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Respondents' understanding of social survey questions: Example of a question on subjective social status

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Abstract

When researchers design survey questions, they must, among other things, ensure the comparability of responses from different respondents. This means that all respondents are expected to understand the question in the same way. Precisely how the respondents understand the survey question and how they formulate the answer to it is the subject of this article. Here, we tackle this kind of problem using the example of a survey question about subjective social status (SSS) used in the International Social Survey Program (ISSP). We used a mixed methods design, specifically a sequential exploratory design, where qualitative analyses of data from cognitive interviews were supplemented with quantitative analyses of survey data. Firstly, we conducted a qualitative study in the form of cognitive interviews using the thinking-aloud technique. We conducted a qualitative analysis using open coding to identify general categories that should capture the content of the interviewees' think-aloud process. Secondly, we used regression analysis to check the correspondence between (objective) socioeconomic status and subjective social status on the data of the ISSP 2019 survey. The results of the regression analyses show that the respondents do take into account their (actual) socio-economic position when self-ranking on the social scale such as education and income. Cognitive interviews show that the respondents differ regarding which dimension of the socio-economic situation they relate to when answering the question on SSS. Furthermore, explanations of self-classification that go beyond the actual socio-economic position are possible as well.

Keywords: social survey, answering process, cognitive interviewing, thinking-aloud, subjective social status

1. Introduction

When constructing and designing a survey questionnaire for a social science survey, researchers are faced with two conceptual problems related to the measurement validity: (i) how to ensure that respondents understand a survey question in the way the researchers

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envisioned it and (ii) how to ensure that all the respondents understand this question in the same way. In other words, this is essentially a problem of conceptual equivalence of survey questions, i.e., a validity problem (Groves et al., 2009). In the article, using the example of a survey question from the International Social Survey Program (ISSP) on subjective social status, we focus on the second problem, the (un)equal understanding of the survey question by the respondents.

Many authors draw attention to this problem in connection with so-called naïve empiricism, that is, a belief that data can be separated from theory and interpretation, that data and empirically validated claims should be privileged in knowledge development and that data are capable of revealing the objective truth (Alvesson & Deetz, 2021). In reality, however, we must understand social science research data at least in part as constructions made within the research process as a whole. For example, Alvesson and Deetz (2021)) claim: "The research texts produced, even if anchored in ambitious empirical studies, are 'literary' products". We do not mean that researchers consciously and deliberately construct data that would confirm their hypotheses. It is about the mismatch in understanding the measured concept between the researcher and the respondents. This means that in a social survey research the survey data "emerge" also as a result of a combination of the survey situation and this mismatch (communication noise), but not only as a "neutral" reflection of the phenomenon that the researcher wants to measure.

Here we will focus on the problem of understanding the measured concept on the respondents' side: it is about the question whether all respondents understand the concept in the same way, regardless of how the concept is defined (understood) by the researcher. This is especially important when we are interested in the respondents' (subjective) attitudes towards some complex social phenomenon. These are, for example, survey questions about trust in general or about institutional trust, questions about social inequalities, attitudes towards the environment, etc. These also include various survey questions in which we ask respondents about their subjective feelings regarding their objective situation. Such are, for example, questions about life satisfaction, health status, and socio-economic status. Specifically, we will illustrate this problem here using the example of a survey question on subjective social status (SSS) used in the ISSP survey. With the help of cognitive interviews, we will try to reveal what the respondents think about when answering such a question. So, we will tackle the problem of recalling information, which is one of the key phases in the process of answering the survey question (e.g., Strack & Martin, 1987). We are also (at least indirectly) interested in how the cognitive interview method is useful in the context of such a research problem. Based on the ISSP data, we will supplement the results of the cognitive interviews with a quantitative analysis of the association of SSS with dimensions of objective social status. We will, therefore, carry out a research design combining qualitative and quantitative methods, which is not common practice in this type of research problem. Such an approach can be useful both in the case of developing survey questionnaires and in additional clarification of the results of quantitative analyses of survey data.

2. Some aspects of measuring subjective social status and the problem of equivalence

In surveys on social inequalities, researchers often include the so-called SSS as a socio-economic (class) position dimension (see, e.g., Diemer et al., 2012). Roughly speaking, we can talk about two forms of operationalization of this concept in social surveys: (i) a question where the answers are offered in the form of nominal categories, or (ii) in the form of a question where the respondents place themselves in the social hierarchy on a

quantitative (numerical) scale. The question with a numerical scale is also included in all the ISSP modules on Social Inequalities (as a standard background variable, it is also used in other ISSP modules since 2002). In the initial period of ISSP's operation, among the background variables, an SSS question with 6 categories of class position was included (ISSP Research Group, 1995): (i) lower class, (ii) working class, (iii) lower middle/upper working class, (iv) middle class, (v) upper middle class, and (vi) upper class. This question was later replaced by the question we analyse here—a numerical scale from 0 (bottom) to 10 (top). Knowing the possible weaknesses of such a scale, the rationale for the replacement is also based on assessments of the better functioning of a more abstract numerical scale in the context of international comparisons (e.g., Evans, 2004). At the same time, this type of scale is very often used in international surveys to measure various phenomena (e.g., also in the European Social Survey). Therefore, we believe that the analysis of this question can lead to findings that go beyond the ISSP and the topic of SSS. The meaning and "value" of SSS indicators have also been discussed in (mostly quantitative) studies in which researchers analyze (i) the predictive power of objective socio-economic status (SES) for subjective ranking on the social scale (e.g., Evans, 2004) or (ii) perception of the (hierarchical) structure of society (e.g., Evans et al., 1992). Based on their analysis, some researchers conclude that, in the framework of international surveys, the question about SSS may even be more suitable for measuring class position than is the case for questions about objective status (e.g., Oesch & Vigna, 2023).

In analyses based on survey data, when data are not available for all dimensions of SES, researchers are likely to be faced with the question of whether to use a single question (indicator) such as personal income or level of education. The question also arises whether it would be acceptable to use an SSS indicator as a substitute for measuring SES. If we do this, different questions naturally arise as, for example, how the respondents understand the SSS (reaction to the concept) or, how they choose the answers on the numerical scale offered (reaction to the scale characteristics). Respondents may compare themselves with others or with themselves in the past and not necessarily anchoring themselves to their actual SES status in the process of answering the survey question. There is also a question of to what extent the indicators for SES are interchangeable with the indicator for SSS. Putting it differently, it is the question of whether we can speak of the actual conceptual equivalence of the two indicators (survey questions) measuring SES and SSS. This would happen, for example, if the researcher measured a sufficiently high correlation between the two types of indicators. For the replacement of the SES indicator with the SSS indicator to be justified, not only the mentioned correlation would be sufficient, but at the same time, it would also be expected that all (different) respondents understood the question of ranking on the social scale (hierarchy) in the same way. By this, we mean the equivalence of the measurement instrument. It is a question of whether, for example, respondents with different SES (or different ages, different genders, etc.) understand the question about subjective social status in the same way and, therefore, their answers are comparable. By measurement (and conceptual) equivalence, we mean not only the problem of cross-cultural comparability but also the problem of comparability between different categories of the same population within the same culture (e.g., Davidov et al., 2014). So, even more than the equivalence in terms of responding to the technical characteristics of the measuring instrument itself (reliability of the measuring instrument in, e.g., repeated administration), it is about understanding the concept of social hierarchy. We can say that it is a problem of the validity of the SSS measuring instrument, which includes, for example, the following: translating SSS categories into comparable categories of SES in a consistent manner, matching low SSS to

low SES, and high SSS to high SES, respectively.

Various studies find that objective SES (measured by conventional indicators such as occupation, education, and personal income) is still an important determinant of SSS (e.g., Evans, 2004; Haddon, 2015; Singh-Manoux et al., 2003). Studies show that self-classification in a society's hierarchy is not only a result of an individual's objective social position but also of his/her social environment and reference groups (e.g., Evans, 2004; Jackman & Jackman, 1973). Other studies show the importance of relative position within an individual's social network ("sociometric" status) (e.g., Anderson et al., 2012). Studies also suggest the importance of some other factors such as values, family life, health, and emotions (including happiness) (e.g., Martin-Storey et al., 2018; Steckler & Tracy, 2014). In addition to the actual (objective) SES and the influence of the social environment and reference groups, researchers also mention the so-called process of "cognitive averaging" as a factor in subjective ranking, in which past, present and expected socio-economic resources are taken into account for present self-ranking (Andersson, 2015; Singh-Manoux et al., 2003). So, when it comes to the subjective perception of one's position in the social hierarchy, it must be taken into account that this perception is different for different individuals in different social situations. Individual respondents may differ in emphasizing different aspects of SES, but many may emphasize affiliations that do not belong to SES, or their ranking may even be the result of completely subjective feelings and emotions. However, the mentioned studies do not completely reject the importance of SES, as it seems that factors different from "objective" social status (affiliations, reference groups, emotions, etc.) don't completely erase, but "merely" mitigate the impact of class and/or (objective) status differences on SSS (Evans, 2004). Against this backdrop, however, we can legitimately ask about equivalence, i.e. whether the data obtained on the basis of self-ranking on the social scale (as an indicator of SSS) are comparable between different cultures and even between categories of individuals within the same culture. This very "deficiency" can also be understood as a good starting point for qualitative studies of the phenomenon of subjective "class" and "social status" (Haddon, 2015).

3. How can cognitive interviews help to understand self-ranking on a social scale in a survey situation?

Although quantitative indicators of SSS (self-ranking on a quantitative scale) appear to reflect the respondent's actual SES to some extent, they cannot fully include and describe (or reveal) what "class" (or "social status") means to respondents in all its complexity. However, knowledge about respondents' understanding of social class and the association between SSS and SES is not yet sufficient to be able to explain the answer to the survey question about self-placement on the social hierarchy. We also have to ask ourselves what information the respondents actually recall when they are faced with the task of placing themselves on the social hierarchy in a survey situation. This information does not necessarily have any relation to the respondent's SES. It can be a response to the survey situation itself, which also includes the form of communication or perhaps the content of previous questions.

A step in this direction can be cognitive interviews (Willis, 2005), which could be used to shed light on the understanding of the measuring instrument (survey question) in general and, in our case, for SSS and the process of (self) ranking on the social scale specifically. This recall of information occurs in a survey situation that is part of a broader research process that significantly defines the conditions for the interpretation of the survey results. Interpretation calls for careful consideration of all empirical material from a multitude of angles. One of these is a process in which the entire research is produced. All gathered

empirical evidence, at least those of a social survey interview, may be seen as outcomes of the interaction between the researcher and the interviewee. Alvesson and Deetz (2021) specifically say this:

> Empirical material is the result of a complex interplay between research process-induced influence, norms and conventions for expression in particular settings [...] and the interviewee's experiences, interests [...], intentions and values. (p. 139)

As Davidson (1988) notes, what is said can only be decoded when the researchers understand the respondents' attitude towards their statements. For a complete interpretation of the results, it is not enough to know why the respondent stated something, we also need to know his/her interpretation of what he/she is declaring and his/her belief about how others will understand his/her words. A common mistake that researchers make is to take the coherence or compatibility with the empirical material based on the theoretical model as the starting point for the interpretation of the results, and not its acceptance by the respondents. One way to avoid this error is to examine cognitive processes when answering survey questions by utilizing cognitive interviews, specifically the "think-aloud" technique (Willis, 2005), where respondents are expected to verbalize their understanding of the concepts in the survey question.

To develop survey questions of adequate quality (reliable and valid), researchers since the 1980s have been developing methods that can be used to investigate and determine how respondents understand survey questions what processes are used to obtain the answer and how they formulate answers. We are talking about research and studies in the framework of developing a specific research field called (Cognitive Aspects of Survey Methodology (CASM); Groves et al., 2009; Schwarz, 2007; Tourangeau, 1984). Studies were often conducted under the controlled conditions of psychological laboratories (e.g., Jobe & Mingay, 1990) and thus the term *cognitive laboratory method* (Mohorko & Hlebec, 2013; Willis, 2005). Cognitive interviews were initially developed to study mathematical problem-solving processes (Ericsson & Simon, 1980) but quickly found their way into survey methodology (Jobe & Mingay, 1990; Willis, 2005). The think-aloud technique is specifically designed with the goal of participants bringing forward (saying) their thoughts ("out loud") while solving a problem (in our case answering a survey question). Participants articulate their thinking or stream of thought without further explanation or justification of the answer (for example, why I chose answer 7 to the SSS question). Two techniques of thinking aloud were developed (Mohorko & Hlebec, 2013; Willis, 2005, see), namely concurrent (during the actual answering of the survey question) and retrospective (after the answer to the survey question has been given). Willis (2005) recommends that the time lapse between answering the survey question and thinking aloud should be as short as possible. This means that for observing the cognitive process while answering a survey question, the concurrent thinking-aloud technique is far more suitable than the retrospective think-aloud technique. Most often, the cognitive interview is recorded and transcribed. The researchers then analyse the recordings, and perform a protocol analysis (Ericsson & Simon, 1984; Willis, 2005) by coding and classifying them. In doing so, they are interested in how the participants understood the key concepts and how they calculated the solutions (in the case of mathematical problems) or how they formulated the answer to the survey question.

In this study our central research goal is to answer the question of how the respondents in the context of the survey would understand the concepts related to self-ranking on the social scale (RQ1). For this purpose, we conducted cognitive interviews in Slovenia on

survey questions from the ISSP module on social inequalities. We were therefore interested in the (cognitive) processes that take place in the background of answering survey questions (in a normal survey situation) which include four phases: (i) understanding the content, (ii) recalling information, (iii) processing information, and (iv) formulating an answer to the questions (Groves et al., 2009; Strack & Martin, 1987; Tourangeau, 1984; Willis, 2005). The result of this process (respondents' answers to the question) may include different understandings of social status, different motivations of the respondents for formulating a specific answer, and different understandings, and consequently, different reactions to the survey situation. To complement (or further support) the results of the data analysis from the cognitive interviews, we also conducted a quantitative data analysis of the survey data from the ISSP 2019 survey. Our intention was to explore to what extent respondents' understanding and perceptions of self-ranking are associated with the SES indicators (RQ2) and to find out if there are differences between countries regarding this association (RQ3).

4. Data and methods

The study (the research problem) called for a combination of approaches and two data sources. First, we will describe the characteristics of the cognitive interview study, followed by a description of the secondary ISSP 2019 survey data analysis.

4.1. Cognitive laboratory (Study 1)

Using cognitive interview methodology, we investigated 19 survey questions from the ISSP module 2009 Social Inequality. Most of the questions were also included in the ISSP 2019 survey. In this study, we focus our presentation on the analysis of answers (think-aloud approach) to the question about subjective social status. Fifty-five cognitive interviews were conducted (of which 54 were useful for protocol analysis) by students of sociology as part of their methodology seminar (research) work in March and April 2017 as a part of their practical training programme. Cognitive interviewers received basic knowledge and experience in questionnaire design and were exposed to cognitive interviewing knowledge and a training session in the classroom comprising of understanding the subject of SSS, survey questionnaire design, and cognitive interviewing techniques. They adopted the think-aloud technique and the test protocols during the classroom session. The protocol for think-aloud interviewing was carefully constructed (Willis, 2005), with respondent (cognitive interview participant) training (the window count exercise) and the interviewer instructing the participants to think aloud while answering the survey questions as the first think-aloud action. In the second exercise, respondents were asked to define social inequalities as they themselves perceive them. Since the interviewers were relatively inexperienced a mix of proactive and reactive probes was designed and detailed in advance and were trained in the classroom setting.

When examining SSS, participants were instructed to think aloud while answering questions. The question about the SSS of respondents is a part of the ISSP Social Inequality module but is also a standard question within the so-called background variables that are regularly included in all ISSP surveys (regardless of the content of each survey). The question has graphical support (as in the original ISSP questionnaire) and is formulated as follows:

> In our society, there are groups that tend to be toward the top and groups which tend to be towards the bottom. Below is a scale that runs from top to bottom. Where would you put yourself now on this scale? (Question 13a)

10	*top*
09	
08	
07	
06	
05	
04	
03	
02	
01	*bottom*

98 – *can't choose*

If think-aloud was not initiated, a reactive probe was administered, asking participants how they arrived at such an answer, followed by prompted evaluation of how difficult or easy it was to answer (cf. Beatty & Willis, 2007). Another proactive probe followed, asking respondents to describe who are the people at the bottom of the scale and who are the people at the top of the scale. These follow-up cognitive interview probes were as follows:

> How did you come up with this answer? Was this question difficult or easy for you? (Subquestion 1)

or

> Who do you think are the people at the very top and at the very bottom of the rankings? (Subquestion 2)

The probe "How did you come up with this answer?" was reactively asked only to those interviewees who did not initiate a think-aloud process when answering the survey question. Thus, for further coding of thinking aloud, we used both, spontaneous thinking and responses to the probe. Here we only show the results of the think-aloud, not the answers to the second sub-question (about the top and the bottom of the scale).

The interviewees had in front of them a questionnaire with questions in the same format as for the ISSP survey. A person who conducted the cognitive interview had their questionnaire, which for each survey question included instructions for performing the thinking-aloud technique and probes (subquestions) to ask in case the interviewees did not think aloud while answering survey questions. The questions in the interview followed the question order from the ISSP Social Inequalities module questionnaire, as it was carried out in the actual ISSP survey. The interviews were audio recorded, while other observations were also written down on paper. Immediately after the interview, the transcriptions were done. The original transcripts were the basis for further qualitative analysis, which we conducted in the form of a thematic analysis using open coding to identify general categories (e.g., Bryman, 2012; Corbin & Strauss, 2008) that should capture the content of the interviewees' think-aloud process. Coding took place in two phases: first, individual parts of the "text" were assigned meanings, which were classified into categories in the second phase. The first stage of coding (meanings) was carried out by each author independently. Then, in

the discussion between the authors, the meanings were coordinated and classified into categories.

The sample of participants included interviewees from rural and urban areas of Slovenia, members of different classes and professions with different levels of education (from primary to doctorate), of both sexes and different ages (Table 1). The selection of participants was based on a quota sampling scheme, which covered different categories based on characteristics of place of residence, education, age and gender. Students (as part of the seminar work) proposed possible participants, and then the participants were selected according to the quota sampling scheme. It was important that all categories according to four individual criteria were represented. The interviews took place at the participants' homes. The duration of the interviews was not measured.

Table 1. Structure of the cognitive laboratory sample.

Variable	*n*
Sex	
male	25
female	30
Age	
up to 30	23
31 to 50	14
51 to 70	15
71 or more	2
unknovn	1
Education	
primary	3
lower secondary	4
secondary	20
some college	9
university	13
master/doctorate	4
unknown	2
Place of living	
urban	26
outskirts of a city/small town	7
rural	20
unknown	2

4.2. Secondary analysis of the ISSP data (Study 2)

Our main intention was to empirically verify the overlap between SSS and SES as shown in survey data. We were particularly interested in whether there were differences between socio-cultural contexts (countries) and between men and women. Namely, "the effects of

social class do not operate in a vacuum, but rather intersect with other social categories, such as race, ethnicity and gender" (Diemer et al., 2012). So, we assumed that differences in the overlap between SSS and SES are also the result of different understandings of SSS in individuals from different cultures or in individuals with different social positions within the same culture. We used data from the ISSP 2019 Social Inequality V (ISSP Research Group, 2022). The ISSP 2019 includes data from 29 countries worldwide. In all countries, data were collected from probability samples, which are expected to be representative of the adult population of each country involved (for details see the ISSP data archive[1]). We conducted our analyses on data from six countries: Slovenia, Bulgaria, Sweden, Germany, the USA, and Japan. We assumed that the selected countries are sufficiently different (e.g., regarding culture, economic development, and social inequalities) that the analysis could answer the question of whether SSS and SES overlap in a similar (or different) way in different social contexts. Data in the selected countries were collected in the period from October 2019 to May 2021 (ISSP Research Group, 2022). To bring the structure of the realized sample as close as possible to the structure of the population, for the analyses, the data for Germany and the USA were weighted with post-stratification weights (for the rest of the countries weighting was not applied).

We performed linear regression analyses (OLS standardized regression coefficients), separately for each of the six countries included, where SSS was the dependent variable, and education (years of schooling completed) and personal income (all sorts of income, measured in national currency) were predictors (as indicators of SES). In each country, we conducted three separate analyses: on the entire sample, separately for men and separately for women. Thus, we tried to answer the question of how belonging to a certain group (gender category) affects the alignment between SSS and SES.

5. Results

In this section, the results of Study 1 (cognitive laboratory test) are presented, followed by the results of Study 2 (examination of secondary survey data).

5.1. Results of qualitative coding of data from the cognitive laboratory test (Study 1)

The coding resulted in six categories of explanations for answering the question about self-ranking on the social scale (Table 2). These explanations can be understood as cognitive anchors that respondents use when formulating an answer to a survey question on self-ranking.

The first category refers to meanings that match the prevailing theoretical understanding of the concept of SES. Among the anchors are therefore classic indicators of SES, such as material position, social role, and other (symbolic) aspects of social position.

In general, this category is described by the following two examples of thinking when answering a question about SSS:

> If I simply look at my car, age, [...], from this I can roughly deduce where I am. And, since this is the lower middle class, it might even be possible to mark me as below 5 or between 5 and 4. Since I still fall into the higher educational structure, I think that maybe this knowledge raises me higher, but materially I certainly stand here. (male, 54 years, tertiary education)

and

[1] https://search.gesis.org/research_data/ZA7600?doi=10.4232/1.14009

Table 2. The result of the analysis (coding) of "thinking aloud" when answering the question about self-ranking on the social scale.

Category	Social class
Socio-economic status	
assessment of material status	lower
position is consistent with the function (role)	upper
symbolic capital, valuation of non-material assets	upper
social powerlessness (exclusion)	lower
Life satisfaction	
it is enough to live a normal life	–
Personal investment	
the position is consistent with the effort invested, life's achievements	upper
Comparison with others	
relative assessment of the material situation	upper
I'm not like others, […] I'm honest	upper
Concern for self-esteem	
creating an impression of normality	lower
Hard to place on the scale	
hiding poverty	lower

> I placed myself […] according to education, according to status at work, according to material situation, according to a wide circle of people's acquaintances. (female, 61 years, tertiary education)

When it comes to the material dimension, those who ranked themselves at the bottom of the scale have a common consideration in terms of their ability to survive from month to month:

> With my salary, which is below the minimum wage, I barely make ends meet every month. (female, 47 years, secondary)

and

> I don't know, based on the monthly income, […] because I still have to be careful how I distribute my monthly income, so that the monthly obligations are settled, that there is still something left for food, and I can't hope for anything more, because running out [of money]. (female, 44, secondary)

The first category is followed by four categories, which include interpretations (meanings) based on the instrumentalization of attitudes, with which one wants to achieve some social effect or the articulation of one's self-image (e.g., Nastran Ule, 2000). These are the four categories: (i) life satisfaction, (ii) personal investment, (iii) comparison with others, and (iv) concern for self-esteem.

In the case of the "life satisfaction" category, it usually refers to various aspects of family life and generally to the feeling of happiness. This can be illustrated with the following example of a person who otherwise ranked herself in the middle of the social scale:

> I'm healthy, the kids are healthy […] so I think I'm doing pretty well and I'm happy with my life. (female, 49, lower secondary)

The category "personal investment" often appears in combination with the category "life satisfaction":

> [I place myself] to the top, because I have achieved a lot in my life, even though I am not rich […] Because I am happy and satisfied with my life, and I also know that if I am unhappy, I will do things to be happy; I belong to the top because I will do my best for it. (female, 27, secondary)

"Comparison with others" is usually about material differences. This can be a comparison with people nearby or with some average in society:

> I look at my salary and compare it with the minimum salary in Slovenia, which is so happily announced in the media, or I compare myself to my friends, for example. (female, 49, secondary)

and

> My answer is based on myself and my family in comparison to others in society […] We don't live on the poverty line, so I think we belong somewhere in the middle of society. (male, 23, post-secondary)

When we talk about the category of "concern for self-esteem", it is often about creating some kind of image of normality:

> Since I'm not at the bottom, for now, I still have enough to pay for food, but I can't go around for anything more. Difficult. Because I thought it was stupid to rank as a poor person. (male, 40, secondary)

The sixth category ("hard to place on the scale") covers various aspects of the difficulty in answering the question, from misunderstanding to concealing one's position. We conclude that it is a feeling of discomfort when declaring or forming an opinion. General difficulties with answering the question are shown by the following examples of thinking aloud:

> Very confusing. What does everything in between mean, who's at the top and who's at the bottom? Ten levels are a little, but at the same time, a lot because I can't imagine where anyone is. I don't understand the best question; it's hard to answer. (male)

and

> Because I haven't achieved enough in my life to rank higher than the "golden mean". Tough question. (female, 30, primary)

5.2. Additional quantitative analysis of social survey data from the ISSP 2019 (Study 2)

The bivariate analysis of the ISSP 2019 data alone shows that we cannot talk about the strong relationship of SSS with two dimensions of SES: education (measured with years of schooling completed) and personal income.[2] The correlations (Pearson's correlation

Table 3. Correlation of SSS with two dimensions of SES.

Country	Income	Education	*n*
Slovenia	0.34	0.35	895
Germany	0.39	0.25	1138
Bulgaria	0.10	0.27	1072
Sweden	0.31	0.30	1493
Japan	0.34	0.29	1101
USA	0.26	0.18	1152

Note: All correlations are significant at the $p < 0.01$ level.

coefficient) are statistically significant in all six included countries, but none reaches the value of 0.4 (Table 3).

In order to test whether the assumption about the effect of the wider social (cultural) context on the connection between SSS and SES is reasonable, we then compared the results of regression analyses in six countries: separately for Slovenia, Bulgaria, Sweden, Germany, the USA, and Japan (Table 4). It turns out that education and income (as elements of SES) do have a statistically significant effect on self-placement, but together they manage to explain only a small proportion of the variance (from 7.3 % in Bulgaria to 16.5 % in Germany). In Slovenia and Bulgaria, the effect of education is stronger than the effect of income (in Bulgaria, the effect of income is not statistically significant at all), while in the other four countries, the effect of income is stronger.

Given that various studies report the significance of the interaction between class position and various demographic characteristics (e.g., Diemer et al., 2012), we also performed separate analyses for both sexes. As a rule, it turns out that education and income explain a much higher proportion of the variance in self-placement for men (8.7 % to 27.7 %) than for women (5.6 % to 13.5 %). In Slovenia, Japan, and the USA, there is a pattern that for women, the effect of education is stronger than the effect of income, while for men, it is the other way around. In Germany and Sweden, the effect of income is stronger for both sexes, while in Bulgaria, the effect of education is stronger regardless of gender (Table 4).

Analyses of interaction effects (gender with education, gender with income) show that the assumption of different effects of income and education for both sexes is partialy supported (Table 5). Namely, we can talk about relevant (statistically significant at least at the $p < 0.05$ level) interaction effects only in the case of interaction between gender and income in three countries: Slovenia, Germany and Sweden. Such a result (together with the results of the cognitive interviews) strengthens our assumption that different respondents in different cultural environments use different cognitive anchors when answering the survey question about SSS.

The Slovenian ISSP 2019 research, Slovenian Public Opinion (SPO) 2019/2 (Hafner Fink

[2]At the beginning, we included a third indicator of SES, professional position, in the model. We separately used two variables: (i) supervision and management of other workers, and (ii) ESeC classification (e.g., Rose & Harrison, 2007). However, in both cases it turned out that in a multivariate situation (along with education and income) the variable of occupational status hardly adds anything to the explanation of SSS. Apart from that, we were mainly interested in whether there is a different influence (importance) of different aspects of SES in different social contexts (e.g. countries) or social positions (e.g., gender). Therefore, we considered that a comparison between effects of income and education was sufficient.

Table 4. Education and income as factors of SSS.

Country	Income	Education	R^2	n
Slovenia				
all	0.22**	0.24**	0.16	895
male	0.35**	0.16**	0.20	419
female	0.04	0.35	0.14**	476
Germany				
all	0.34**	0.13**	0.17	1137
male	0.47**	0.13**	0.28	583
female	0.22**	0.12**	0.08	555
Bulgaria				
all	0.05	0.26**	0.07	1072
male	0.07	0.29**	0.10	516
female	0.02	0.23**	0.06	556
Sweden				
all	0.24**	0.23**	0.14	1493
male	0.28**	0.25**	0.18	728
female	0.21**	0.20**	0.11	765
Japan				
all	0.27**	0.19**	0.14	1101
male	0.38**	0.19**	0.23	549
female	0.14**	0.18**	0.07	552
United States				
all	0.23**	0.10**	0.08	1152
male	0.27**	0.06	0.09	605
female	0.10**	0.18**	0.06	545

** $p < 0.01$

Note: The Income and Education columns report standardized ordinary least squares regression coefficients.

et al., 2021), also included a question about happiness (on a scale from 0 to 10), which can be understood as one of the factors of SSS (self-ranking on the social scale). This is also shown by the results of some quantitative studies, where there is a positive correlation between happiness and SSS (e.g., Varghese et al., 2022). This factor belongs to the group of psychological (subjective) factors of SSS, and can relativize the influence of different aspects of (objective) SES. The relevance of including happiness in the regression model also comes from the results of our research, where satisfaction with life appears as an important anchor for self-ranking on the social scale. When we added this variable to the model for Slovenia, we managed to explain 22 % of the variance (compared to 15.6 % in the model without happiness). It turned out that the pure (direct) influence of happiness

Table 5. Two models for each county (separately for interactions with income and with education).

Country	[G]ender	[I]ncome	I × G	[E]du	E × G	*n*
Slovenia						
	−0.15*	0.25**	0.19*			895
	−0.06			0.33**	0.09	895
Germany						
	−0.24**	0.35**	0.16*			1138
	−0.14			0.20**	0.14	1138
Bulgaria						
	−0.04	0.07	0.07			1072
	−0.12			0.23**	0.17	1072
Sweden						
	−0.11*	0.26**	0.11*			1493
	−0.12			0.26**	0.17	1493
Japan						
	−0.15**	0.30**	0.12			1101
	−0.21			0.24**	0.23	1101
United States						
	0.08	0.23**	0.02			1150
	0.42**			0.24**	−0.28	1150

* $p < 0.05$
** $p < 0.01$
Note: Columns 2–6 report standardized ordinary least squares regression coefficients.

was the strongest (Table 6).[3] However, when we conducted the analysis separately for men and women to examine the reference group effect, it turned out that for women we practically cannot talk about the influence of income, while the influence of education was the strongest, followed by the influence of happiness. For men, the effects of all three factors (education, income, happiness) are statistically significant, but unlike women, the influence of education is the weakest.

The differences between countries, the significant influence of happiness and the differences between the sexes indicate that in addition to the actual SES, self-ranking (SSS) is certainly influenced by other factors. The differences between countries indicate the importance of the wider social context and the (social) values that are characteristic of this context. Gender differences indicate the influence of belonging to a reference group. The point of view of an individual group depends on the status of this group—not only in terms of "objective" SES but perhaps even more in terms of the social role attributed to this group, which results from the dominant value system. The results, therefore, support the

[3]Here, we cannot talk about the question-order effect; the question about self-ranking was completely separate and "distant" from questions on education, income and hapiness.

Table 6. Effects of gender–income and gender–education interactions on the SSS.

Factor	All (n = 894)	Male (n = 419)	Female (n = 475)
Education	0.20	0.12	0.31
Income	0.19	0.29	0.02
Happiness	0.27	0.32	0.21
F	84.58	56.56	34.10
R^2	0.22	0.29	0.18

Note: Rows 1–3 report standardized ordinary least squares regression coefficients.

findings of the cognitive interviews that the respondents use different cognitive anchors when answering the question about SSS (e.g., different emphases on individual aspects of SES, greater importance of psychological factors than SES).

6. Discussion and conclusion

The overarching research aim of this study was to explore to what extent and under what conditions it is reasonable to expect that all respondents understand the survey question in the same way. Specifically, we were interested in whether this applies to the SSS survey question, as asked in the ISSP survey. Thinking aloud in the context of cognitive interviews was a central method for reaching this aim. As a complement to this method, we also performed a quantitative analysis of the relationship between SSS and SES on the ISSP data. In this way, we tried to show that the answer to the question about SSS can only be explained to a limited extent by the dimensions of objective SES.

Cognitive interviews showed a variety of ways respondents take into account material aspects of social position (e.g. income) and symbolic aspects of position (knowledge, reputation) when ranking themselves on the social scale. We "uncovered" six different categories of meanings of SSS, such as SES, life satisfaction, personal investment, comparison with others, concern for self-esteem and the residual category ("hard to place on the scale"). Respondents, therefore, use cognitive anchors, interpretations and understandings of SSS that go beyond the set of unambiguous dimensions and indicators of SES (education, income, occupation). As an example, in the context of a think-aloud process, respondents specifically highlighted satisfaction with life, which is consistent with the findings of a qualitative study by Martin-Storey et al. (2018). Also, we should not neglect explicit mentions of comparison with other people or groups of people, which is consistent with findings on the importance of reference groups (Evans, 2004; Jackman & Jackman, 1973). Such a result of cognitive interviews is in accordance with our initial thesis that respondents can rely on different "cognitive anchors" to answer the same survey question. This means that for many survey questions, it is difficult to ensure absolute comparability of answers (equivalence), especially for those where e.g. we ask about attitudes or subjective evaluations.

Additional quantitative analyses show significant, though modest, correlations of SSS with two dimensions of SES, namely income and education. The Pearson correlation coefficients for the association between SSS and income range between 0.100 (Bulgaria) and 0.386 (Germany), whereas the correlations between SSS and education range from 0.179 (the USA) to 0.345 (Slovenia). Further examination with regression analysis showed a relatively small amount of explained variance of SSS (from 7.3 % in Bulgaria to 16.5 % in Germany). In

some countries, the effect of education on SSS is stronger (Sweden, Slovenia, and Bulgaria), while in other countries, the effect of income is stronger. Gender also plays a role: results show that for women, the effect of education on SSS is stronger than the effect of income, while for men, this is the other way around. Analyses of Slovenian data also support the thesis that, in addition to SES, other (e.g., psychological) factors are also important for self-ranking on the social scale—namely, it turned out that personal happiness is a stronger factor than income and education. These results also indicate that when collecting data with survey questions that ask about subjective perceptions, it is necessary to take into account the problem of equivalence. Here, we are particularly referring to conceptual equivalence, i.e., the question of whether different respondents are really thinking about the same phenomenon when answering the same question.

On the basis of the results of the quantitative analysis of survey data and the results of cognitive interviews, we can confirm the results of the mentioned studies (e.g., Evans, 2004; Haddon, 2015; Singh-Manoux et al., 2003) showing that the classic concepts of SES should be considered in the SSS. However, we can only speak of moderate or weak, otherwise statistically significant, connections between SSS and SES. This may indicate some correspondence of the concepts of SES developed by researchers with people's (respondents') ideas about these concepts. At the same time, the results of the cognitive interviews also indicate a possible mismatch, namely in the form of an understanding of the survey question that does not follow the common understanding of SES in social research. In our case, this manifests itself as the respondents' reactions, which indicate that their (subjective) values were also present in the self-classification on the social scale. Examples of this are the following considerations of the interviewees during self-ranking attempts: satisfaction with what they have achieved in life, concern for self-image, comparisons with others, and effort invested. The results of the two analyses, qualitative and quantitative, support each other, as based on both, we can conclude that SES indicators can only explain the answers to the question about SSS to a limited extent.

The diverse answers and the thinking aloud in the context of cognitive interviews also indicate that the results of the respondents' self-classification on the social scale should be taken with a certain degree of caution. Due to the different cognitive anchors that the respondents use when answering this question, it is not necessary that their answers (ranking on the scale) are really (absolutely) comparable. Therefore, a more complex treatment of SSS by including dimensions related to specific attributes of individuals and their social environment is needed. It also makes sense to treat SSS as a separate concept that can "only" correlate more or less with SES. In such cases, the use of cognitive interviews appears to be justified, not only in developing the instrument but also in interpreting the results.

The use of think aloud cognitive interviewing was limited to one country only; however, the quantitative analysis utilized survey data from a variety of countries, indicating that there may be differences across countries as well. This means that in future research, it would make sense to conduct cognitive interviews in several countries. In this way, the research would also be extended to the issue of translating the survey questionnaire. Considering that the ISSP surveys are conducted annually and the background variables questions are repeated yearly (thus also the SSS question), it would be reasonable to perform a quantitative analysis on pooled data for several years. This could improve the reliability and accuracy of quantitative analyses.

In general, this study also shows the importance of examining cognitive processes undergone by respondents when answering survey questions, even though it is about established cross-national surveys. Without actually asking respondents how they answer

survey questions and observing the actual comprehension of questions, information retrieval and formulating of answers we can only guess why certain indicators perform better or worse in actual survey situations. Cognitive interviews are, therefore, useful in developing the instrument (questionnaire) and a very powerful tool for understanding the meaning of the answers in the survey situation. This means that they are not only a methodological tool, but can also contribute to a more in-depth understanding of the results of survey data analyses.

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