<u>Cover Page for Analysis Plan Document</u>

Official Study Title: What makes people better at describing photographs?

NCT05444114

Document Date 5/30/24

Improved speech fluency was operationally defined as increased speech rate, reduced mid-phrase and other speech fillers, and decreased repetitions, repairs/false starts, and omissions.

Speech was transcribed from the recordings by a research assistant, and transcripts were checked by at least one researcher, with any discrepancies reconciled by a third researcher before the transcript was considered final. For the current study, only the main block of speech (e.g., the speech produced before any interjection by the researcher prompting the participant to add more details) was considered for analyses. Next, scoring was completed by a researcher. The number of words the participant produced for each picture description were counted. Following Metz and James (2019), the word count included speech fillers (e.g., *um, uh, hmm*), repetitions (e.g., *"um, the- the time. . ."* counted as four words), and repairs/false starts (e.g., *"the- some of the"*). Non-linguistic sounds such as laughter or lip smacks were not included in the word count. Total time each participant spent speaking (s) was then measured from each recording. Next, speech fillers were counted separately by location. Fillers in the middle of a phrase (e.g., *"the, uh, place I like best"*; *"he is, um, just sitting there"*) were totaled, as were fillers in all other locations. Finally, repetitions, repairs/false starts, and omissions were counted individually and then summed together to yield the number of total disfluencies.

Speech rate was computed by dividing the number of words spoken by the duration of the description (s). Filler words (mid-phrase and other fillers) were counted separately and calculated as a proportion of words spoken. Similarly, total disfluencies were calculated as a proportion of words spoken. Then, a mixed ANOVA was conducted for each dependent variable (speech rate, mid-phrase fillers, other fillers, and total disfluencies) with condition as the independent groups variable and picture as the repeated measure to determine if speech was more fluent in the mindful breathing than in the control condition. No main effect or interaction was expected for pictures, but we reasoned that it would be valuable to know whether similar effects of mindful breathing were found for all pictures.