

Name Explorer App: A Resource for Rigorous and Replicable Stimulus Design

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Background: Personal or given names are a common tool in psycholinguistics experiments, for example as discourse referents or in syntactic gender manipulations. In stimulus creation, one might control for common noun word frequency, imageability, familiarity, and gender bias, but it is not clear to what extent this is possible for names due to differences between social networks, cultural connotations, and unusual syntactic properties of names [1,2,3]. Moreover, there has been a recent increase in research into the processing and perception of names in their own right [3,4,5,6]. Thus, this project aims to make selecting names for research more accessible, rigorous, and generalizable by providing norming data across regions, ages, and cultures in English-dominant countries. Moreover, this project aims to produce a unified resource for diversifying the pool of names used in stimuli and example sentences beyond typical (White, Western) ones, and expanding on [5,6,7] by including filters for regional, age-graded, and perceptual/behavioral statistics. Finally, the temporal dimension of the resulting corpus will allow for synchronic and diachronic investigation of language change and processing.

Corpus development and access: A corpus of personal names assigned to babies in eight* English-dominant countries was assembled, based on all available government-issued birth data. The corpus currently spans a maximum of 143 years (USA), with other regions providing from 26 to 93 years of historical data. Each entry in this corpus contains a name, the number of babies who were recorded as having that name, the assigned sex at birth (ASAB) of those babies, the year of the record, and the region of the record. The database contains 3,198,509 entries (58.2% assigned F) and 178,576 unique names, of which 16,292 are attested as unisex. To normalize the frequency of names proportionate to the population size of each region, the corpus also includes the proportion of babies born each year with each name by region. The resulting corpus is being rolled out as a freely accessible Shiny app, which will allow researchers to specify desired properties, retrieve lists of names, and produce visualizations to support the selection of those names. [See Fig 1]

Phase 1 – Gender typicality and neutrality: A large-scale gender norming study is underway. Unlike much previous work on gender norming, all names in this study are assessed for perceived typicality as a *woman/girl's* name, *man/boy's* name, and *someone else's* name to identify the potential for both gender neutrality and nonbinary types in the general population. Fig 2 shows preliminary data (N=84 raters), where typicality ratings for a subset of selected unisex and common example names are plotted as heat maps to illustrate the gender typicality space. This illustrates behavioral variance in gender typicality and suggests this tool will be useful in selecting gender (un)biased names in the future.

Phase 2 – Validation and expansion: As perceptual data on gender typicality continues to be collected, additional data on name familiarity and other perceived properties (e.g., archetypical ethnicity/culture and age) will be included. These questions will be streamlined and integrated with reaction time data (e.g. Implicit Association Tasks, Gender Mismatch Effect measurement) to confirm normed values provide appropriately un/biased properties.

Discussion: By presenting this resource under development to the sentence processing community, the needs and desires of interested researchers can be integrated during development, thus allowing for a responsive design targeting improving methodological rigor in stimulus design. This will also highlight the Open Science nature of this resource, allowing other researchers to collaborate on it, develop it, and adapt it to fit their individual needs.

Full details of collection tasks and name properties will be available on the project's OSF and on the Shiny interface: https://osf.io/wcp75/?view_only=8ebe42f345c34cf1906653c2a39cf56e

References: [1] Delgado (2022) *Philo Stud*; [2] Handschuh (2022) *Prop Names vs Com Ns*; [3] Wang et al. (2016) *Psych Research*; [4] Gardner & Brown-Schmid (accepted) *Glossa PLx*, [5] O'Leary et al (2023) *Proc LSA*, [6] Sanders (2021) *Proc CLA*, [7] Kotek et al. (2020) *Proc LSA*

*The eight regions (national data unless otherwise specified) are: 1. Australia (combined data across all states and territories except Australian Capital Territory, which does not release this data due to its small size); 2. Canada; 3. Ireland; 4. New Zealand; 5. UK–England and Wales; 6. UK–Northern Ireland; 7. UK–Scotland; 8. USA. Although England and Wales data are released as a combined unit, the other countries are devolved and release data separately. They were not subsequently combined due to the potential differentiable influences on naming cultures of Welsh in Wales, Irish and Ulster Gaelic in Northern Ireland, and Scots Gaelic in Scotland.

Figure 1: Shiny App interface for the corpus [beta version]
Name Explorer (v0.2)

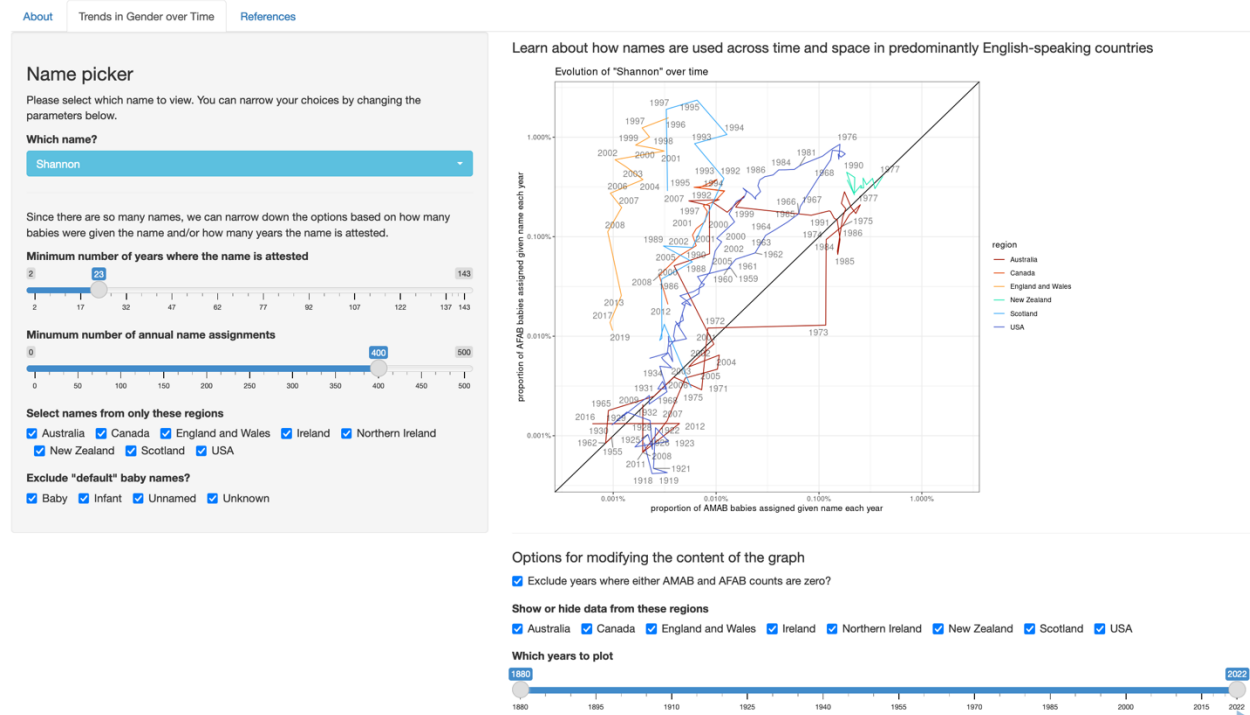
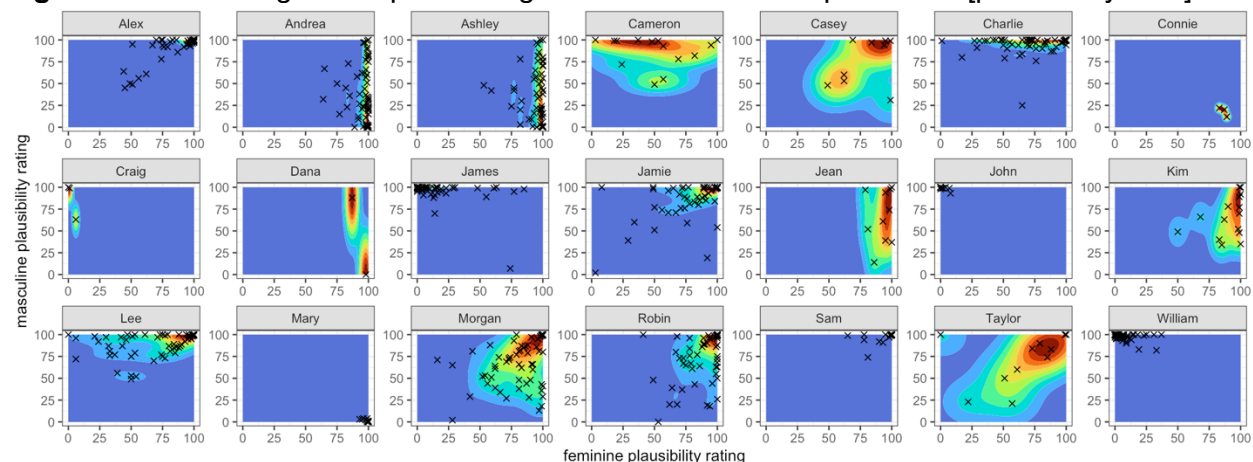


Figure 2: Perceived gender space ratings for a subset of example names [preliminary data]



****Color represents density of two-dimensional ratings; individual ratings marked with x**