

Scoring K6 and K10 – Frequently Asked Questions

Q. Where can I find scoring rules for K6 and K10?

Simple scoring is to convert the K6 to a 0-24 scale (each of the six questions coded 0-4 where 4='all of the time' through 0='none of the time', and the scores are summed). Please note that the question is presented to respondents in the order of highest frequency 'all of the time' to 'none', but for scoring, you should recode, so that 0 indicates no stress and 4 indicates high stress. The K10 is converted to a 0-40 scale.

The calibration study that was published in [Archives of General Psychiatry](#) shows that a cut point on 13+ on the K6 is the optimal cut point for assessing the prevalence of SMI in the national population, where "optimal" means equalizing false positives and false negatives. However, as you might know, this cut point is optimal only in a population that has the same prevalence as the total US population. As a result, even though the 13+ rule will generally get you a fairly good estimate of the prevalence of SMI in your population, that's not the correct way to estimate the prevalence of SMI. The correct way is to use information about the sensitivity and specificity of the scales in your population to generate a prevalence estimate. In the absence of such information, you might want to use sensitivity and specificity information from the NCS-R in populations of various sorts (e.g., primary care populations, low-income community populations, etc.)

The K10 and the K6 scales are administered in Australia using an alternate scoring system based on responses of "1-5" (where 5='all of the time' and 1='none of the time') versus the "0-4" system presented here. This alternate system results in a score range of 6-30 for the K6 and 10-50 for the K10. The optimal cut point on the K6 for this system is 6-18 versus 19+.

Q: RE: Screening for serious mental illness in the general population with the K6 screening scale: results from the WHO World Mental Health (WMH) survey initiative. *Int J Methods Psychiatr Res.* 2010 Jun;19 Suppl 1:4-22. doi: 10.1002/mpr.310.

As mentioned in your article above, could you please provide the table detailing “the optimal scaling rules developed here and reported in the appendix tables (available at http://www.hcp.med.harvard.edu/wmh/ftpd/appendix_wmh_k6_tables.pdf) . Unfortunately, only the tables detailing the parameter estimates for the pseudo-samples are available.

A: Actually, those tables give you all the information you need. The optimal scaling rules for the United States population would be to take the variables in table 15 of the appendix (k6, k6², age, gender) and apply the coefficients to those same variables in your sample along with the intercept to generate a predicted probability of SMI for your sample. You just use the continuous 0-24 K6 and you can create 10 different estimates by applying the estimates from the 10 different pseudo-samples. This would give you 10 multiply imputed versions of SMI for your sample. You can create 10 continuous versions or 10 dichotomous versions from the same equation. This is described in the discussion section of the paper. Once you have this you will have to use appropriate MI statistics for analyzing this. This will give you the best estimate of SMI for your population. However, if you are looking for a simple scoring rule of a dichotomous cut point of the K6 as a quick measure for SMI, the optimal cut point is 13 or more on the 0-24 scale as described above.

Q. I haven't been able to find clear guidance regarding the proper coding of records with missing values. Should one set to missing in the final variable all records missing a value for even one of the original variables, only records missing values for more than some minimum subset of the original variables, or some other rule (clearly records missing values for all six have to be coded to missing)?

A: We never made recommendations on how to handle missing values in our publications on K6 scoring. There are lots of available options and the best way is usually to handling missing values on the K6 in the same way you do missing values on the other variables in your survey. We would normally use Multiple Imputation if we had other variables in the dataset that were strongly related to K6 scores. If not, then you have no basis for making imputations and that means you will get equivalent results deleting the cases, using hot deck imputation, and making a weighting adjustment. Or you could be conservative in that case and recode missing values to the mode, which will always be a score of "none of the time" for items like this. But these are matters of taste and I don't think it is appropriate for the developer of a scale to dictate when it comes to matters of taste.