regression Models, Income Gaps by SRH and Hampering Conditions

	DV: Reduce Income Gaps (1-5)					
	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18
	β/SE	β/SE	β/SE	β/SE	β/SE	β/SE
SRH:Fair	0.073***	−0.068	0.003			
	(0.014)	(0.049)	(0.030)			
SRH:Poor	0.119***	−0.061	0.039			
	(0.023)	(0.065)	(0.045)			
Hampered				−0.007	−0.046	0.024
				(0.014)	(0.049)	(0.032)
Income (1-4)	−0.213***	−0.234***	−0.213***	−0.225***	−0.229***	−0.225***
	(0.007)	(0.009)	(0.007)	(0.007)	(0.008)	(0.007)
Education (1-7)	−0.037***	−0.037***	−0.044***	−0.041***	−0.041***	−0.039***
	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)
Female	0.123***	0.123***	0.123***	0.123***	0.123***	0.123***
	(0.011)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)
Age	0.002***	0.002***	0.002***	0.003***	0.003***	0.003***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Partner	0.025**	0.024**	0.025**	0.016	0.015	0.016
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
SRH:Fair × Income		0.047***				
		(0.016)				
SRH:Poor × Income		0.065***				
		(0.023)				
SRH:Fair × Education			0.018***			
			(0.007)			
SRH:Poor × Education			0.023*			
			(0.012)			
Hampered × Income					0.013	
					(0.016)	
Hampered × Education						−0.008
						(0.007)
Adjusted R^2	0.052	0.052	0.052	0.050	0.050	0.050
Observations	33,936	33,936	33,936	32,273	32,273	32,273

Note: *p<0.1; **p<0.05; ***p<0.01

Table 7: OLS Regression Models, State of Healthcare by SRH and Hampering Conditions

	DV: State of Healthcare (0-10)					
	Model 19	Model 20	Model 21	Model 22	Model 23	Model 24
	β/SE	β/SE	β/SE	β/SE	β/SE	β/SE
SRH:Fair	-0.393^{***}	-0.469^{***}	-0.367^{***}			
	(0.032)	(0.114)	(0.070)			
SRH:Poor	-0.703^{***}	-1.050^{***}	-0.736^{***}			
	(0.052)	(0.150)	(0.104)			
Hampered				-0.108^{***}	-0.322^{***}	-0.158^{**}
				(0.032)	(0.114)	(0.073)
Income (1-4)	0.524^{***}	0.503^{***}	0.524^{***}	0.582^{***}	0.563^{***}	0.582^{***}
	(0.017)	(0.021)	(0.017)	(0.017)	(0.020)	(0.017)
Education (1-7)	0.025^{***}	0.026^{***}	0.026^{***}	0.042^{***}	0.042^{***}	0.039^{***}
	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	(0.009)
Female	-0.292^{***}	-0.292^{***}	-0.292^{***}	-0.295^{***}	-0.296^{***}	-0.296^{***}
	(0.026)	(0.026)	(0.026)	(0.027)	(0.027)	(0.027)
Age	0.006^{***}	0.006^{***}	0.006^{***}	0.002^{***}	0.003^{***}	0.003^{***}
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Partner	-0.138^{***}	-0.139^{***}	-0.138^{***}	-0.106^{***}	-0.107^{***}	-0.106^{***}
	(0.027)	(0.027)	(0.027)	(0.028)	(0.028)	(0.028)
SRH:Fair × Income		0.024				
		(0.037)				
SRH:Poor × Income		0.132^{**}				
		(0.054)				
SRH:Fair × Education			−0.007			
			(0.016)			
SRH:Poor × Education			0.011			
			(0.028)			
Hampered × Income					0.072^{*}	
					(0.037)	
Hampered × Education						0.013
						(0.017)
Adjusted R^2	0.054	0.054	0.054	0.048	0.048	0.048
Observations	33,936	33,936	33,936	32,273	32,273	32,273
Note:						*p<0.1; **p<0.05; ***p<0.01

In summary, policy views by health conditions show some variation, and coupled with the participation gap, arguably, they pose a problem for the representation of the poorer health groups. This subsequently may create negative downstream consequences for policy outcomes, and spiraling effects for the future health conditions, closing the vicious circle. Therefore, we could say that inequality in health representation do not only have a procedural dimension, but a substantive one too. This strengthens the arguments of earlier studies which solely focused on the participation differences, but implied a substantive inequality in representation.

But how large are these effects really? Even if we take the policy domain showing the greatest variation – the status of the healthcare –, differences in opinions between the fully healthy and the least healthy is approximately half of the difference between the poorest and richest when it comes to income quartiles. On the other hand, health is not solely in the cross-section of other influential determinants of participation and opinions, but a salient life situation on its own, with consequences for political behavior, resulting in distinct, but unequally represented opinions for the people with poorer health.

Moderating Effects: Inter-Sectional Inequalities

Aggravating these inequalities *between* the health groups, I argued that there are further representation disparities present *within* the poor health group. This could be due to the cross-cutting influence of income and education in the relationship between health and political behavior. Poor health individuals with different income and education level were expected to have higher participation likelihood and more moderate views on social protection. Thus, inequalities in the represented opinions could exist on multiple levels when it comes to health. Even those who would be more likely to vote in the poor health group may be less representative of the group's opinions. This could mean that health also potentially loses its "difference-making" effect at the higher moments of these moderating variables, and poor health people who are most likely to vote – the wealthier and more educated – actually could have views that gradually converge to the healthy individuals.

Therefore, in examining the moderating role of income and education in the effect of health on political behavior, I observe how these moderators change the participation and the opinions of the poor health group (absolute change), and also how they change the distances between the health groups on the outcomes (relative change). To study the changes in the relative differences between the health groups, I supplement the interaction models in Table 3, 5, 6, 7 with the plotted interactions in Figure 3 and 4. To study the absolute changes in the average outcomes within the health groups caused by income and education, I include some extra regression models as part of a sub-population analyses (Table 8), where I use these moderators as the main explanatory variables for the poor health groups' participation propensity and opinions. This will help us to quantify the effects of income and education for poor health individuals on each outcomes[8].

Income

As an absolute effect, the poor health individuals with higher income participate at a higher likelihood[9]. However, poor health also attenuates the moderating effect of income on turnout, as visible in the divergence of the participation likelihood of the healthy and unhealthy as an effect of higher income[10]. Health status seems to really matter when otherwise other conditions/resources are present to empower participation, while at the lower levels of these, health seem to not make an extra difference since the lack of the other resources may hinder participation anyway. Even though the interaction dynamic is the opposite of what I expected (*H3*), the additional representation inequality could be still confirmed since the participation likelihood within the poor health group indeed increased as an effect of higher income.

Given this, how does income change the opinions of the poor health group? In the absolute terms, income moderates the opinion of the poor health individuals on social protection.

[8] The hampering condition based measurement of health is now eliminated from the discussion of these results in light of the minimal and/or non-significant average effects on participation, and especially on policy views.

[9] Table 8: $\beta = 0.241$, $p < 0.001$

[10] Model 2, $\beta = -0.106$, $p < 0.001$

Table 8: Moderating Effects of Income and Education on the Outcomes, Poor Health Group: Logit and OLS Models

	Poor Health Group			
	Voted (0-1)	Gov.Protection (1-6)	Income Gaps (1-5)	State of HC (1-10)
	β/SE	β/SE	β/SE	β/SE
Income (1-4)	0.241***	−0.089***	−0.181***	0.641***
	(0.047)	(0.025)	(0.107)	(0.057)
Education (1-7)	0.124***	−0.006	−0.018	0.018
	(0.027)	(0.014)	(0.011)	(0.032)
Female	−0.082	0.155***	0.015	−0.370***
	(0.089)	(0.046)	(0.037)	(0.107)
Age	0.007**	0.007***	0.004***	0.002
	(0.003)	(0.002)	(0.001)	(0.004)
Partner	0.351***	−0.007	0.091*	−0.226**
	(0.089)	(0.047)	(0.038)	(0.108)
Adjusted R^2		0.016	0.036	0.051
Log Likelihood	-1,579.285			
Observations	2,649	2,649	2,649	2,649
Note:				*p<0.1; **p<0.05; ***p<0.01

When it comes to the policy views of the poor health individuals with different income status, higher income moves poor health individuals' opinions towards less social protection in all policy domains in a statistically significant way[11]. Interestingly, as for the interaction dynamic, higher income does not make poor health people to think more similar to healthy individuals. The increasing differences between the policy opinions of health groups by the level of income show that poor health attenuates the effect of income on most of the policy domains – except for the state of healthcare[12]. As a result, in most of the cases, the higher the income the more radical opinions the poor health individuals hold compared to the healthy population.

[11] Table 8: Government Protection: β = -0.089, p < 0.001; Income Gaps: β = -0.181, p < 0.001; State of Healthcare: β = 0.641, p < 0.001

[12] Government Protection: Model 8, β = 0.05, p < 0.1; Income Gaps: Model 14, β = 0.065, p < 0.001, State of Healthcare: Model 20, β = 0.132, p < 0.01)

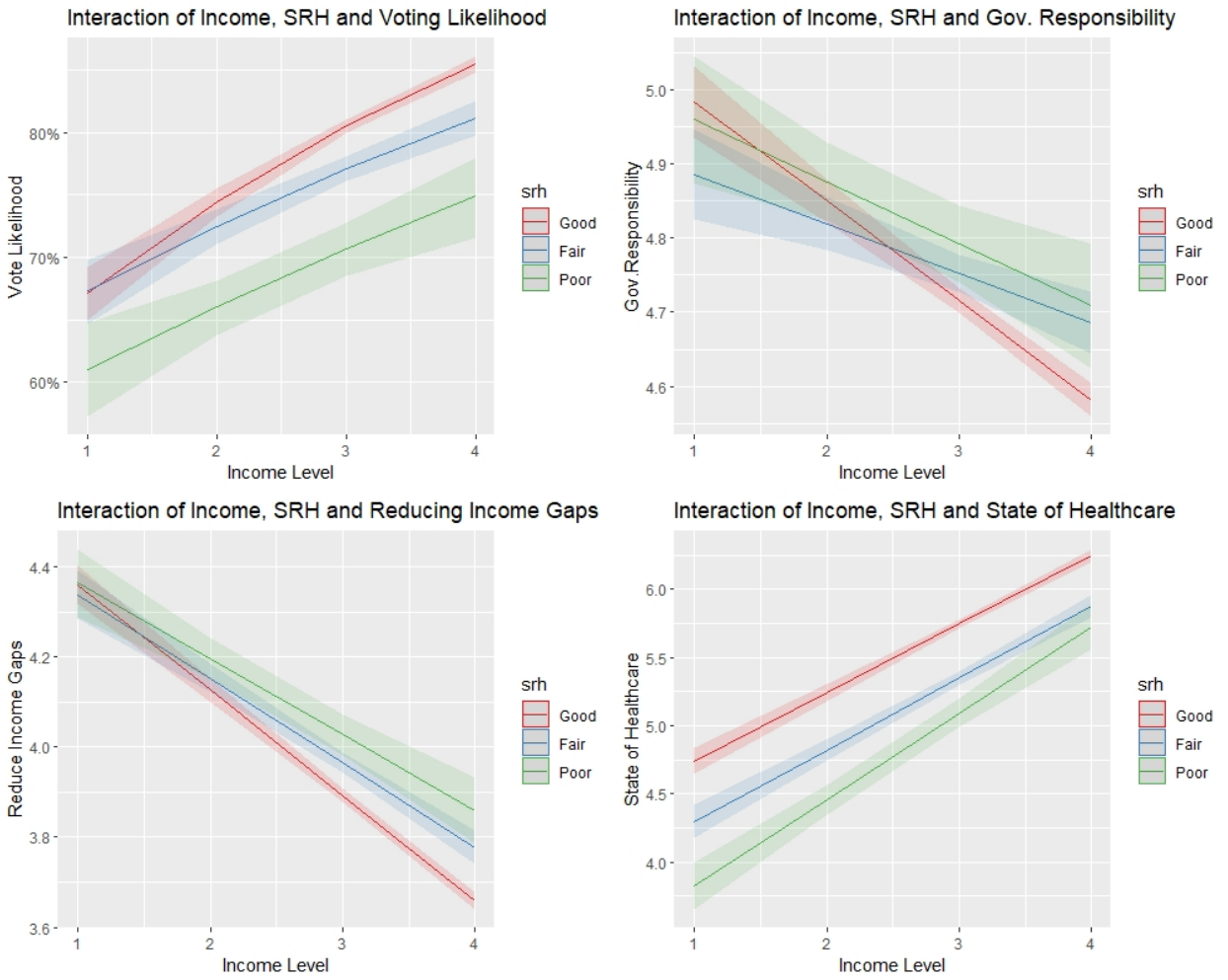

Figure 3: Interaction Plots - Health and Income on Participation and Policy Views

How can this be explained? Again, at lower moments of income, health may be only one amongst the many factors of resource scarcity which could influence preferences. People with low income but higher health, and people with low income and lower health still face similar difficulties that may make them more supportive of social protection. On the other hand, at the higher moments of income, health status opens the gap between the unhealthy and wealthier and the healthy and wealthier individuals. Health could become a salient difference-maker in opinions once it is not accompanied by the simultaneous deteriorating effect of low income. This result again refutes my assumption about the converging views of health groups as a result of higher income (*H5*). The notable exception is the state of

healthcare, where opinion differences are the largest between health groups at the lower levels of income. Quite intuitively, in this health-specific policy domain, the opinions of the less affluent is really diversified by the health status, in contrast with the more general social protection opinions which could equally be affected by income and health related disadvantages.

In sum, we see a peculiar interaction of income and health, where the former both radicalizes and moderates the opinions at the same time, depending on the perspective taken. This causes ambiguity when one wants to interpret how higher income influences the representation inequalities of the poor health opinions. However, there are two things to consider in favor of the argument for the additional representation inequality caused by income: First, even though income makes the differences between health groups' opinions more radical, in the absolute terms, it still moderates poor health individuals' opinions, and therefore – accompanied by their higher propensity for participation – creates an additional level of representation inequality. The inequality in the representation caused by income in the poor health groups is only attenuated by the health status, but not eliminated. Second, in the case of the arguably most consequential policy domain for the poor health group – the state of the healthcare –, these opinions are not only moderated by the higher income level in the absolute terms, but are becoming more similar to the healthy population's opinions as well.

Education

Similarly to income, in the absolute terms, education increases the likelihood of participation in the poor health group[13]. On the other hand, education does not widen the inequalities between the health groups' participation – as income does [14], again partially refuting my assumption (*H4*). However, given the absolute differences in the participation of the educated and less educated in the poor health group, what kind of views do these people hold?

[13] Table 8: $\beta = 0.124$, $p < 0.001$

[14] Model 3, $\beta = -0.025$, $p = 0.373$

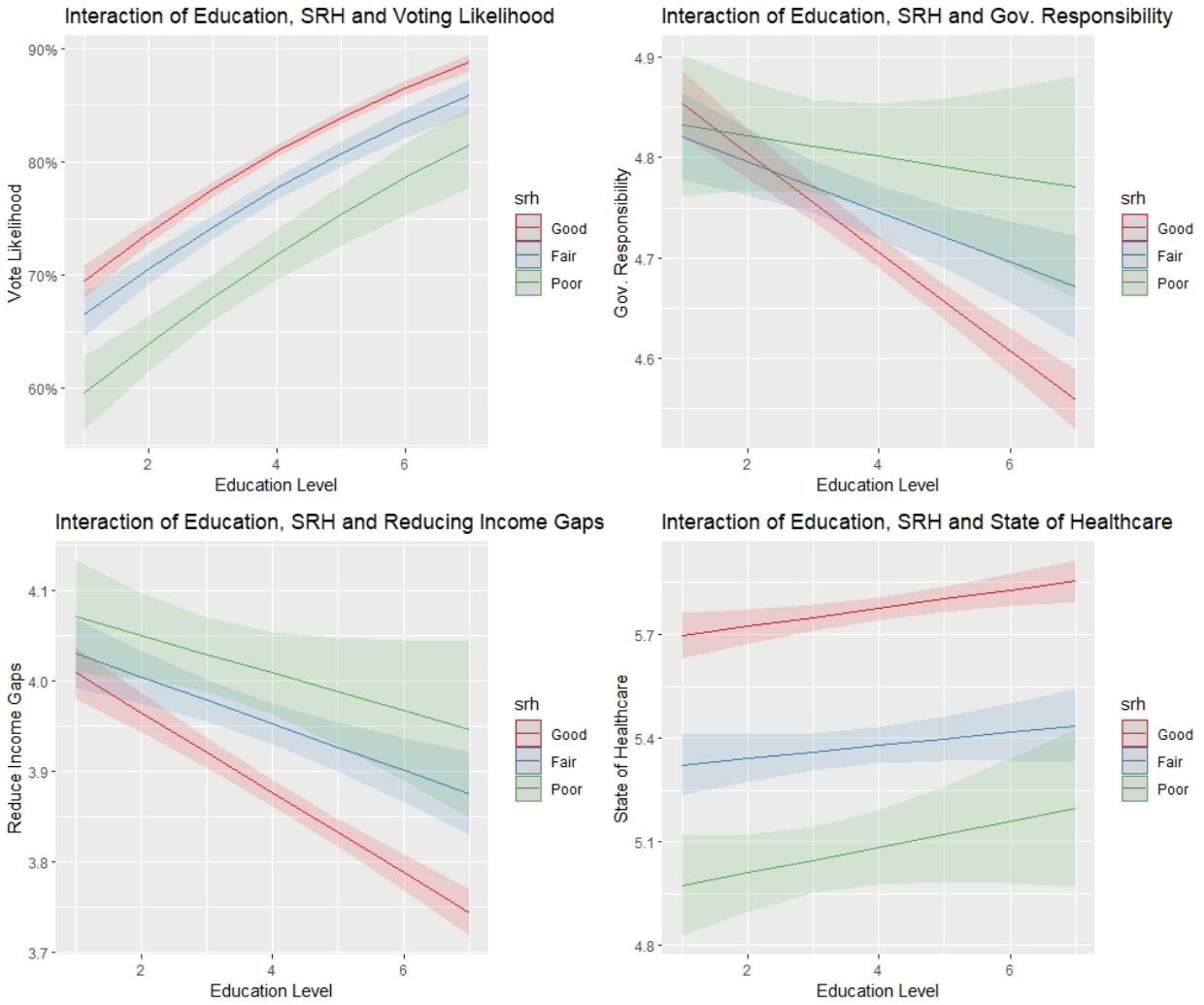

Figure 4: Interaction Plots - Health and Education on Participation and Policy Views

In contrast with income, the moderating effect of education in the case the poor health group's views on social protection is very minimal, and statistically not significant[15]. Regardless of the level of education, the opinions of the poor health individuals stay quite stable. With regards to the relative differences between the health groups, education also increases the distances between the opinions of the health groups[16]. Again, in contrast with

[15] Table 8: Government Protection: β = -0.006, p = 0.65; Income Gaps: β = -0.018, p = 0.09; State of Healthcare: β = 0.018, p = 0.56

[16] The state of healthcare questions is again an outlier, it shows some opinion convergence of the health groups by the increase of the education, but this effect is small and not statistically detectable (Model 21, β = 0.011, p = 0.691)

my assumption (*H6*), the higher level of education do not close but rather widen the opinion gaps between the healthy and the not healthy in most of the cases.

Therefore, poor health completely overrides the moderating effects of education on opinions. In contrast with income, poor health does not only attenuate the moderating role of education, and therefore diverges the opinions between the groups, but it effectively keeps poor health opinions stable across education levels also in the absolute terms. As a result, education level do not represent any additional inequality in the poor health representation: Even if it increases the poor health individuals' propensity for voting, it does not moderate their opinions at the same time.

I can conclude the following with regards to the moderation effects of income and education: The differences caused by the participation likelihood as a result of higher education do not seem to manifest in representation inequalities for the poor health individuals due to the stable nature of opinions across the educational levels. The same is not true however for the effect of the higher income: Poor health attenuates – shown by the divergence between the health groups –, but still does not eliminate the moderating effect of income on the opinions – as evidenced by the absolute effects. Furthermore, very importantly, the interaction of health and income in the case of the opinions on the state of healthcare actually underscores both the moderation and the convergence assumptions on the poor health individuals' opinions. On the crucial policy questions, the more affluent poor health individuals think more like the healthy population. Coupled with a higher propensity for the participation amongst the more affluent poor health people, arguably, there is an additional level of health representation inequality caused by income.

5 Policy Discussion

Even though participation gaps were well known between health groups, the substantial dimension of the potential representation inequality – the actual differences of the opinions – were poorly conceptualised and exposed. This aspect could crucially determine what are the actual consequences of the unequal participation. Furthermore, health status itself may not be the only source of the representation inequality of poor health individuals' opinions, as health is also intertwined with other conditions that may influence health groups' opinions and participation at the same time. After showing the differences in the policy preferences of these groups, and mapping the multiple sources of the inequalities in representing these preferences, it is time to re-expose the potential downstream consequences of inequalities, and to re-address the policy solutions available for mitigation.

Downstream Consequences

After analysing the participation and the policy opinions on social protection of the different health groups, I could find some support for a 'health bias' (Pacheco & Fletcher, 2015, 14) in the democratic representation of the health groups: Poor health individuals have distinct opinions on the desirable extent of social protection, and these opinions are not equally represented at the ballots. This representation problem could have several, interconnected downstream consequences. The unvoiced opinions may further marginalize the representation of the health minority's interests in the policy-making phase – assuming that what is not voted for is ignored by the policy-makers to a certain extent. This may then have three further consequences:

First, the *health consequences*: Unaddressed health-related needs of the vulnerable health groups may further undermine their life situation. Second, the *motivational consequences*: Unaddressed health needs may further undermine their trust in the representation system,

and their perception of internal and external efficacy. Partly related to the previous points, there are also *participation consequences*: Unaddressed health needs may increasingly expel poor health individuals from the stage of democracy. This could establish a feedback loop in the chain of these events, further worsening health status, trust and future participation. Given these potential consequences of the participation gap between health groups, some policy instruments need to be introduced in order to mitigate the sources of these inequalities in voting.

Policy Solutions

In order to open the way for tailored policy reforms in addressing the health groups' participation inequalities, I also identified the sources of these inequalities. While health indeed has a separate effect on the opinions and participation beyond the effect of other factors, this inequality is further amplified by the simultaneous effect of income on opinions and the participation. Even when we look within the poor health group, income moderates the opinions and increases the likelihood of participation – creating the conditions for an additional representation inequality. These results tell us that the representation disparities have multiple sources. Therefore, the policy challenges that aim to minimize the inequalities between the health groups' representation are at least dual. First, they need to equalize the voice representation based on the factor of health, and second, they also have to equalize the representation of the less affluent compared to the wealthier in the sick population itself.

When we focus on the potential reforms addressing the health-induced dimension of inequality, the most obvious approach is to make voting easier, or in other words, to facilitate voting institutionally. Reforms like allowing early voting, voting by mail, or other forms of absentee voting (Berinsky, 2005; Gronke et al., 2007), decreasing vote site distances (Dyck & Gimpel, 2005), or increasing the density of voting sites (Fullmer, 2015) are well known and well researched in the literature for all sort of inequalities in participation. Some studies also discussed the effect of these reforms on the participation of poor health individuals in specific (Schur & Kruse, 2014; Wass et al., 2017; Kudrnáč, 2021). Another – possibly less

known – example is the importance of the built environment around voting sites (Clarke et al., 2011). However, this institutional vote facilitation approach to health inequalities in participation often overlooks the motivational reasons, that are different from the physical reasons, the ability to vote. Vote facilitation policies also overwhelmingly prioritize the problem of physical health, and ignore mental or cognitive illnesses. The participation gaps have different roots in the cases of the aforementioned illnesses, and therefore these also have to be approached differently, through the question of political engagement (Berinsky, 2005).

When it comes to the second-level of the inequalities in representing the poor health individuals' voices – income –, there are both more instant, institutional and more long-term, structural reform options. Making election day a holiday, or holding elections on the weekend[17] could actually not only enhance turnout in general (Franklin, 1996), but could have an even larger marginal effect for those who lose the most by leaving work for submitting a ballot. Lower paid manual jobs with temporary contracts – the so called precariat (Standing, 2015) – is also strongly associated with poor health conditions (Benach et al., 2015). Therefore, minimizing the existential risks of going to the ballots could have the highest positive effect on the turnout of the most unequally represented: The poor and the sick. A consideration for caution is that some studies actually showed that although these measures could increase turnout in general, they also open the socioeconomic gaps (Berinsky, 2005) and the health gaps (Wass et al., 2017)[18] even further, since they increase the turnout of those more who are more likely to vote on the baseline.

An alternative to address the income-component of health inequality could be the introduction of some variation of a universal basic income, or conditional cash transfers (CCT). Since the level of support for the general universal basic income is ironically coloured by the health status (Mattila et al., 2017, 107-10)[19], this reform may suffer from the lack of political

[17] Although in most European countries the elections are held on the weekend, there are still some notable exceptions such as the Netherlands, or the United Kingdom.

[18] Even though, this result could be also a result of an endogeneity bias: According to Wass and her colleagues (2017), these reforms are more likely to be introduced in countries with higher health gaps in participation.

[19] It was shown in Finland, where universal welfare enjoys generally large support, and implemented for decades. Furthermore, universal basic income as an idea is in the public discourse for a while now, and a majority of the society supports it.

sponsors from the very beginning. However, maybe a lower breadth variation of universal income, or conditional cash transfers being tied to voting could be more implementable[20]. This could then have a beneficial effect on the democratic inclusion of the poor (Daïeff, 2016), or more importantly for us, the poor and the sick.

In summary, the health inequalities in representation have multiple sources. Even when being aware of this multi-dimensionality, the handling of these problems is far from straightforward. In the health component of the inequalities, we are facing both physical and motivational barriers. Institutional reforms are usually only able to address the physical dimension. Furthermore, in the case of both the health and the income components of inequality, simple institutional reforms that are supposed to enhance a more representative voting body may actually have 'perverse consequences' (Berinsky, 2005), and only increase the socioeconomic gaps. Therefore, the true equality in representation may only be achieved or approximated with structural reforms that try to enable voting through improving the life circumstances and resources of the disadvantaged individuals instead of engineering the circumstances of voting. Despite these uncertainties, health condition specific institutional solutions – such as assisted voting, or hospital voting – can still offer a targeted solution for specific causes of health biases in representation. The difficulty, however, that these reforms will only be partial, and will not treat the participation gap of the poor health individuals comprehensively, as health representation inequalities have diverse sources, forms, and consequences for the political behavior of the individuals.

[20] Naturally, one has to consider the potential side-effects, and the threat of clientilism in such voting-related payments. However, CCTs in general were shown to increase turnout and incumbent advantage through retrospective voting, but not through vote-buying or clientilism (O De La, 2013). On the contrarary, CCTs may decrease clientilism (O De La, 2013; Frey, 2019)

6 Conclusion

Summary of Findings

Inequalities of Opinions

Given the emphasis of the prior literature on the participation gap between health groups at the elections, this thesis focused on two related aspects: The first goal was to substantiate the claims of health status based representation inequality. As argued, participation inequality only poses a true democratic representation problem if poorer health individuals have distinct preferences compared to the healthy population. If their opinions remain unvoiced in elections, their minority interests in the policy output may be further marginalized. Therefore, the strategy was to expose the differences of the health groups' relevant policy opinions, which may have downstream consequences for their future well-being and political inclusion – the two being related.

The multivariate analysis on the cross-European sample showed that health is both a distinct predictor for the participation likelihood and for the social protection related opinions. Poor health individuals are approximately 9% points less likely to vote in the general elections compared to the healthy people, even when we control for other socioeconomic attributes. In contrast with the negative association between poor health status and participation, worsening health have a positive association with the support for social protection. Poor health individuals are 1.2% points more likely to think that government has a responsibility to protect its citizens, 2.4% more likely to support a reduction in the income gaps, and rate the current state of the healthcare system in their respective country 7% points lower than the healthy group.

These participation and opinion differences being coupled provide a support for a representation inequality. However, one can also say that these differences are surprisingly

modest, especially compared to the simultaneously showed effect of the income, or education on opinions. Therefore, in order to treat the real sources of representation inequalities, one should reduce the income and education gaps in participation rather than the health gaps. I would argue with this conclusion for various reasons: First, even though poor health individuals' opinions may be highly similar to people with low income or education, it does not mean that the solutions to represent these opinions better are the same too across these groups. Treating only the income or education-related causes of unequal participation may not entirely solve the distinct causes of non-participation in the case of the poor health group. Furthermore, health groups' opinions differ substantially in the case of the health-specific policy domain. Not so much a coincidence that this is arguably the most important question that poor health individuals have to have their opinions heard on, and therefore, where the inequalities are the most crucial in terms of their potential consequences.

Structure of Inequalities

Taking a step closer to solving the representation inequalities of the poor health group, I also aimed to map the structure and sources of these disparities. As it was shown, beyond the general inequalities caused by health in participation and views, there is an additional, sub-level inequality present in representation: The general health representation inequality is further amplified by the income level in the poor health sub-population: The more affluent in this group is more likely to vote, and have moderated views on social protection. Interestingly, the same is not true for education level: Even if it increases the participation likelihood of the poor health sub-group, it does not moderate significantly their views. In sum, in the case of the income, the level of affluence seems to override the effect of poor health on the opinions, even if not fully, as showed by the increasing relative distances between the health groups' opinions by higher income. The moderating effect of income is 'slowed down' when it is coupled with poor health condition compared to no health condition. Nonetheless, because of income's simultaneous effect on poor health individuals' participation and policy views, income increases the eventual representation inequalities between health groups.

Limitations

I encountered several data and measurement related limitations in this study. One consequence of this could be that the established relationships or associations may fall short of being causal. Even though some observed co-variates have been controlled for to account for confounding relationships, there is always a remaining risk of omitted variables because of the limitations of observational data. For example, such factors could be past socialization, family background (Burden et al., 2016) or social connectedness (Mattila et al., 2013). A related issue is the cross-sectional nature of the data. Panel studies, especially if conducted with poor health respondents with healthy siblings (Burden et al., 2016) – by which we can control for early life conditions – are offering stronger findings on the causality front.

Furthermore, the measurement of the health status, and the dependent variable on the policy opinions were limited in certain ways. SRH is a self-reported measurement. Despite its advantages described in the research design chapter, clearly, this measure could be imprecise. To increase the precision in separating the healthy from the not healthy, data could be collected with the help of a more latent, and thereby objective measures of health. One example is the study by Burden and his colleagues (2016) which uses three objective latent measures of cognitive and physical health such as adult intelligence scales, the Health Utility Index (HUI), or walking speed. Furthermore, several variations of health status could be and may need to be tested for. It may be a simplification to treat the political behavior of all individuals with health conditions homogeneously, especially when it comes to policy-specific questions. While SRH collapses all health conditions into a perceptual and subjective well-being measure, the longevity of the illness, or, for example, the physical or cognitive nature of the illness could offer new implications for both the participation and views of these groups.

Similarly, the measurement of the policy preferences could be refined. Due to data availability, the variables used in this study to measure the preferences on social protection were rather proxies that could diffuse other, not health status induced opinions. Given the opportunity to create a unique survey on the studied question, one could actually not only

measure the preferences for redistribution or health policies more explicitly, but could even test interesting hypotheses about to what extent poor health status can influence views, from the specific policy domains to the more general attitudes.

Future Studies

An interesting future direction could be studying the salience of the issues where representation inequalities are found. Besides studying how poor health increases the support for social protection (current study), it would be also important to know what is the relative importance of social protection or redistribution specific issues compared to other issues when it comes to these individuals. Issue salience in this case is an important question, since many, potentially different considerations go into a single, party choice at the elections. A higher support for social protection may still not be enough to argue for representation inequality if this issue carries a small salience in the individuals' eventual votes.

A second possible direction for future studies in further exploring health inequalities in representation could be the study of the supply-sided obstacles. Obviously, in representative democracies votes are not expressed on issues, but on parties and representatives. This creates choices that are a mixture of the individual's preferences, or even offer choice alternatives that completely snub certain issues from the palette. Even when assuming that poor health individuals would express their preferences at an equal likelihood, the limited choice options in partisan elections does not guarantee that their distinct preferences can also be expressed in the form of a party choice. Furthermore, if these distinct and highly salient preferences for these health groups – for example on social protection – are not represented in the elections, poor health individuals may be discouraged from voting at all. This may be an alternative explanation for why these individuals do not show up at the elections. Several options are available to study the supply-sided conditions of poor health people's participation and representation. It could be examined how the electoral system influences participation gaps (majoritarian or PR), assuming that more parties also mean a broader issue representation by parties. A similar alternative is to control for the share of left-wing

parties (Mattila et al., 2017, 90-91). Finally, issue agendas of the election cycles could be compared with regards to their potential influence on poor health group participation likelihood. This could be especially timely now, during a global pandemic, when the public policies on health and social protection are re-considered by the policy-makers.

Concluding Remarks

Studying health inequalities in democratic representation is increasingly vital not just for the health of our representative democracy, but for the health of our societies too. Political participation is a key in improving the conditions of poor health groups in the societies. In the recent years health inequalities started to increase around the globe (Mackenbach, 2020). The population is aging in many parts of the world, and the welfare systems are less and less sustainable because of the changing age composition of the societies, which could lead to even more health inequalities. There is also an elevated importance of this topic caused by the current circumstances. The COVID-19 pandemic serves as a trigger: It may worsen health inequalities further (Bambra et al., 2020), but it may also create opportunities for reforms at the same time.

In these critical times, the democratic inclusion of the most severely affected people in the societies have to be assured even more so. Guaranteeing a more equal political participation of the vulnerable health groups is the step one in the long way ahead to mitigate or eradicate future health inequalities. Their democratic participation means that the problems of these health groups can make it to the elite and policy circles of decision-making. Studies addressing the political behavior of these health groups have a crucial role in facilitating the establishment of this pre-condition for the comprehensive reforms aiming at health inequalities. Pointing out the multiple and inter-connected sources and obstacles of the democratic inclusion of poor health groups is a valuable input for policy-makers when designing adequate policy tools to dissolve participation inequalities. Therefore, future studies that explore the diverse structure of the representation inequalities of the poor health citizens are encouraged.

Appendix

Appendix A: Data Documentation

Data File – The .csv file containing the dataset with the selected and recoded variables from ESS:
https://drive.google.com/drive/folders/1XFH6XDHyi6UBXc2TvZRY7aFqIbQjEubH?usp=sharing

Code book for the dataset: URL:
https://drive.google.com/drive/folders/1XFH6XDHyi6UBXc2TvZRY7aFqIbQjEubH?usp=sharing

Coding Script of the Statistical Analysis in *R Studio*:
https://drive.google.com/drive/folders/1XFH6XDHyi6UBXc2TvZRY7aFqIbQjEubH?usp=sharing

Appendix B: Missing Data

Original Sample ($n = 40185$)	
Variables	Missing Observations (NAs)
Age	99
Gender	22
Education	266
Income	376
Partner	150
Self-Reported Health	49
Hampering Condition	2239
Voting	3826
Policy Preference: Government Protection	1291
Policy Preference: Income Gaps	706
Policy Preference: State of Healthcare	291

Table 9: Missing Data

Appendix C: Covariate Balance in Health Groups

SMD of +/- 0.1 is regarded as significant imbalance (dashed line).

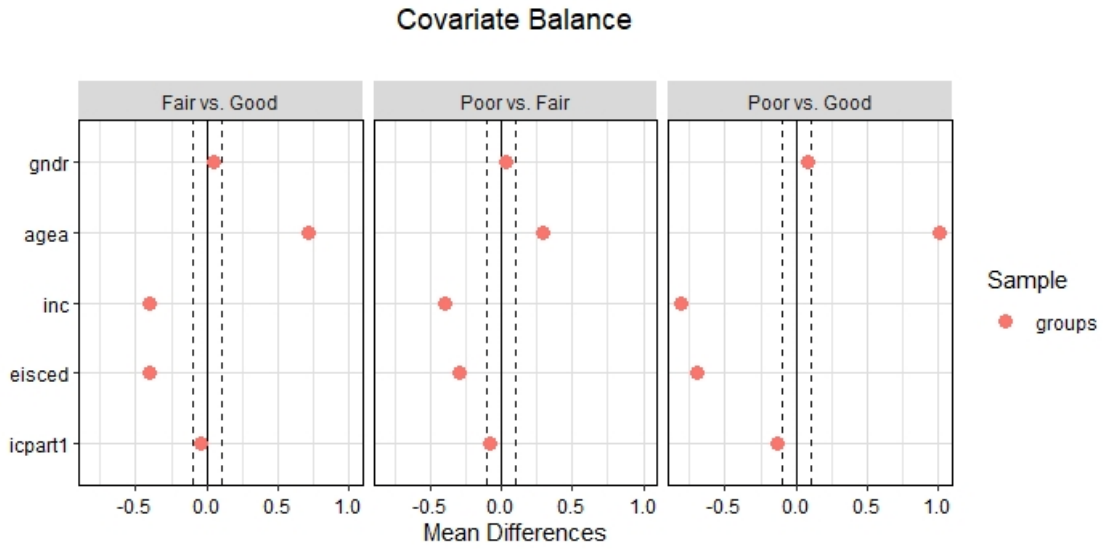

Figure 5: Love Plot for Standardized Mean Differences (SMD): SRH

Shows the SMD values in the pairwise comparisons of sub-groups.

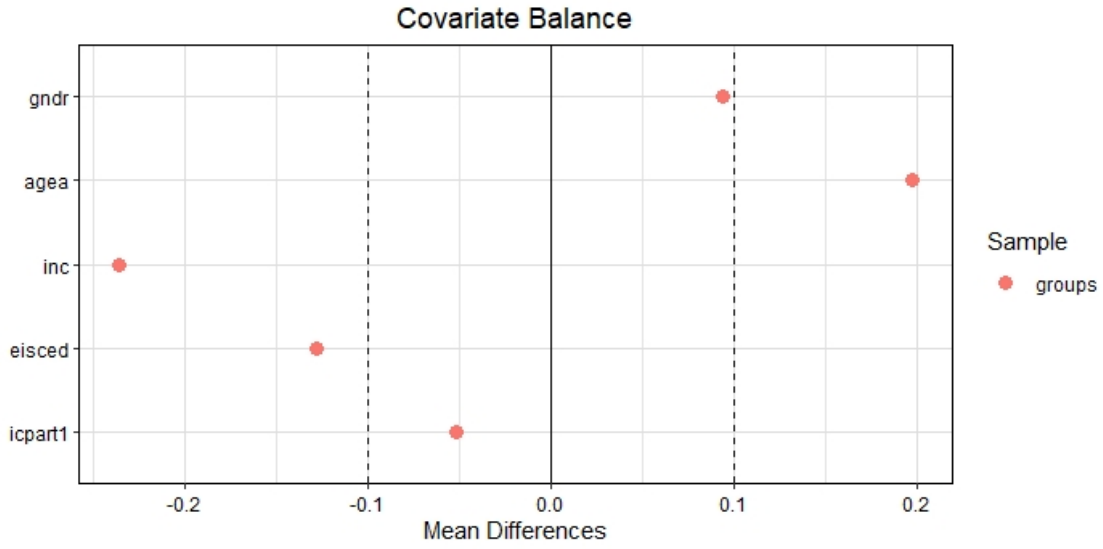

Figure 6: Love Plot for Standardized Mean Differences (SMD): Hampering Condition

Shows the SMD values of the hampered sub-group when compared with the non-hampered.

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