

Are We Mis-Measuring the Happiness Returns to Education and Income? An Analysis of Korean Subjective Well-being

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Paper Abstract:

Discrete response scales used ubiquitously for the reporting of life satisfaction pose cognitive challenges to survey respondents, so differing cognitive abilities result in different uses of the scale, and thus potential biases for statistical inference.

An enormous “happiness” literature in economics and psychology makes use of Likert-like scales in assessing survey respondents' cognitive evaluations of their lives, overall. These measures are increasingly being proposed as representative of the best possible metric for the well-being actually experienced by populations, and therefore a useful measure of social progress, policy success, and the objective of human flourishing.

Typically, analysis of these data have shown remarkably low direct returns of education for improving subjective well-being. In addition, arguably the inferred impact of material wealth and income using this method is also unexpectedly low as compared with other, social factors, and as compared with economists' prior expectations which underlie, in some sense, support for using GDP as a proxy for more general quality of life goals. Furthermore, estimates of the direct effect of economic inequality on subjective well-being suggest that, controlling for income itself, income inequality is not particularly detrimental to happiness. I show in this work, using Korean data, that the estimates on which all these stylized facts are based may be flawed.

“Life satisfaction” data are now most standardly assessed on an eleven-point (zero to ten) scale, in accordance with recommendations by the OECD, US National Academies, and others. Typically, reduced form models of these subjective but quantitative data treat the integer responses as continuous variables and often even as interpersonally comparable, although using ordinal models with weaker assumptions makes little difference in practice. However, an often-overlooked feature of the distribution of responses to life satisfaction questions is that they exhibit certain enhancements at focal values, in particular at 0, 5, and 10 on the eleven-point scale. In this paper, I investigate the reasons for, and implications of, these response patterns.

Korea has excelled in measuring life satisfaction on some flagship surveys, including its Labour and Income Panel Survey (KLIPS). These data make for an ideal opportunity to analyse response patterns and their correlation with key demographic variables. They provide detailed information about educational attainment and pursuits, and the panel nature allows for a more detailed structural model of response processes.

I report trials in which response scales allow for half integer or other non-integer responses, rather than only the response scale discretized to 11 integer values. In these cases, the distribution of responses is also characterized by enhanced response rates at the integer values over the non-integer ones.

Using these experiments and the much larger Korean KLIPS dataset, I investigate the nature of the focal value enhancements, showing that they are a result of different degrees of numeracy among the respondents, as though those who find it harder to quantitatively translate a latent (internal) well-being assessment into a more refined scale simplify the scale for themselves.

I offer three quantitative analytic contributions to pursue this explanation. First, I employ a new modeling approach for life satisfaction to account for the full distribution of response probabilities in order to capture the dependence of focal value selection on a vector of explanatory variables. I show that the tendency for focal value selection can significantly bias average subjective well-being and in particular estimates of the role of education and income on subjective well-being.

Secondly, I simulate counterfactual response distributions for the Korean population in order to eliminate the focal-value tendency and to estimate the bias in inference about the benefits of education and income.

Thirdly, I propose and estimate a more detailed model to account for the focal-value behavior using a latent variable approach to capture the "internal" cognitive evaluation before it is translated to the discrete scale of a survey question. In this way I quantify the bias which the focal-value behavior introduces, showing that, as a result, it is possible for average life satisfaction scores to decrease with increasing education.

Finally, I address the broader question of response scale design which is key to the standardization and increased institutionalization of subjective well-being measures for national accounts and policy evaluation. The cognitive load of more complex scales must be traded off with the ability to resolve variation where it exists (expressive capacity versus processing capacity). Using the aforementioned two custom surveys which accommodate non-integer life satisfaction responses, I quantify the impacts of using restricted resolutions on the kind of statistical inference typically made using such data. I conclude with general principles and recommendations for national statistical agencies, local governments, and others who are increasingly incorporating these questions into their surveys and social indicators.