

### Case 3. Theory and objectives

The Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger & Borkovec, 1990; Spanish version by Sandín & Chorot, 1995) was designed to assess the general tendency to worry, a pervasive process in anxiety disorders. It consists of 16 items rated in a 5-point Likert scale ranging from 1 (*not at all typical of me*) to 5 (*very typical of me*). In this exercise six items are used (see Table 1). The items Y4, Y5 and Y6 are direct items where the answer «very typical of me» denotes a worrier, whereas items Y1, Y2, and Y3 are inverse items as the answer «very typical of me» denotes a nonworrier. For instance, a person who responds to the item Y6 saying that it is very typical of them to worry about projects until they are all done would receive the maximum value of worry (5) in this item. In contrast, a person who responds to the item Y1 saying that is very typical of them not to worry when they do not have enough time to do everything would receive the minimum value of worry (1) in this item. The total score is obtained as the sum of the responses to all items, reversed when necessary so as to the higher the total score, the higher the trait of worry.

Table 1. Items from PSWQ to be analysed in Case 3

Item	Content
Y1	If I do not have enough time to do everything, I do not worry about it.
Y2	When there is nothing more I can do about a concern I do not worry about it anymore.
Y3	I find it easy to dismiss worrisome thoughts.
Y4	As soon as I finish one task, I start to worry about everything else I have to do.
Y5	When I am under pressure, I worry a lot.
Y6	I worry about projects until they are all done.

As all items were devised as indicators of the single construct of worry, we would expect that they conform with a unidimensional scale. Direct and inverse items are only included in order to express more precisely the ways as different people usually talk about worry or maybe to minimize biases in response process. Nevertheless, it is known that the presence of both types of items in the questionnaire yields statistical results compatible with two factors, one of them attributable to the method and not to the content (Sandín, Chorot, Valiente & Lostao, 2009). Depending on the research question, the internal consistency reliability of the total score of worry should be estimated correcting for the method effect or not (Zinbarg, Revelle, Yovel & Li, 2005).

The objective of this exercise is to test the measurement model appropriate for the six items in Table 1 and derive from it an estimate of the reliability of the total score correcting for the method effect. The file Case3.txt contains the simulated responses of 600 independent participants.

### References

- Zinbarg, R. E., Revelle, W., Yovel, I., & Li, W. (2005). Cronbach's  $\alpha$ , Revelle's  $\beta$ , and McDonald's  $\omega$ H: Their relations with each other and two alternative conceptualizations of reliability. *Psychometrika*, 70(1), 123-133.
- Meyer, T.J., Miller, M.L., Metzger, R.L., & Borkovec, T.D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy*, 28, 487-495.
- Sandín, B., & Chorot, P. (1995). Síndromes clínicos de la ansiedad [Clinical anxiety syndromes]. En A. Belloch, B. Sandín y F. Ramos (Eds.), *Manual de psicopatología*, Vol. 2 (pp. 81-112). Madrid: McGraw-Hill.
- Sandín, B., Chorot, P., Valiente, R.M., & Lostao, L. (2009). Validación española del cuestionario de preocupación PSWQ: estructura factorial y propiedades psicométricas [Spanish validation of the PSWQ: Factor structure and psychometric properties]. *Revista de Psicopatología y Psicología Clínica*, 14 (2), 107-122.