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GENDER AND INCOME INEQUALITIES IN SELF-RATED HEALTH IN ELDERLY PEOPLE IN ENGLAND

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ABSTRACT:

Population ageing in high income countries has led to new challenges on social and health care systems. Self-rated health as a measurement of health status is a reliable predictor of functional impairment and strongly linked to medicalization and needs of social and health services. My aim was to identify gender and income inequalities that help predict self-rated poor health in elderly population in England. Using bivariate and logistic regression analysis using the English Longitudinal Study of Ageing, I tested differences between men and women in later life by income groups in self-rated poor health, while also looking at disability, mental health, long-standing chronic illness and marital status. Women with income below the poverty line reported lower odds of self-rated poor health compared with the reference group of women with income above the median income, although this relationship was not found for men. Income inequalities are predictive of later life poor health among women even controlling for other health-related difficulties. The results may be useful in tackling health inequalities across gender lines. Further research is needed to explore life-course experiences and events that may help explain poorer health outcomes in later life.

INTRODUCTION:

Population ageing has brought new challenges to the organization and delivery of social and health care. Evidence suggests that ageing comes along with more complex health and social care needs associated with a greater likelihood of chronic diseases and disabilities in later life (Christensen 2009). Greater demands on health and care services require a policy response aimed at ensuring healthy living for older people, that is improving and extending healthy life expectancy. Understanding factors associated with poor health can help devise appropriate measures to tackle ill-health in later life.

One of the difficulties associated with tackling health and social care needs is the intersectionality of individual characteristics and social circumstances with health outcomes. For example, gender has been found to be associated with a higher prevalence of chronic diseases and disability (e.g. Hoffmann et al. 2018). In addition, health inequalities are present when it comes to prevalence of disability, mortality and depression, as well as accessibility of social care (Benson et al. 2017). By developing a deeper understanding into the factors associated with health inequalities among elderly individuals, social care and health status can be improved greatly to provide a better standard of living (i.e. disability-free years) and prevent greater financial burden that might arise with similar and more complicated health problems for a larger group of the population.

Disability and poverty are strongly associated together (for a review see Palmer 2011). Someone who is disabled may work less hours and therefore earn a lower income, but their daily needs might cost more as they require more resources than their non-disabled counterparts. In addition, those with higher income are more likely to have better health. Also, those with a higher income can also acquire better quality of social care as they have more disposable income than others in which they can spend on these services. Despite those with higher income being more likely to afford and access social care that meets their needs,

it might be that the extent to which they make use of these services is lower than those living with low income as they have better health in general.

Self-rated health is a reliable indicator of medicalization and hospitalisation (Jylhä 2009) and its related to health outcomes. For instance, Mavaddat and colleagues (2010) using data from different countries in Europe found a positive association between good physical and mental health with self-rated health adjusting by age, gender and social class. However, more research is needed to determine the relationship and extent to which gender and income intersect with health inequalities in later life controlling by existing physical and mental illnesses. This research will focus mainly on the link between disability, poverty and gender and the inequalities in self-rated poor health. The aim of this research is to analyse whether there are inequalities in the health status that need filling when it comes to those who are more economically disadvantaged so we can implement appropriate measures to guarantee a better standard of health for individuals in later life.

I will examine health status by reading academic journals that may focus on one factor each so I can gather much more in-depth knowledge. I will also be creating my own graphs and tables by using the data and information collected from the English Longitudinal Study of Ageing (ELSA) questionnaire that was conducted in May 2016 –June 2017. Within the questionnaire, it contains both a health module and a social care module which is where I will be gathering my data and statistics from.

METHODOLOGY:

The data used in this report come from the English Longitudinal Study of Ageing (ELSA). ELSA is a biennial nationally representative sample of individuals aged 50 and over living in private households in England. This panel study that began in 2002 has added refreshment samples to ensure the representativeness of the over 50s population. Wave 8 (2016/2017) was used for this research. I limited the age sample to the state pension age for both men and women, that is women aged 60 to 85 and men aged 65 to 85. The final sample size of men used in the analysis was 2,357 and for women it was 3,592.

I used SPSS to analyse the ELSA dataset. The results where then added into two tables in word format. In SPSS, I firstly had to ensure that I had split the files by gender so I could clearly see the separate results for each gender. A bivariate table for each variable included in the analysis and income was created along with a chi-square test which were both used in the formation of Table 1. In Table 2, I report the odds ratio of having poor self-rated health in men and women within the age category was being investigated. I used logistic regression analysis in SPSS to estimate the odds ratio for men and women by a series of physical, mental and social characteristics. The results are shown in table 2.

RESULTS:

Table 1 shows that men aged 65-85 at-risk of poverty are statistically significant more likely to report a difficulty with at least one Activity of Daily Living (ADL) or Instrumental Activity of Daily Living (IADL) compared with those living in better off households. As shown in Table 1, 32.2% of men living with a household income below the poverty line reported having at least one difficulty with any Activity of Daily Living (ADL) or Instrumental Activity of Daily Living (IADL) compared with just 15% of those living with an above median income (x^2= 47.02, $\mathrm{p} < 0.001$). The same trend is repeated for women in which nearly 40% of women aged between 60-85 years old living with a household income below the poverty line reported having at least one difficulty with any ADL or IADL compared with just 17.8% of women living with an income above the median. These results corroborate the link between income and disability; both elderly men and women living in poverty are more likely to have at least one difficulty with any ADL and IADL compared with those who are financially better off.

Table 1 also shows a similar pattern in the relationship between income and self-rated health across gender lines. For example, 33.2% of men aged between 65-85 years-old living below the poverty line reported having poor self-rated health compared to just 18.6% who are living with an income above the median (38.29, 0.000). Those with an income between the poverty line and median income fall in the middle of both those figures with 25.3% reporting self-rated poor health ($x^2 = 38.29, \mathrm{p} < 0.001$). For women, overall, there are slightly lower percentages reporting poor self-rated health across the income categories. Less than a third (31.6%) aged 60-85 years living at-risk of poverty reported having poor self-rated health in comparison to just 13.3% who had an income above the median income ($x^2 =$ 89.98, $\mathrm{p} < 0.001$). These results indicate the link between income and health, more specifically they point to the negative effects of living at-risk of poverty on self-rated health. Those who are economically disadvantaged have poorer health than their more well-off counterparts.

As expected, both men and women living with an income below the poverty line had higher levels of long-standing and limiting chronic illness. As shown in table 1, men at-risk of poverty are statistically significant more likely to report a long-standing chronic illness whether it is limiting or not limiting than those living in better off households. Up to 42.9% of men living at-risk of poverty reported having a long-standing illness that is limiting, by only 26.4% with an above median income who reported having a limiting long-standing chronic illness. The reverse pattern is found for those with no chronic illness, with 35.4% of men living at-risk of poverty by roughly 44% of them with no chronic illness with an income above the median ($x^2 =$ 40.78, $\mathrm{p} < 0.001$). Once again, the similar effect of income on health outcomes is found among women. As much as 42.2% living with an income below the poverty line reported a long-standing limiting illness, while only 27.6% did so among those living with a high income ($x^2 =$ 47.27, 0.000). These results show the association between income and health outcomes for both men and women in later life.

TABLE 1: Physical, mental and social characteristics of men aged 65-85 years and women aged 60-85 by categories of income (%)

Measures	MEN (%)				WOMEN (%)			
	BELOW POVERTY LINE	BETWEEN POVERTY LINE & MEDIAN INCOME	ABOVE MEDIAN INCOME	P-VALUE	BELOW POVERTY LINE	BETWEEN POVERTY LINE & MEDIAN INCOME	ABOVE MEDIAN INCOME	P-VALUE
DISABILITY								
Mentioned	32.2	25.5	15.7	47.02 (0.000)	32.9	24.4	17.8	47.72 (0.000)
Not mentioned	67.8	73.5	84.3		67.1	75.6	82.2	
SELF-RATED HEALTH								
Poor	33.2	25.3	18.6	38.29 (0.000)	31.6	23.7	13.3	89.98 (0.000)
Non-poor	66.8	74.7	81.4		68.4	76.3	86.7	
LONG STANDING ILLNESS								
Not mentioned	35.4	37.6	44.4	40.78 (0.000)	38.5	42.1	49.0	47.27 (0.000)
Yes, but not limiting	21.7	26.2	29.3		19.3	22.0	23.4	
Yes, but limiting	42.9	36.2	26.4		42.2	35.9	27.6	
SELF-RATED MENTAL ABILITIES								
Poor	18.6	12.3	7.8	36.15 (0.000)	19.3	14.0	9.8	37.52 (0.000)
Non-poor	81.4	87.7	92.2		80.7	86.0	90.2	
MARITAL STATUS								
Single	7.3	3.1	3.5	61.49 (0.000)	4.6	4.9	4.0	242.46 (0.000)
Married	68.6	79.3	84.3		48.7	68.5	78.3	
Divorced/separated	12.9	8.0	6.6		19.5	11.6	6.6	
Widowed	11.2	9.6	5.6		27.3	15.0	11.0	

Source: ELSA, wave 8, 2016/2017.

Although a smaller percentage of respondents, both men and women, reported having poor self-rated mental abilities, the association between income and mental abilities was found to be statistically significant. A little bit less than a fifth (18.6%) of men living at-risk of poverty classed their self-rated mental abilities as poor (36.15, 0.000), while this percentage was slightly higher among women at 19.3% (37.52, 0.000). By contrast, men with an income above the median reporting poor mental abilities were only 7.8%, whereas 9.8% of women with a high income had a poor mental health.

Finally, the association between marital status and income was found to be statistically significant for both men and women. While the single and married are more likely to report living with an income above the median, we found the opposite for the categories of divorced or separated and widowed. For example, the percentage of male respondents below the poverty line who reported being single decreased from 7.3% to 3.5% for those living with an income above the median. By contrast, up to 12.9% of divorced or separated men lived at risk of poverty, while as little as 6.6% of them with an income above the median were divorced or separated (61.49, 0.000). The same trend is found for married and single women, although these are more likely to be divorced or separated and widowed in comparison to men. Almost a fifth (19.5%) of women with an income below the poverty line were divorced or separated, while only 6.6% of women financially better off reported being divorced or separated (242.46, 0.000).

Table 2 shows the odds ratios of men and women reporting self-rated poor health by a series of health outcomes and socio-economic characteristics. Looking first at men, when compared with those living with an above median income, men who lived with an income below the poverty line were 34% more likely to report having self-rated poor health. Similarly, men with incomes above the poverty line but below the median income had higher odds than men with income above the median. However, the association between income and self-rated health was not statistically significant for any of the two income categories as the 95% confidence interval crosses 1. By contrast, women between the ages of 60-85 years living with an income below the poverty line compared with those with an income above the median were found to be 2 times more likely to report poor self-rated health. In a similar vein, when compared to women with an income above the median, women with an income above the poverty line had higher odds (1.68) if poor self-rated health. For the group of women, the odds were statistically significant. These results point to differences across gender in the relationship between income and health. While there is no effect of income on having poor self-rated health for men, this effect was significant for women as those with lower income reported having poor self-rated health.

Table 2 also show that when compared with men with no difficulties in any ADL & IADL, men with at least one difficulty with any ADL & IADL had higher odds (2.7 times) of reporting poor self-rated health. The odds of having poor health for women with at least one difficulty were 2.9 times higher than for those women with no difficulties. The odds for men and women are very similar, which points to no differences by gender when it comes to reporting poor self-rated health.

Table 2 shows that the odds ratios for the different categories of long-standing illnesses were found to be statistically significant for both men and women. For men aged 65-85 years old, when compared with men with no long-standing illnesses, men with no limiting long-standing illness were 2 times more likely to have poor self-rated health, and 9.8 times higher odds to have poor self-rated health if they had a long-standing illness that is limiting. Women followed the same pattern but to a slightly bigger extent. Women aged 60-85 years old were nearly 3 times more likely to have poor self-rated health if they had a long-standing chronic illness that is not limiting compared to women with no long-standing illness, and those women who

reported having a long-standing chronic illness that is limiting had 11 times higher odds to have poor self-rated health than women within the same age bracket who had no illness at all.

TABLE 2: Odds ratio of having poor self-rated health for women aged 60-85 years old and men aged 65-85 years old.

MEASURES	MEN			WOMEN		
	ODDS RATIO	95% C.I. FOR O.R.		ODDS RATIO	95% C.I. FOR O.R.	
		LOWER	UPPER		LOWER	UPPER
INCOME THRESHOLDS						
Above median income (REF)						
Below poverty line	1.338	0.980	1.825	2.061	1.540	2.756
Above poverty line and median income	1.074	0.781	1.477	1.680	1.241	2.275
DIFFICULTIES WITH ADL & IADL						
No difficulties (REF)						
Difficulties	2.719	2.133	3.467	2.895	2.367	3.568
LONG STANDING ILLNESS						
No illness (REF)						
Illness but not limiting	2.088	1.476	2.955	2.628	1.935	3.568
Limiting illness	9.826	7.246	13.327	10.899	8.403	14.137
SELF-RATED MENTAL ABILITIES						
Non- poor (REF)						
Poor	3.133	2.341	4.194	3.479	2.760	4.385
MARITAL STATUS						
Single (REF)						
Married	0.679	0.413	1.117	0.771	0.497	1.196
Divorced/separated	0.806	0.448	1.448	0.958	0.592	1.549
Widowed	0.731	0.406	1.319	0.957	0.598	1.532

Source: ELSA, Wave 8, 2016/2017.
Adjusted by: age and age square.

Men aged 65-85 years old with poor mental abilities are statistically significant more likely to have poor self-rated health than those with non-poor metal abilities. As shown in Table 2, men living with poor self-rated mental abilities have 3 times higher odds to have poor self-rated health than those without any mental difficulties. For women aged 60-85 years old, the figures were closer to 3.5 times higher the odds when compared to women with non-poor mental abilities, which shows that women with poor mental health will have higher chances

of reporting poor self-rated health in comparison with women who have non-poor mental abilities.

By contrast, no association was found between marital status and poor self-rated health. Men and women odds of reporting poor self-rated health within any categories of marital status were no statistically significant. This means that marital status has no impact on the odds of having poor self-rated health.

EVALUATION:

The results may be useful in tackling health inequalities across gender lines. Further research is needed to explore life-course experiences and events that may help explain poorer health outcomes in later life. Data should be gathered across the span of individuals' lifetime as events in early years may have major implications on how respondents answered this survey.

CONCLUSION:

The analysis has found some similarities and differences between men and women in reporting poor self-rated health. Men and women in this sample showed disparate health disadvantages in later life if they were living at-risk of poverty. Interestingly, while in the bivariate analyses it was found that there was a major disadvantage in terms of poor self-rated health for those living with an income below the poverty and between the poverty line and median income for both men and women, in the multivariate logistic regression analysis, only economically worse-off women had higher odds of poor self-rated health when compared to their better-off counterparts. In the bivariate analysis, nearly double the percentage of men reported having a limiting long-standing illness living below the poverty line than those above the median income and poverty line and this was the same for women.

When it came to disability, the bivariate analysis showed that more women living below the poverty line reported having a disability (difficulties with ADL and IADL) than men living below the poverty line. Those who were financially better off were half as likely to report having a disability for both men and women. In the logistic regression analysis, despite the very small difference between the two, we could still see that women had higher odds of self-rated poor health than men.

In the bivariate analysis, men had larger gap in those who had poor mental abilities between those living in poverty and those above the median income. The difference was smaller for women but it still followed the same trend. Interestingly in the multivariate regression analysis, women had higher odds of having poor mental abilities than men.

In both the bivariate and logistic regression analysis, marital status did not have any effect on estimating higher or lower odds of poor self-rated health.

The results indicate a different gradient of the effect of physical, mental and socio-economic characteristics on poor self-rated health by gender. The results are a first step to inform social policy and improve living conditions of men and women in later life.

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