

# Codebook Guide for A Longitudinal Assessment of Late-Talking Toddlers

This dataset is longitudinal. Here is a brief overview of the database structure:

- **Participant Inclusion:** Participants included in this dataset were enrolled in the Vocabulary Acquisition and Usage for Late Talkers (VAULT) treatment protocol. The dataset includes an additional subset of participants who participated in the longitudinal follow-up study, Tackling Acquisition of Language in Kids (TALK).
- **WAVE 1:** This current data set includes the first wave of data (i.e., only data from VAULT phases 1-3 (Alt et al., 2020; 2021; in press) and VAULT parent training (Mettler et al., 2023)).

## Data Collection and Usage

Data were collected longitudinally, tracking the development of late-talking toddlers who underwent the VAULT treatment protocol. The primary goal of VAULT was to see if children increased their rate of expressive vocabulary acquisition following the VAULT treatment protocol. The primary goals of TALK were to characterize language, literacy, cognitive, and academic skills of “former” late talkers, to identify persistent issues in language and related skills, and to explore predictive factors for these outcomes. Although TALK also had a goal related to qualitative analysis, only the aim 1 data, related to the primary goal, will be included in this dataset.

## Codebook Organization:

1. Variable Level: the descriptive name of the variable
2. Task Abbreviation: the abbreviated name of the task, used to show which variables are grouped together
3. Variable name: the specific name of the variable in the dataset to utilize for data analysis
4. Calculation: How the value was calculated
5. Full Question: The full question utilized to prompt the answer/variable
6. Notes: additional information like the possible answer choices for each response or how the value was calculated

**Note: Datapoints that will only become relevant when TALK data are released have been grayed-out to highlight the data available in Wave 1.**

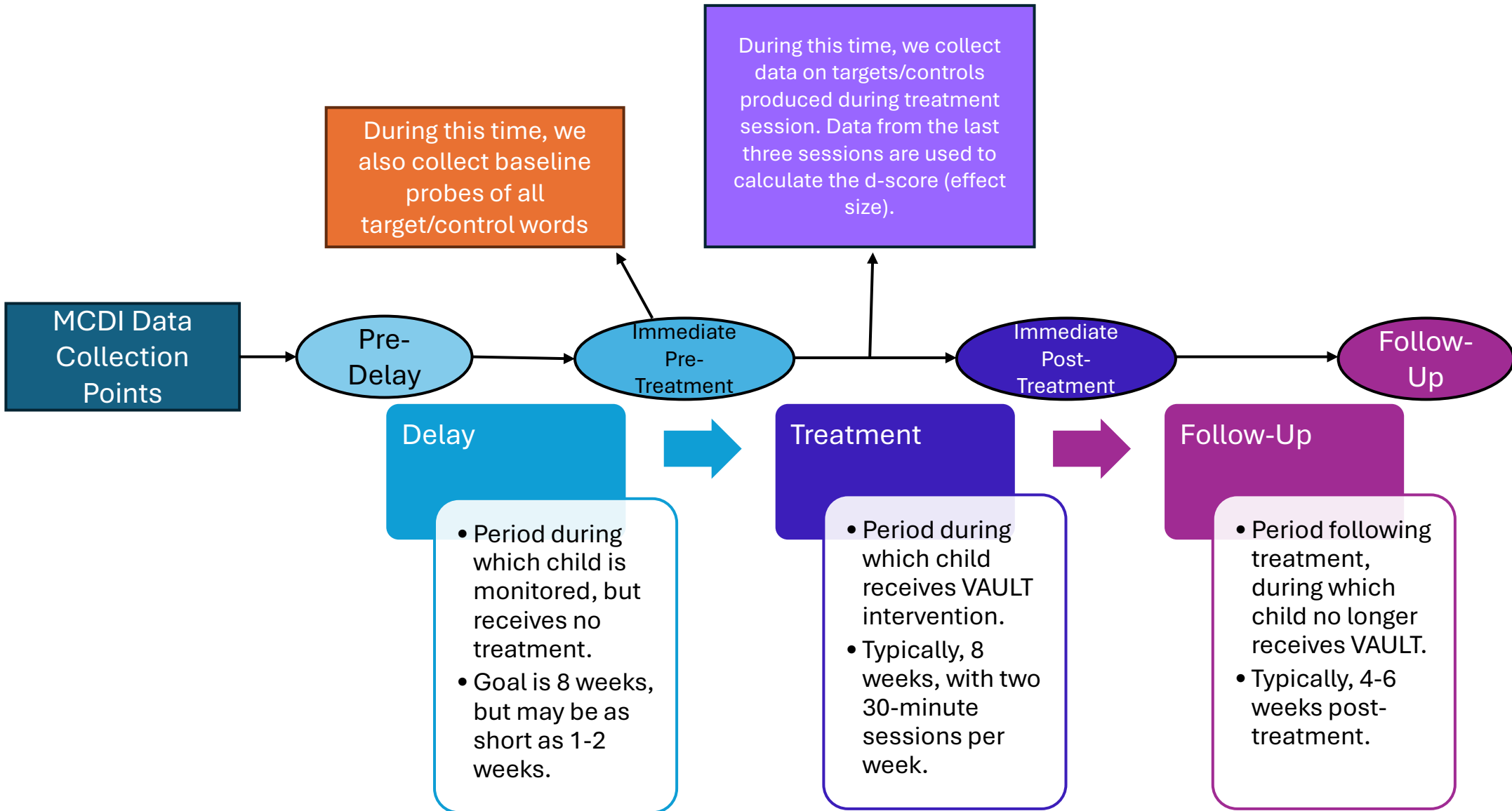
## Important notes about certain variables

1. **Bayley:** This refers to the Bayley Scales of Infant and Toddler Development. We administered the Cognitive Scales. The purpose of the Bayley within VAULT was to rule out intellectual disability. For some participants, once this threshold was achieved, testing was discontinued. Because these participants did not reach a true ceiling, their scores are not an accurate representation of their cognitive abilities. Thus, their scores are not included.
2. **MCDI WS English Percentile, MCDI WS Spanish Percentile and MCDI Extension Percentiles.** MCDI refers to the MacArthur-Bates Communicative Developmental Inventories. We calculate these percentiles for the various versions of the MCDI in a

specific way. We used the sex-specific norms, including the range of the percentiles the score fit into. For example, if a 30-month-old male child had a vocabulary total of 200 words, we entered 5<sup>th</sup>-10<sup>th</sup> as the percentile.

3. **MCDI-III; Expressive Vocabulary Test (EVT):** These are blank for many VAULT participants because they were not intended for all participants. To determine late-talker status as an eligibility criterion for VAULT, we used normative data from the following sources: the MCDI for children up through 30 months of age, the MCDI-III for children aged 31-37 months, and the EVT for children older than 37 months. Additionally, we were not able to complete EVT administration with some participants due to child fatigue/inattention. These scores are not included because they are not representative of the children's abilities.
4. **Bilingual Measures:** Although all the children in wave 1 of VAULT spoke English at home, some were also exposed to other languages. When available, data for those other languages (typically Spanish) are provided, along with total vocabulary scores that combine all lexical items across both languages.
5. **Kauffman Assessment Battery for Children (KABC):** This is blank for most VAULT participants. We only administered the KABC to participants whose age exceeded the Bayley age range.
6. **Autism Spectrum Rating Scales (ASRS):** This is blank for most VAULT participants. These scales were only used for the children in the VAULT parent training (Mettler et al., 2023).
7. **Different versions of instruments:** Bayley vs. Bayley-4, EVT vs. EVT-4, GFTA vs. GFTA-2: Some instruments have similar names, but the earlier versions were utilized for VAULT and the later versions were utilized for TALK since they occurred at different time points.
8. **SLS and FWAY COMP:** Questions for these instruments are signified by question number. These are licensed products, so we are unable to share the exact materials. We are using the SLS version/year and FWAY comprehension questions version/year. Refer to those products to get the full materials. If any researchers want to ensure they are referring to the exact questions we utilized, we have a private record of the questions alongside their question number.

# Standard VAULT Data Collection Timeline



Above, please find the standard timeline for Vocabulary Acquisition and Usage for Late Talkers (VAULT) treatment sessions. We hope this will help contextualize the data you find in this dataset and may inform data you plan to collect and add to the set. A few notes:

- Not all children have a delay period. Although we strive for this, it is not always possible. These children are noted in the dataset.
- Not all children have follow-up data. Missing data are noted.
- You may note that some of our publications on these data include additional metrics (e.g., post-treatment probes, use of specific words on the MCDI, number of times words were said). We did not include these data in LDBase given that, aside from providing some converging evidence, they were in and of themselves not particularly revealing. If you would like any specific data that are not available in LDBase, please contact us ([malt@arizona.edu](mailto:malt@arizona.edu)) and we can discuss options.
- There are some variations of VAULT (e.g., VAULT parent training; Mettler et al., 2023) which do not follow this standard timeline. Those data are noted in the dataset.

Data Included in Wave 1 are Referenced Below:

Alt, M., Figueroa, C.R., Mettler, H.M., Evans-Reitz, N., & Erikson, J.A. (2021). A vocabulary acquisition and usage for later talkers (VAULT) treatment efficacy study: The effect of input utterance length and identification of responder profiles. *Journal of Speech, Language, and Hearing Research*, 64, 1235-1255. [https://doi.org/10.1044/2020\\_JSLHR-20-00525](https://doi.org/10.1044/2020_JSLHR-20-00525)

Alt, M., Mettler, H.M., Erikson, J.A., Figueroa, C.R., Ethers-Thomas, S., Arizmendi, G.D., & Oglivie, T. (2020). Exploring input parameters in an expressive vocabulary treatment with late talkers. *Journal of Speech, Language, and Hearing Research*, 63, 216-233. [https://doi.org/10.1044/2019\\_JSLHR-19-00219](https://doi.org/10.1044/2019_JSLHR-19-00219)

Alt, M., Mettler, H.M., Schiff, E.S., Evans-Reitz, N., Burton, R., Cretcher, S.R., & Staib, A. (in press). Not all planes have propellers: Using context variability to treat word learning in late talkers with the VAULT protocol. *Journal of Speech, Language, and Hearing Research*

Mettler, H.M., Neiling, S.L., Figueroa, C.R., Evans-Reitz, N., & Alt, M. (2023). Vocabulary acquisition and usage for late talkers: The feasibility of a caregiver-implemented telehealth model. *Journal of Speech, Language, and Hearing Research*, 66, 257-275. [https://doi.org/10.1044/2022\\_JSLHR-22-00285](https://doi.org/10.1044/2022_JSLHR-22-00285)