



OPEN ACCESS

An unequal health policy landscape? Examining socioeconomic differences in acceptability and preferences for policies that aim to reduce socioeconomic inequalities in health

Sanne E Verra ¹, Maartje P Poelman,² John de Wit,¹ Carlijn B M Kamphuis¹

► Additional supplemental material is published online only. To view, please visit the journal online (<https://doi.org/10.1136/jech-2024-222449>).

¹Faculty of Social and Behavioural Sciences, Universiteit Utrecht, Utrecht, Utrecht, Netherlands
²Chair group Consumption and Healthy Lifestyles, Wageningen University & Research, Wageningen, Gelderland, Netherlands

Correspondence to

Sanne E Verra; s.e.verra@uu.nl

Received 6 May 2024
Accepted 27 June 2024
Published Online First
24 July 2024

ABSTRACT

Background This study explores socioeconomic differences in acceptability and preferences for policies that aim to reduce socioeconomic health inequalities. The investigated policies range from structural policies, requiring no individual agency, to agentic policies, which depend on the individual agency for behaviour change.

Methods An online, cross-sectional survey was conducted among 1182 participants, stratified by education and representative of Dutch adults (aged 25–65) for age and gender. Across 31 policies, including structural socioeconomic policies, structural housing and neighbourhood policies, structural and agento-structural behavioural policies (facilitating behaviour) and agentic policies (focusing on information provision for behaviour change), acceptability was measured on a 7-point scale, preferences were measured using participants' top-5 policy choices. Regression analyses examined socioeconomic differences in acceptability and preferences based on education and income, controlling for age, gender, receiving welfare, and employment.

Results People in lower socioeconomic positions were more likely to accept and favour structural socioeconomic policies, whereas those in higher socioeconomic positions were more likely to accept and favour structural housing and neighbourhood, structural and agento-structural behavioural, and agentic policies. Socioeconomic differences were the largest for agentic policies. Overall, 83.3% preferred at least one structural socioeconomic policy, while only 32% preferred an agentic policy. Most preferred was eliminating taxes on fruits and vegetables, (preferred by 41.4%), and least preferred was a campaign promoting healthy nutrition (preferred by 3.9%).

Conclusions These socioeconomic differences in policy support underscore the need for inclusive policymaking processes. Including the perspectives of people in lower socioeconomic positions helps to ensure that their needs are met.

BACKGROUND

Socioeconomic inequalities in health are widening, and it remains challenging to reduce these inequalities.^{1,2} While underlying causes of health inequalities are increasingly well-understood, there is less agreement on viable solutions.³ A better understanding of the most suitable policy solutions may help reduce socioeconomic inequalities in health.³

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Policies are often created by people from higher socioeconomic groups, but to what extent these policies align with the preferences of lower socioeconomic groups remains unclear.

WHAT THIS STUDY ADDS

- ⇒ There are socioeconomic differences in public support for policies that aim to reduce socioeconomic inequalities in health.
- ⇒ People in lower socioeconomic positions are more likely to support structural socioeconomic policies.
- ⇒ People in higher socioeconomic positions are more likely to support housing and neighbourhood, behavioural and agentic policies.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- ⇒ Current policies designed to reduce socioeconomic inequalities in health may not align with the preferences of lower socioeconomic groups, who may benefit most from structural socioeconomic policies.
- ⇒ Incorporating the perspectives of people from lower socioeconomic positions during the policy-making process is needed to ensure that their needs and preferences are considered.

Many policies are proposed to reduce socioeconomic inequalities in health,² each requiring varying levels of individual agency for behaviour change. Following Backholer *et al*'s⁴ framework, policies can be divided into structural, agento-structural and agentic policies. Structural policies target the root causes of inequality or poor health and require no individual agency.⁴ Examples are policies that enhance living conditions.² Agento-structural and especially agentic policies require the individual agency to improve health. Agento-structural policies aim to structurally encourage healthier behaviour through choice architecture, by for instance removing taxes on fruits and vegetables.⁴ Agento-structural policies have structural and agentic components. Agentic policies, however, fully depend on individual agency, for example, by providing information on healthy behaviours.⁴ Agentic policies are considered the least effective in



© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Verra SE, Poelman MP, de Wit J, *et al*. *J Epidemiol Community Health* 2024;**78**:721–728.

reducing socioeconomic inequalities in health,^{5 6} while agento-structural and especially structural policies are considered the most effective.⁷

The understanding of health is socially patterned.⁸ People in higher subjective socioeconomic positions (SEP) were more likely to consider behavioural explanations for poor health, while people with lower subjective SEPs were more likely to consider structural factors.⁸ Stronks *et al* found that when people with a higher SEP were asked to conceptualise health, they considered eating behaviours as the most important. In contrast, people with a lower SEP more frequently emphasised structural factors like affordable nutritious food.⁹

Socioeconomic differences in understandings of health could translate into socioeconomic differences in policy support.^{18 10–12} Smith *et al* examined policy support in the UK, where structural policies received more support than agentic policies. However, socioeconomic differences in support were not investigated.¹³ Socioeconomic differences have been found in politician's perceptions of policy support; biases towards preferences of high educational classes were found in Sweden,¹⁰ Belgium, Canada and Israel.¹² The Dutch policy landscape also tends to be more responsive to the needs of those with higher education.¹¹ Whether there are socioeconomic differences in support for different types of structural or agentic policies remains unclear.^{14 15}

This study

This study explores socioeconomic differences in acceptability and preferences of different structural and agentic policies that aim to reduce socioeconomic inequalities and socioeconomic inequalities in health among adults.

To assess acceptability and preferences across policy levels that require varying amounts of individual agency, the framework of Backholer *et al*⁴ was used. Backholer's structural and agento-structural levels were expanded into three levels to differentiate policies targeting socioeconomic conditions, housing and neighbourhood conditions and behaviour. The policy levels explored are:

1. Structural policies targeting socioeconomic conditions (hereafter referred to as socioeconomic policies): arrangements that aim to improve income-related, education-related and work-related circumstances. Examples are social welfare policies and protection against precarious employment.
2. Structural policies targeting housing and neighbourhood conditions (hereafter referred to as housing and neighbourhood policies): arrangements that intervene on physical living conditions. Examples are policies to improve the insulation of social housing and regulations to reduce air or noise pollution.
3. Structural and agento-structural policies facilitating behaviour (hereafter referred to as behavioural policies): arrangements to facilitate healthy lifestyles by changing the (structural) availability of products or through (agento-structural) choice architecture. Examples are restricting the availability of unhealthy foods and price reductions of healthy foods.
4. Agentic policies: arrangements that provide information to increase people's knowledge or skills, but no structural changes in choice architecture are made. Examples are campaigns on healthy eating and healthy cooking lessons.

METHODS

Study design

An online, cross-sectional survey was conducted among 1182 participants.

Participant recruitment

Participants were recruited between January and February 2024 by an online panel.¹⁶ Inclusion criteria were being between 25 and 65 years old and living in the Netherlands. Sample size calculation (power of 0.8, medium effect size of 0.2, significance level 0.05) determined 394 participants per SEP. Since educational level is the most reliable indicator of SEP in the Netherlands,^{17 18} the sample was stratified on educational level, while remaining representative of age and gender per educational level.¹⁹ 85% consented, leading to 1182 participants. Panel members receive payments based on time investment. For this survey, participants received €0.35.

Survey and variables

The survey (see online supplemental additional file 1) was written and visualised using plain language,²⁰ supporting accessibility among people with low literacy.

Selection of policies

31 policies were selected. An overview of policies per policy level can be found in [box 1](#). Online supplemental additional file 2 provides information on policy selection.

Policy acceptability and preferences

Acceptability was assessed by asking: 'How [acceptable] do you find this policy aimed at improving the health of people in socioeconomic insecurity?', on a 7-point scale ranging from very bad (1) to very good (7). The order of policies was randomised across participants. A mean score was created per policy level (range 1–7), with a higher value indicating higher acceptability.

Preferences were assessed by having participants rank their top-5 preferred policies, following Smith *et al*.¹³ The survey only showed policies that the participant rated as at least 'somewhat acceptable'. If participants rated fewer than five policies acceptable, they ranked a shorter list. Per policy level, a count variable summed how often policies from that level appeared in the top-5, ranging from 0 to 5 (with a score of 5 indicating that the participant preferred only policies from one level).

Socioeconomic position

Socioeconomic differences were assessed using educational and income level. Educational level was operationalised based on the International Standard Classification of Education (ISCED) 2011,²¹ categorised as lower secondary (ISCED 0–2), upper secondary (ISCED 3–4) or tertiary and higher (ISCED 5–8). Household equivalent income level was measured as the net monthly household income divided by the square root of the number of people living from this income,²² categorised as tertiles. The lowest income tertile included those with household equivalent incomes below €1556, the middle tertile included those with incomes between €1556 and €2200 and the highest tertile included those with incomes above €2200.

Covariates

Participants reported their age and gender (male, female, non-binary/other), both have been associated with policy support.²³ We additionally controlled for paid employment (yes or no) and receiving welfare (yes or no). Previous research suggested their

Box 1 Overview of included policies across the different policy levels**Socioeconomic policies**

- ⇒ People who receive social benefits are allowed to earn additional income through work without impacting their eligibility for social benefits.
- ⇒ People earning a very low income or very low social benefits receive additional funds.
- ⇒ All adults have the right to receive a basic income, allowing for the abolition of the subsidy system.
- ⇒ Lower taxes for people with low incomes, higher taxes for people with high incomes.
- ⇒ Increase the availability of social housing.
- ⇒ Raise the income threshold for social housing, enabling people with slightly higher incomes to reside in social housing.
- ⇒ Improved social benefits in case of job loss or illness for people with flexible employment contracts or who are self-employed.
- ⇒ More suitable workplaces for people who face barriers to employment.
- ⇒ Lower health insurance premiums and deductibles for people with low incomes.
- ⇒ Increased financial support for adults seeking education or training.

Housing and neighbourhood policies

- ⇒ Improved insulation in social housing rentals.
- ⇒ Introduce more green space in neighbourhoods with limited greenery, by, for example, making parks and planting trees.
- ⇒ Stricter regulations to reduce noise pollution.
- ⇒ Stricter regulations to improve air quality.
- ⇒ Residential areas become car-restricted, allowing fewer cars to pass through the neighbourhood.
- ⇒ Accessible and reliable public transportation throughout the Netherlands.

Behavioural policies

- ⇒ Expand smoke-free zones to outdoor spaces by establishing them in places such as terraces and public transportation stops.
- ⇒ Prohibit the opening of new fast-food restaurants in areas where there is already an abundance of fast-food options.
- ⇒ Ban advertisements of unhealthy food products on streets and in public transportation.
- ⇒ Improve the healthiness of prepared meals and pre-packaged foods through regulations on reduced salt, fat and sugar content.
- ⇒ Remove taxes on fruits and vegetables, making them more affordable.
- ⇒ Introduce a tax on added sugar, resulting in increased prices for food products that contain added sugar.
- ⇒ Increased availability of free sports facilities.
- ⇒ People with low incomes receive free gym or sport club memberships.
- ⇒ Quicker detection of and assistance for people experiencing financial difficulties or starting to accumulate debts.

Agentic policies

- ⇒ Offering free lessons to enhance health to everyone, such as classes on budget-friendly healthy cooking.
- ⇒ Information campaign promoting healthy nutrition.

Continued

Box 1 Continued

- ⇒ Information campaign discouraging making purchases on credit or in instalments.
- ⇒ Offering consultation hours to provide advice for people starting financial debt.
- ⇒ Financial education initiatives.
- ⇒ Increased local services offering assistance with letters, administration and financial matters.

relevance towards policy support,²⁴ and both tend to be socially patterned.

Missing data and statistical analyses

Complete data was collected, except for income, since 13.7% of the sample did not report their income. Multiple imputations by fully conditional specification predicted missing incomes. Educational level, age, gender, receiving welfare and paid employment informed imputation. 14 imputed data sets were created. See online supplemental additional file 3 for unimputed model results.

Analyses were conducted in IBM SPSS V.28.0. Separate regression models were run for the outcomes: acceptability and preferences. Each model included educational level and income level, gender, age, being in paid employment and receiving welfare. Policy acceptability outcomes had acceptable skewness (range -0.36 to -0.54) and kurtosis (range 0.02 to 0.32) thus were treated as continuous in linear regression models. The preference outcomes were count scores thus Poisson regression models were used. To assess goodness of fit, R^2 values (higher values indicating a better fit) and the Akaike information criterion (lower values indicating improved fit) were calculated.

RESULTS**Participant characteristics**

See [table 1](#) for sample characteristics by education. The majority had monthly household equivalent incomes over €1556 per person, this was more common among those with upper secondary or tertiary education. Half (50.7%) were women. All age groups were represented, with the largest age group aged 55–65 (39%). The majority was in paid employment (69%) this was most common among those with tertiary education. A quarter received welfare, which was most common among those with lower secondary education.

Socioeconomic differences in policy acceptability and preferences per policy level

[Table 2](#) presents estimates for policy acceptability (Model 1) and preferences (Model 2) per policy level. People with low monthly incomes considered socioeconomic policies more acceptable than those with high monthly incomes (no educational differences were found). Housing and neighbourhood, behavioural and agentic policies were considered more acceptable by people in tertiary education than by those with lower secondary education, but no differences in monthly income were found.

Model 2 ([table 2](#)) shows that people with lower secondary education and low monthly incomes considered socioeconomic policies more preferable than those with tertiary education and high monthly incomes, respectively. No educational or monthly income differences were found in preferences for housing and neighbourhood policies. Behavioural policies were

Table 1 Descriptive statistics of the study sample, based on pooled imputed data n=1182

	N (%)	Lower secondary education	Upper secondary education	Tertiary education or higher
Total	1182 (100.0)	33.3%	33.3%	33.3%
Income tertiles				
Low	388.9 (32.9)	50.1%	30.7%	17.9%
Middle	402.4 (34.0)	32.1%	33.8%	36.3%
High	390.6 (33.1)	17.8%	35.5%	45.8%
Gender				
Female	599 (50.7)	49.0%	50.0%	49.0%
Male	583 (49.3)	51.0%	50.0%	51.0%
Age				
25–34 years	208 (17.6)	18.0%	19.8%	15.0%
35–44 years	237 (20.1)	17.5%	18.8%	23.9%
45–54 years	276 (23.3)	21.3%	21.3%	27.4%
55–65 years	461 (39.0)	43.1%	40.1%	33.7%
In paid employment				
Yes	816 (69.0)	50.3%	73.9%	83.0%
No	366 (31.0)	49.7%	26.1%	17.0%
Receiving welfare support				
Yes	291 (24.6)	37.1%	21.3%	15.5%
No	891 (75.4)	62.9%	78.7%	84.5%

preferred less by those with lower and upper secondary education compared with those with tertiary education, but there were no monthly income differences. Agentic policies were preferred less by people with lower secondary education and low monthly incomes, compared with those with tertiary education and high monthly incomes.

The imputed regression estimates of [table 1](#) were similar to unimputed model results (online supplemental additional file 3). However, several additional socioeconomic effects were

identified in the unimputed data. For instance, those with the lowest incomes were less likely to prefer behavioural policies compared with those with high incomes. Only one socioeconomic effect presented in [table 2](#) did not appear in unimputed data: those with the lowest incomes were not less likely to prefer agentic policies compared with those with the highest incomes.

Socioeconomic differences in preferences for specific policies

Overall, 83.3% included at least one socioeconomic policy in their preference top-5, 53.4% included at least one housing and neighbourhood policy, 62.6% included at least one behavioural policy and 32.0% included at least one agentic policy. [Table 3](#) shows how frequently each policy was included in participants' top-5 and describes socioeconomic differences. Most preferred was the removal of taxes on fruits and vegetables (41.4%), least preferred was an information campaign promoting healthy nutrition (3.9%).

Preferred 1.5 times or more by those with lower secondary education compared with those with tertiary education (see [table 3](#)) were: (1) additional funds for people earning a very low incomes or very low social benefits (ratio: 2.5), (2) lower health insurance premiums and deductibles for people with low incomes (ratio: 2.1), (3) free gym or sport club memberships for people with low incomes (ratio: 1.7), (4) allowing people who receive social benefits to earn additional income through work without impacting their eligibility for social benefits (ratio: 1.6) and (5) more car-restricted residential areas (ratio: 1.5).

Preferred 1.5 times or more by those with tertiary education compared with those with lower secondary education were: (1) imposing a tax on added sugar (ratio: 0.2), (2) expanding smoke-free zones to outdoor spaces (ratio: 0.4), (3) increasing local services for administrative assistance (ratio: 0.4), (4) prohibiting the opening of new fast-food restaurants in fast-food-dense areas (ratio: 0.4), (5) free lessons to enhance health (ratio: 0.4), (6) quicker detection of and assistance for people experiencing financial difficulties or starting to accumulate debts (ratio: 0.4),

Table 2 Regression model estimates predicting the mean acceptability rating of each policy level (Model 1), and predicting the likelihood that the policy level was included in the counted preference top-5 (Model 2) among the full (imputed) sample (N=1182)

Outcome variable	Socioeconomic policies	Housing and neighbourhood policies	Behavioural policies	Agentic policies
Model 1: policy acceptability, R ²	0.08 (0.06–0.08)	0.07 (0.07–0.07)	0.06 (0.06–0.06)	0.07 (0.07–0.07)
Lower secondary educational level (reference tertiary)	–0.02 (0.07) ns	–0.33 (0.07)*	–0.44 (0.07)*	–0.39 (0.07)*
Upper secondary educational level (reference tertiary)	–0.01 (0.07) ns	–0.11 (0.06) ns	–0.18 (0.07)*	–0.10 (0.07) ns
Low monthly income tertile (reference high)	0.27 (0.08)*	0.05 (0.08) ns	0.04 (0.08) ns	–0.03 (0.08) ns
Intermediate monthly income tertile (reference high)	0.10 (0.07) ns	0.11 (0.07) ns	0.12 (0.07) ns	0.10 (0.07) ns
Female gender	0.01 (0.06) ns	0.08 (0.05) ns	0.17 (0.06)*	0.24 (0.06)*
Age	0.01 (0.00)*	0.02 (0.00)*	0.01 (0.00)*	0.02 (0.00)*
Receiving welfare support	0.17 (0.07)*	0.13 (0.07)*	0.06 (0.07) ns	0.04 (0.07) ns
Being in paid employment	–0.22 (0.07)*	–0.10 (0.07) ns	–0.06 (0.07) ns	0.01 (0.07) ns
Model 2: policy preference, AIC	3703.7	2385.2	2798.9	1852.9
Lower secondary educational level (reference tertiary)	0.19 (0.05)*	–0.17 (0.09) ns	–0.48 (0.08)*	–0.47 (0.12)*
Upper secondary educational level (reference tertiary)	0.06 (0.05) ns	0.05 (0.08) ns	–0.20 (0.06)*	–0.13 (0.10) ns
Low monthly income tertile (reference high)	0.15 (0.06)*	–0.07 (0.10) ns	–0.10 (0.08) ns	–0.31 (0.13)*
Intermediate monthly income tertile (reference high)	0.05 (0.05) ns	–0.03 (0.08) ns	0.06 (0.07) ns	–0.06 (0.10) ns
Female gender	–0.06 (0.04) ns	–0.06 (0.07) ns	0.16 (0.06)*	0.19 (0.09)*
Age	0.00 (0.00) ns	0.00 (0.00) ns	0.01 (0.00)*	0.00 (0.00) ns
Receiving welfare support	0.20 (0.05)*	–0.25 (0.09)*	–0.25 (0.08)*	–0.54 (0.13)*
Being in paid employment	–0.07 (0.05) ns	0.12 (0.09) ns	0.07 (0.07) ns	0.23 (0.12) ns

*Denotes significance at 95% confidence level.
AIC, Akaike information criterion.

Table 3 Overview of policies ranked from highest to lowest frequency of being included in the top-5 of the overall sample. In addition, the frequency of appearing in the top-5 are presented across the different educational levels, and preference ratios of being preferred by those with a low versus a high educational level and monthly income level are presented. Colour codes indicate policy level - dark blue: socioeconomic policies, light blue: housing and neighbourhood policies, orange: behavioural policies, grey: agentic policies.

Policy measure	Frequency of appearing in sample top-5 (%) of sample)	Frequency of appearing in top-5 among those with a low educational level	Frequency of appearing in top-5 among those with an intermediate educational level	Frequency of appearing in top-5 among those with a high educational level	Ratio of being preferred by low vs high educational level	Ratio of being preferred by low vs high monthly income level
Remove taxes on fruits and vegetables, making them more affordable.	489 (41.4)	126	174	189	0.7	0.8
Lower taxes for people with low incomes, higher taxes for people with high incomes.	358 (30.3)	147	109	102	1.4	2.3
Increase the availability of social housing.	355 (30.0)	128	122	105	1.2	1.1
People who receive social benefits are allowed to earn additional income through work without impacting their eligibility for social benefits.	337 (28.5)	137	113	87	1.6	1.6
Lower health insurance premiums and deductibles for people with low incomes.	336 (28.4)	157	105	74	2.1	2.2
Improved insulation in social housing rentals.	282 (23.9)	88	100	94	0.9	1.1
People earning a very low income or very low social benefits receive additional funds.	269 (22.8)	148	62	59	2.5	3.4
All adults have the right to receive a basic income, allowing for the abolition of the subsidy system.	269 (22.8)	76	96	97	0.8	0.8
More suitable workplaces for people who face barriers to employment.	235 (19.9)	80	78	77	1	0.8
Accessible and reliable public transportation throughout the Netherlands.	222 (18.8)	54	79	89	0.6	0.6
Introduce more green space in neighbourhoods with limited greenery, by, for example, making parks and planting trees.	213 (18.0)	52	70	91	0.6	0.5
Improved social benefits in case of job loss or illness for people who have flexible employment contracts or who are self-employed.	207 (17.5)	75	61	71	1.1	1
Quicker detection of and assistance for people experiencing financial difficulties or starting to accumulate debts.	196 (16.6)	39	64	93	0.4	0.5
Raise the income threshold for social housing, enabling people with slightly higher incomes to reside in social housing.	174 (14.7)	56	63	55	1	0.8
Financial education initiatives.	162 (13.7)	35	59	68	0.5	0.5
Improve the healthiness of prepared meals and pre-packaged foods through regulations on reduced salt, fat and sugar content.	135 (11.4)	33	39	63	0.5	0.5
Increased financial support for adults seeking education or training.	129 (10.9)	41	45	43	1	1
Expand smoke-free zones to outdoor spaces by establishing them in places such as terraces and public transportation stops.	112 (9.5)	21	38	53	0.4	0.4
Increased availability of free sports facilities.	105 (8.9)	30	38	37	0.8	1.2
Increased local services offering assistance with letters, administration and financial matters.	105 (8.9)	18	43	44	0.4	0.6
People with low incomes receive free gym or sport club memberships.	90 (7.6)	39	28	23	1.7	2
Offering consultation hours to provide advice for people starting to accumulate financial debt.	89 (7.5)	15	39	35	0.4	0.6
Information campaign discouraging making purchases on credit or in instalments.	88 (7.4)	27	19	42	0.6	0.8
Stricter regulations to reduce noise pollution.	80 (6.8)	21	37	22	1	1.1
Introduce a tax on added sugar, resulting in increased prices for food products that contain added sugar.	76 (6.4)	10	19	47	0.2	0.4
Stricter regulations to improve air quality.	74 (6.3)	18	34	22	0.8	0.7
Offering free lessons to enhance health to everyone, such as classes on budget-friendly healthy cooking.	72 (6.1)	14	24	34	0.4	0.8

Continued

Table 3 Continued

Policy measure	Frequency of appearing in sample top-5 (% of sample)	Frequency of appearing in top-5 among those with a low educational level	Frequency of appearing in top-5 among those with an intermediate educational level	Frequency of appearing in top-5 among those with a high educational level	Ratio of being preferred by low vs high educational level	Ratio of being preferred by low vs high monthly income level
Prohibit the opening of new fast-food restaurants in areas where there is already an abundance of fast-food options.	61 (5.2)	9	30	22	0.4	0.5
Ban advertisements of unhealthy food products on streets and in public transportation.	57 (4.8)	18	15	24	0.8	1.2
Residential areas become car-restricted, allowing fewer cars to pass through the neighbourhood.	52 (4.4)	19	20	13	1.5	0.7
Information campaign promoting healthy nutrition.	46 (3.9)	10	15	21	0.5	0.4

(7) consultation hours for advice for those with starting financial debts (ratio: 0.4), (8) information campaign promoting healthy nutrition (ratio: 0.5), (9) financial education initiatives (ratio: 0.5) and (10) improving the healthiness of prepared meals and pre-packaged foods (ratio: 0.5). Similar preference ratios were found based on monthly income.

DISCUSSION

This study revealed socioeconomic differences in the acceptability and preferences for different types of policies that aim to reduce socioeconomic inequalities in health. Socioeconomic policies were more often accepted and preferred by people with lower SEPs than those with higher SEPs. In contrast, housing and neighbourhood policies, but also behavioural and agentic policies that require a larger amount of individual agency to improve health were perceived as more acceptable and preferable by those with higher SEPs.

To our knowledge, this was the first study to investigate socioeconomic differences in support of policies requiring varying amounts of individual agency. Support for specific policy types has been studied, such as health behaviours,^{23 25} obesity prevention,²⁶ alcohol,¹⁵ sugar-sweetened beverages,²⁷ active transportation²⁸ or mental health.²⁹ People with a higher SEP may show greater overall support for policies than people with a lower SEP.³⁰ Still, similar to Bridger,⁸ who found socioeconomic differences in beliefs regarding structural versus behavioural causes of poor health, our findings suggest that the least privileged individuals favoured socioeconomic policies over other policies.

This preference likely arises from the large personal benefits they experience from these policies, consistent with a study showing that improving socioeconomic circumstances and associated stressors is important for improving health among the less privileged.³¹ In contrast, policy support of people in the higher SEPs was lower for socioeconomic policies and higher for behavioural and agentic policies that place more responsibility for health on individuals. Their lower support for socioeconomic policies may result from a lack of experiential knowledge of living with disadvantages.^{11 32} Similarly, their higher support for agentic policies may arise from their longer education, through which they may overvalue information provision, and overestimate the power of information provision for those with fewer means available to change their lives.³³ In contrast to socioeconomic policies, housing and neighbourhood policies received less support from those with lower secondary compared with tertiary education, potentially indicating a larger perceived benefit derived from socioeconomic than housing and

neighbourhood policies. Additionally, socioeconomic differences in environmental concerns could play a role. Many housing and neighbourhood policies relate to sustainability, and greater support for sustainability is found among those with tertiary education.³⁴

The ability of policy to meet the needs of disadvantaged populations becomes particularly concerning when considering socioeconomic differences in policy support, along with educational differences in power. The representation of the Dutch policy landscape is suggested to be highly unequal.^{11 32} People with lower secondary education are under-represented in political offices,³² and less likely to be politically active and vote than people with upper secondary or tertiary education.¹²

Although both socioeconomic indicators were associated with policy support, educational differences were most prominent. This aligns with other literature, since educational level is the socioeconomic indicator causing most segregation and differences in the Dutch context.¹⁷ Monthly household income mainly influenced support for socioeconomic policies, many directly targeting income.

All agentic policies were more preferred by those in higher SEPs than those in lower SEPs. Although many health policies focus on behaviour and agency,^{13 23 35 36} they may not align with the needs of people with a lower SEP. Behavioural and agentic policies tend to be more effective among those in higher SEPs, who have more resources available to improve their health, likely widening socioeconomic inequalities in health.⁶

The highest preference overall was found for socioeconomic policies, in line with Wagemans and Peters.³³ However, people with lower SEP more often supported these policies than their counterparts and were particularly more likely to prefer additional income support and reduced health insurance costs.

The behavioural policy level includes the most preferred policy overall: removing taxes on fruits and vegetables, also recommended by health experts.³⁷ People with upper or tertiary education supported behavioural policies more than those with lower secondary education. Offering free sports memberships to low-income individuals was the only behavioural policy more often preferred by those in a lower SEP, highlighting a need for affordable sports. Similar to Eykelenboom *et al*,²⁷ we found large socioeconomic differences in preferences to tax added sugar, those in a higher SEP were five times more likely to prefer this than those in a lower SEP. Although an added sugar tax is considered effective to reduce socioeconomic inequalities in health,³⁷ it would disproportionately increase living costs among those with lower SEP.²⁶

These results had several strengths and limitations. A main strength is the use of plain language, which limited socioeconomic differences in survey understanding. A broad range of policies were included, and not defining the responsible party for implementation prevented bias against specific actors. The stratified sampling ensured sufficient representation of all educational groups, particularly those with lower secondary education, who are often under-represented in survey research.³⁸ This allowed us to assess policy support between educational levels with the required sample sizes based on our power calculation. However, this limited the sample's representativeness. Although representative of the Dutch population in age and gender according to National Statistics,¹⁹ our sample over-represented people with a lower secondary education (33% compared with 20% in the Dutch population).³⁹ This oversampling could have led to a slight over-representations of people without paid work or receiving welfare. Using education and income as measures of SEP allowed us to capture distinct aspects: education captures access to knowledge, skills and networks,⁴⁰ while monthly household income measures more immediate economic resources. However, this does not fully capture the complexity of socioeconomic experiences. Furthermore, we did not control for health status or specific health behaviours, which likely influenced support for health policies.^{15 23} However, given the socioeconomic gradient in health outcomes and behaviours, and since these differences are largely beyond personal control, it is essential to take the socioeconomic differences in policy support seriously, regardless of socioeconomic differences in health and behaviours. Given limited budgets, future research could strengthen our results by prioritising policies based on the perspectives of different socioeconomic groups.

This study highlighted socioeconomic differences in acceptability and preferences for policies aimed at reducing socioeconomic health inequalities. Socioeconomic policies received widespread support, particularly among those with a lower SEP, while those with higher SEPs preferred behavioural and agentic policies. Strong preferences for specific policies such as affordable healthcare, sports and increasing the social minimum while decreasing the costs of living among people in lower SEPs, suggest opportunities for implementation or strengthening in the Netherlands. Above all, the socioeconomic differences in policy support underscore the need for inclusive policymaking processes that include the perspectives of people across all SEPs, particularly those in disadvantaged positions.

Acknowledgements The authors would like to thank the members of the advisory board and Robert Vonk (Council for Public Health and Society; RVS) for their input on the selection of policy measures. The authors would also like to thank Lea Dietzfelbinger for her contribution to the design of the survey.

Contributors Conceptualisation: SEV, MPP, CBMK, JdW. Data curation: SEV, CBMK. Formal analysis: SEV. Funding acquisition: CBMK. Investigation: SEV, MPP, CBMK. Methodology: SEV, MPP, CBMK, JdW. Project administration: SEV. Supervision: MPP, CBMK, JdW. Roles/Writing—original draft: SEV. Writing—review and editing: MPP, CBMK, JdW. SEV is the guarantor of this work and, as such, takes responsibility for the integrity of the data and the accuracy of the data analysis. During the preparation of this work the author(s) consulted ChatGPT to reduce the word count. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication. During the preparation of this work the author(s) consulted ChatGPT to reduce the word count. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

Funding SEV and CBMK were funded by the Innovational Research Incentives Schemes of The Netherlands Organization for Scientific Research (NWO), VIDI grant number 198-001. Data collection was also funded by this grant.

Competing interests None declared.

Patient consent for publication Not applicable.

Ethics approval Ethical approval for the study was granted by the ethics committee of the Faculty of Social and Behavioural Sciences at Utrecht University (FSW FETC 23-529). All participants read and agreed to informed consent and provided consent for participation.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request. The data used and analysed in the current study are available from the corresponding author on reasonable request.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iD

Sanne E Verra <http://orcid.org/0000-0003-4963-0153>

REFERENCES

- Smith KE, Anderson R. Understanding lay perspectives on socioeconomic health inequalities in Britain: a meta-ethnography. *Soc Health Illn* 2018;40:146–70.
- Storm I, Aarts M-J, Harting J, et al. Opportunities to reduce health inequalities by 'health in all policies' in the Netherlands: an explorative study on the national level. *Health Policy* 2011;103:130–40.
- McHugh N. Eliciting public values on health inequalities: missing evidence for policy windows. *Evid Policy* 2022;18:733–45.
- Backholer K, Beauchamp A, Ball K, et al. A framework for evaluating the impact of obesity prevention strategies on socioeconomic inequalities in weight. *Am J Public Health* 2014;104:e43–50.
- Lorenc T, Petticrew M, Welch V, et al. What types of interventions generate inequalities? Evidence from systematic reviews. *J Epidemiol Community Health* 2013;67:190–3.
- McGill R, Anwar E, Orton L, et al. Are interventions to promote healthy eating equally effective for all? Systematic review of socioeconomic inequalities in impact. *BMC Public Health* 2015;15:457.
- Albarracín D, Fayaz-Farkhad B, Granados Samayoa JA. Determinants of behaviour and their efficacy as targets of behavioural change interventions. *Nat Rev Psychol* 2024;3:377–92.
- Bridger EK. Subjective socioeconomic status and agreement that health is determined by distal and proximal factors. *Int J Psychol* 2023;58:536–44.
- Stronks K, Hoeymans N, Haverkamp B, et al. Do conceptualisations of health differ across social strata? A concept mapping study among lay people. *BMJ Open* 2018;8:e020210.
- Pereira MM. Understanding and reducing biases in elite beliefs about the electorate. *Am Polit Sci Rev* 2021;115:1308–24.
- Schakel W, Van Der Pas D. Degrees of influence: educational inequality in policy representation. *European J Political Res* 2021;60:418–37.
- Sevenans J, Soontjens K, Walgrave S. Inequality in the public priority perceptions of elected representatives. *West Eur Polit* 2022;45:1057–80.
- Smith KE, Macintyre AK, Weakley S, et al. Public understandings of potential policy responses to health inequalities: evidence from a UK national survey and citizens' juries in three UK cities. *Soc Sci Med* 2021;291:114458.
- McHugh N, Baker R, Bamba C. Policy actors' perceptions of public participation to tackle health inequalities in Scotland: a paradox. *Int J Equity Health* 2023;22:57.
- Pechey R, Burge P, Mentzakis E, et al. Public acceptability of population-level interventions to reduce alcohol consumption: a discrete choice experiment. *Soc Sci Med* 2014;113:104–9.
- PanelInzicht. Panel Inzicht - Your partner in connecting with your research audience, 2024. Available: <https://panelinzicht.nl/>
- Bovens M, Dekker P, Tiemeijer W. Den Haag: SCP & WRR; Gescheiden werelden? Een verkenning van sociaal-culturele tegenstellingen in Nederland, 2014. Available: <https://www.wrr.nl/publicaties/publicaties/2014/10/30/gescheiden-werelden-een-verkenning-van-sociaal-culturele-tegenstellingen-in-nederland>
- Kamphuis CBM, Oude Groeniger J, van Lenthe FJ. Does cultural capital contribute to educational inequalities in food consumption in the Netherlands? A cross-sectional analysis of the GLOBE-2011 survey. *Int J Equity Health* 2018;17:168.

- 19 Statline. Statline - Bevolking; Onderwijsniveau en Migratieachtergrond 2003-2021. 2020. Available: <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82275NED/table?fromstatweb>
- 20 van Bommel H, Koca S, Boland G. *Surveys for everyone, the foundation of good care [Vragenlijsten voor iedereen, de basis voor goede zorg]*. Utrecht: Pharos, 2021.
- 21 UNESCO Institute for Statistics. International standard classification of education: ISCED 2011. Montreal, Quebec: UNESCO Institute for Statistics; 2012. Available: <http://www.uis.unesco.org/Education/Documents/isced-2011-en.pdf>
- 22 Balestra C, Hirsch D, Vaughan-Whitehead D. Living wages in context: a comparative analysis for OECD countries. Paris: OECD; 2023. Available: https://www.oecd-ilibrary.org/social-issues-migration-health/living-wages-in-context_2e622174-en
- 23 Diepeveen S, Ling T, Suhrcke M, et al. Public acceptability of government intervention to change health-related behaviours: a systematic review and narrative synthesis. *BMC Public Health* 2013;13:756.
- 24 Kallio J, Kouvo A. Street-level bureaucrats' and the general public's deservingness perceptions of social assistance recipients in Finland. *Soc Policy Adm* 2015;49:316–34.
- 25 Reynolds JP, Archer S, Pilling M, et al. Public acceptability of nudging and taxing to reduce consumption of alcohol, tobacco, and food: a population-based survey experiment. *Soc Sci Med* 2019;236:112395.
- 26 Lobstein T, Neveux M, Landon J. Costs, equity and acceptability of three policies to prevent obesity: a narrative review to support policy development. *Obes Sci Pract* 2020;6:562–83.
- 27 Eykelenboom M, van Stralen MM, Olthof MR, et al. Public acceptability of a sugar-sweetened beverage tax and its associated factors in the Netherlands. *Public Health Nutr* 2021;24:2354–64.
- 28 Hosford K, Winters M, Saint-Onge K, et al. Acceptability of built environment interventions to support active travel in 17 Canadian metropolitan areas: findings from the THEPA study. *Sustain Transp Livability* 2024;1:2314024.
- 29 Nykiforuk CIJ, Thomson M, Curtin KD, et al. Assessing support for mental health policies among policy Influencers and the general public in Alberta and Manitoba, Canada. *Int J Ment Health Syst* 2024;18:8.
- 30 Kwon J, Cameron AJ, Hammond D, et al. A multi-country survey of public support for food policies to promote healthy diets: findings from the international food policy study. *BMC Public Health* 2019;19:1205.
- 31 Wink G, Fransen G, Huisman M, et al. Improving health through reducing stress': parents' priorities in the participatory development of a multilevel family health programme in a low-income neighbourhood in the Netherlands. *Int J Environ Res Public Health* 2021;18:8145.
- 32 Aaldering L. Political representation and educational attainment: evidence from the Netherlands (1994–2010). *Polit Stud* 2017;65:4–23.
- 33 Wagemans F, Peters S. Roep OM Een Overheid die Verantwoordelijkheid Neemt - Burgers over de Verdeling Van Verantwoordelijkheden Bij Grote Maatschappelijke Opgaven [call for a government that takes responsibility - societal perception of the division of responsibility towards societal challenges. *Den Haag Sociaal En Cultureel Planbureau*; 2023.
- 34 Pampel FC. The varied influence of SES on environmental concern. *Soc Sci Q* 2014;95:57–75.
- 35 Grootegoed E, Winsemius A, Noordegraaf-Eelens L, et al. Gezondheidsachterstanden aanpakken bij de bron: minder leefstijl, meer bestaanszekerheid. [Tackling health inequalities at their source: less lifestyle, more socioeconomic security]. *TSG Gezondheidswet* 2022;100:32–5.
- 36 Williams O, Fullagar S. Lifestyle drift and the phenomenon of 'citizen shift' in contemporary UK health policy. *Soc Health Illn* 2019;41:20–35.
- 37 Djojosoeparto SK, Kamphuis CBM, Vandevijvere S, et al. How can national government policies improve food environments in the Netherlands. *Int J Public Health* 2022;67:1604115.
- 38 Turrell G, Patterson C, Oldenburg B, et al. The socio-economic patterning of survey participation and non-response error in a multilevel study of food purchasing behaviour: area- and individual-level characteristics. *Public Health Nutr* 2003;6:181–9.
- 39 Maslowski R. Onderwijs. Soc Staat Van Ned 2020, 2020. Available: <https://digitaal.scp.nl/ssn2020/onderwijs>
- 40 Mudd AL, Verra SE, Bal M, et al. How to study and understand socioeconomic inequalities in health. In: Yerkes MA, Bal M, eds. *Solidarity and social justice in contemporary societies: an interdisciplinary approach to understanding inequalities*. Cham: Springer International Publishing, 2022: 117–26. Available: https://doi.org/10.1007/978-3-030-93795-9_11