**HoltLab@CMU Experiment Request Form**

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**This form must be fully completed prior to running an experiment.**

You will need to complete a new form for each new experiment, including changing conditions

We need all these details -- lack of detail will result in a delayed start for this experiment

1. **Official name of your experiment (please make this distinct)**

Charles\_MMN

1. **“Catchy” name for posting purposes (catchy names attract more participants!)**

Please give the experiment a unique identifier, distinguishable from other experiments.  
This prevents the same subjects from registering twice.

(Examples: Beer on the Pier, Beer on the Pier 2b)

Watching movie and drinking beer on the pier

1. **Name of experiment icon on the lab computer desktop (shortcut to the file)**

This MUST match the “catchy name,” but can be abbreviated (BP2b)

WMDBOP (This experiment will be on Barb’s lab computer)

1. **Name of experiment in your personal folder on the computer**

Charles\_MMN

1. **Which IRB does this study associated with? (Holt Lab or Shinn-Cunningham Lab)**

Please take a moment to double check that the methods you are using conform to what is in the IRB

Holt Lab

1. **What type of experiment and where is it running?**

Examples: Behavioral (254D Booth, 254 Wing, Wean Hall); EEG (345 wing, Barb’s Lab); fMRI (Bridge Center)

Barb’s lab

1. **Length of the experiment – minutes, hours, multi-day;**

Please be detailed

3 hour

1. **Which booth(s) is/are the experiment to be run on?**

Booth 2 in Barb’s lab

1. **Number of participants needed per condition**

If there are separate conditions, please indicate the number of participants per condition.

Indicate, too, how participants should be assigned to conditions (randomized, one condition first then other, etc.)

30 participants

1. **Participant pool? Or paid?**

Paid people

1. **If paid, you must answer these questions in full:**
   1. Do you prefer the screened lab email list or CBDR paid site?

I prefer the screened lab email list.

* 1. What is the funding source? i.e. lab funds, personal funding, etc.

Lab funds

1. **Please write a brief advertisement for your experiment. This will be used for recruiting.**

Remember, the more "fun" the experiment sounds, the better chance of sign-ups.  
Include details such as using ear buds, sound proof booth, washing hair if necessary for EEG

In this experiment, you will identify some speech sounds and watch cartoons. During the experiment, we will be recording your brain recording using something called EEG. The device is non-invasive but we will be putting gel on your hair to increase conductance of your brain signal. We will be playing sounds through ear buds in a sound proof booth.

1. **Please list any participant exclusions**

Be detailed about any recruiting restrictions  
(e.g., age, native language, normal hearing, prior experiment participation).

Please check to be sure that these are allowable exclusions within the IRB listed above.

English as primary language (exposed to and speaking American English since the age of two, grew up in the US since the age of 2)

Normal hearing

Previous participants of the study “Drinking beer on the pier\_Full” and “Drinking beer on the pier MW” or “Drinking beer on the pier 3” cannot participate in this study!

1. **Lab set-up details of your experiment**

Program, website, mouse, keyboard, IRB approve questionnaire, counterbalancing, anything unique

For this experiment, participants only need a mouse and they do not need a keyboard. You do not need a website link to the experiment: simply click on the icon on the desktop. There is no counterbalancing. The only questionnaire that I need for this experiments the language background survey that we have been using in the lab. Participants simply need to check what their native language background is in the form.

In this experiment, there are 52 blocks containing sounds that could either be identified as BEER or PIER. Click “BEER” if they think they hear BEER and “PIER” if they think they hear PIER. These sounds differ in two dimensions, Voice Onset Time dimension, which is the noise burst before the vibration of the vocal chord; f0, which is fundamental frequency or the pitch of the sound. We believe that people use these two dimensions to distinguish the consonant sound B and P and their reliance on these two dimensions could change according to the sound regularities within a particular block. This experiment, in particular, investigates whether the reliance on the dimensions can be changed by adding noise to these speech sounds.

1. **Background information of your experiment**

Theory behind this study, hypothesis, detailed explanation to teach the UG’s

In this study, participants heard recordings of words and had to decide whether the recording was of the word “BEER” or the word “PIER”. The recordings they heard were originally constructed by morphing continuously between a very clear production of the word “BEER” and a very clear or distorted production of the word “PIER”. There are two dimensions for making the judgements, one VOT and F0 dimension (see detailed description about these two dimensions above). Previous studies have found that VOT dominates F0 but when VOT is ambiguous, F0 is used to distinguish the two sounds. However, when we change the statistical regularities of sounds in a block, which simulates an artificial accent, we found that it prompted listeners to no longer use F0 when VOT is ambiguous. We hypothesize that this is driven by the primary VOT information. So in this experiment, we manipulated the sounds such that VOT is no longer informative and listeners are forced to use F0 as the dominant dimension. We predict that the opposite pattern would occur in these manipulated sounds. That is, participants would be predicted to no longer use VOT when F0 is ambiguous.

1. **Detailed instructions for running your experiment**

Include a detailed script for describing the experiment to participants.

In addition to script to participant, please include instructions about counterbalancing conditions, order of conditions, etc. Be very detailed so that an undergraduate research assistant can follow your instructions successfully. Lack of detail here will result in a delayed start to your experiment

(Examples below)

In this experiment, you will sounds for “BEER” or “PIER”. Click each word when appropriate. Some of the sounds might be hard to identify. When you are not sure, take your best guess. Please listen carefully and try to be as accurate in your response as possible. The experiment has 52 blocks. In each block, you will also be watching a short cartoon. You will be able to take a break between blocks. Please take advantage of these breaks to stretch yourself and relax before you proceed. We ask that you do not come out of the booth during your break because these are speech studies and we do not want you exposed to sounds.

1. **What subject number should this experiment start with in labeling de-identified data files?**

Note: If this experiment is a follow-up you may want to start at a higher number to avoid overwrites

1

1. **Do you anticipate a follow-up experiment?**

No

1. **Would you like these exact participants to return for a follow-up or continuation?**

If so, participants must fill out IRB-approved form stating they would like to return.

No

1. **Study debriefing script**

Remember, debriefing is a teaching tool for participants who gave you data

Please write something friendly and informative that will thank participants for their service

See samples below

Thank you for participating in our study! Your cooperation and time are greatly appreciated.

In this study, you heard recordings of words and had to decide whether the recording you heard was of the word “BEER” or the word “PIER”. The recordings you heard were originally constructed by morphing continuously between a very clear production of the word “BEER” and a very clear or distorted production of the word “PIER”. You can think of this as being analogous to morphing a face of John F. Kennedy to a face of Bill Clinton:



Similarly to the fact that some faces look like very good examples of Kennedy while others look more “ambiguous”, perhaps like half-Kennedy half-Clintons. From previous experiments, we know that native English speakers rely mainly on one particular feature to distinguish between the consonants “B” and “P”. But there is another cue that distinguishes the two categories, that is, the pitch of the voice. In this experiment, we manipulated the primary cue that native English speakers rely on, which previous studies have shown can change how listeners utilize these cues. And then we want to see how reliance on the secondary cue, pitch, changes according to the distribution of the primary cue.

If you have further questions, please email charleswu@cmu.edu

1. **Have you upload all experiment information to the computer?**

Yes

1. **Have you self-pilot-tested your experiment?**

You must test your experiment in the lab before requesting participants

It is wise to summarize the data you generate in this self-pilot. Doing so catches errors early.

Yes we have been testing the experiment for the past few weeks.