**A Brief Guide to Scoring an Overclaiming Questionnaire**

Paulhus, Harms, Bruce, and Lysy (2003) originally described the completion of an OCQ as a signal detection exercise (Swets, 1964) where participants aim to detect targets and reject foils. Accordingly, Paulhus et al. proposed that two indexes drawn from signal detection principles can be extracted from responses to an OCQ: accuracy (*d′*) and response bias (*c*). Accuracy increases as participants ‘accept’ targets and ‘reject’ foils, and is indicative of true domain knowledge (Atir, Rosenzweig, & Dunning, 2015; Dunlop et al., 2017; Paulhus & Dubois, 2014). Of most relevance to faking is the *c* index, which increases as a participant reports familiarity with foils *and* with targets and decreases when a participant fails to report familiarity with foils or targets[[1]](#footnote-1). This reflects the fact that overclaimers would claim knowledge of foils and targets indiscriminately.

In traditional signal detection tasks, a participant can either reject or accept a stimulus. When completing the OCQs presented in this series of studies, participants could ‘reject’ an item by responding 0 (e.g., *never heard of this item*), however, they had two options to choose from if they wished not to reject an item – that is, they could choose options 1 or 2. Following Paulhus et al.’s (2003) recommended scoring procedure (see also Paulhus & Petrusic, 2007), for all OCQs presented in this series of studies, we calculated *two* sets of hit and false alarm rates (i.e. the proportions of targets and foils, respectively, that participants reported knowledge of) for each participant. One set was based on a response of *either* 1 or 2 as being tantamount to ‘accepting’ the item, whereas the second set was based on a response of 2 *only* as being tantamount to ‘accepting’ the item. Where hit rates or false alarm rates were 0 or 1, we applied loglinear corrections (Stanislaw & Todorov, 1999) to avoid errors associated with inverse-normal conversions of 0 or 1. From the two sets of hit and false alarm rates, we derived two sets of *c* and *d*′ signal detection indices, and averaged those to derive overall overclaiming scores for each participant.

The formula for the *c* index was drawn from Stanislaw and Todorov (1999; equation (7), p. 142) and is as follows:

*c* = (Φ-1[*H*] + Φ-1[*F*]) / 2

where H is the Hit rate (i.e., the number of ‘accepts’ of targets, at the corresponding acceptance threshold, divided by the total number of targets), F is the False Positive rate (i.e., the number of ‘accepts’ of foils, divided by the total number of foils), and Φ-1 is the inverse normal function that converts a *p*-value into a *z*-score. The accuracy index, *d'* was calculated using the following formula presented by Stanislaw and Todorov (1999; equation (1), p. 142) and is as follows:

*d'* = Φ-1(*H*) – Φ-1(*F*)

with the same meanings of H, F, and Φ-1 as per the equation for *c* above.

**References**

Atir, S., Rosenzweig, E., & Dunning, D. (2015). When knowledge knows no bounds: Self-perceived expertise predicts claims of impossible knowledge. *Psychological Science, 26*, 1295-1303. doi:10.1177/0956797615588195

Dunlop, P. D., Bourdage, J. S., de Vries, R. E., Hilbig, B. E., Zettler, I., & Ludeke, S. G. (2017). Openness to (reporting) experiences that one never had: Overclaiming as an outcome of the knowledge accumulated through a proclivity for cognitive and aesthetic exploration. *Journal of Personality and Social Psychology, 113*(5), 810-834. doi:10.1037/pspp0000110

Paulhus, D. L., & Dubois, P. J. (2014). Application of the Overclaiming Technique to Scholastic Assessment. *Educational and Psychological Measurement, 74*(6), 975-990. doi:10.1177/0013164414536184

Paulhus, D. L., Harms, P. D., Bruce, M., & Lysy, D. C. (2003). The over-claiming technique: Measuring self-enhancement independent of ability. *Journal of Personality and Social Psychology, 84*(4), 890-904. doi:10.1037/0022-3514.84.4.890

Paulhus, D. L., & Petrusic, W. M. (2007). Measuring individual differences with signal detection analysis: A guide to indices based on knowledge ratings. Retrieved from <http://neuron4.psych.ubc.ca/~dpaulhus/research/OCT/ARTICLES%20&%20CHAPTERS/Paulhus&Petrusic.review.doc>

Stanislaw, H., & Todorov, N. (1999). Calculation of signal detection theory measures. *Behavior Research Methods, Instruments & Computers, 31*(1), 137-149. doi:10.3758/BF03207704

Swets, J. A. (1964). *Signal detection and recognition by human observers*. New York, NY: Wiley.

1. For ease of interpretation, the c index from classical signal detection theory is multiplied by -1 in the study of overclaiming to allow high scores to be interpreted as more overclaiming. Refer to Paulhus and Petrusic (2007) for a discussion of the overclaiming indices and an explanation of how they are calculated. [↑](#footnote-ref-1)