After reading through the Samuel 2016 paper, I stand by my proposal of both talker’s voices at the same time within each trial. In all honesty, it’s my current understanding that the audio **must** be presented this way, otherwise our results would be compromised based on the findings in this paper.

In this 2016 paper, Dr. Samuel runs a series of experiments on directing participant attention and the resulting effect this has on the participants’ ability to adapt their speech perception. In each experiment –there are 5 total—there is always a female voice that produces the critical trials (ambiguous “s”/”sh” sounds). The measures of perceptual adaptation are always based off adaptation to this talker, as it is the only voice present that can be adapted to.

Experiment 1 is very similar to our trial execution: stereo audio with the female talker in one ear and the male in the other. The main difference is that the male voice produces filler words. When the participants were instructed to attend to the male voice, there was no adaptation. When they were attended to the female voice, there was adaptation: “recalibration was intact when listeners were given a task that caused them to attend to the critical female words,” (p.108). This is, in my opinion, the most relevant experiment to our design and it is in favor of our expected results.

Experiment 1 was followed by 4 more experiments that served to interrupt the female talker’s speech, equivalent to *interrupting* ourattended talker. Unsurprisingly, when a second audio was introduced after the start of the female talker’s speech, the participant began to listen to the new audio without processing the female talker’s speech. This led to participant’s exhibiting less adaptation to the attended talker’s speech. This effected is suggested by the paper to be due to the participant not having the time to lexically process the initial word before a new stimulus captures the listener’s attention –even when that stimulus is not speech (Exp. 2, p. 102). Dr. Samuel is attempting to determine the window of time that lexical processing of speech takes place by changing the SOA (speech onset asynchrony; the time difference between the start of two stimuli) and observing if adaptation then takes place. This is why “the expectation was that with short SOAs the targeted distraction would prevent recalibration,” (p. 98): the participant’s attention would be directed away from the female talker during this critical window for lexical processing.

As fascinating as these results are, I think it would be contradictory to the goal of our experiment to implement SOA in our trials. We want the participants to prioritize listening to one voice over the other in accordance with our instruction. The mechanism of interest behind this behaviour is the participant’s control over directing their own attention. If the voices are not presented at the same time, then they are no longer equals (as Experiments 2-5 illustrate). We would be introducing a factor that is known to impact participants’ attention, would likely skew our results, and would not further substantiate our claims in any way.

Additionally, if the second audio interrupts the attended talker after this lexical window (longer SOA), then it may also be possible for the listener to process the second audio (unattended talker) properly –which was not explored in Samuel 2016. Our results would then be full adaptation for both talkers. This strays from our original question, which remains most similar to Experiment 1 in the 2016 paper: is speech perception adaptation inhibited when a listener is not attending to the speech? Experiment 1 suggests this to be true, but also only presented one accented voice (female voice) that was not appropriately counterbalanced. Our design thus should theoretically give us more insight into the lack of adaptation to the unattended talker.

**Bottom Line:** Having a second audio interrupt the attended talker causes a shift in attention. If this is done early in the lexical processing window, there will likely be **no adaptation to either** talker. If done after the window, we should expect **adaptation to** **both** talkers. If we want a true measure of the participants directing their attention to the instructed talker, **we should present the audios simultaneously**.