Title: Highly consistent individual differences in the speed of selection for awareness

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Abstract:

Perceptual conscious experiences rely on non-conscious processes to integrate inputs and select which sensory inputs become conscious. In this talk we explore a new, reliable, and basic characteristic of the human cognitive system: the speed with which non-conscious processes select stimuli into conscious experiences. Using continuous flash suppression, we measured individual variation in the duration target stimuli were suppressed before being selected into awareness. In seven experiments we found that an individual’s selection speed is highly consistent (r>0.77) across a wide variety of stimuli and across time. Selection speed was also stable across paradigms; Selection speed in continuous flash suppression which relies on intraocular suppression related strongly (r=0.58, p<0.001) to selection speed in a repeated temporal suppression paradigm. Variation in selection speed was not explained by variation in conscious cognitive speed, perceptual decision thresholds, short-term visual memory, or by the three networks of attention (alerting, orienting and executive attention). Selection for awareness speed is thus a new, highly consistent, cognitive characteristic, which likely explains individual variation in many cognitive tasks for which speed is of the essence. Indeed, initial evidence suggest that selection speed is correlated with self-reported differences in everyday experience.