

# The Chinese Lexical Database (CLD)

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## Abstract

We present the Chinese Lexical Database CLD 2.1. The CLD 2.1 is an extended version of the Chinese Lexical Database 1.0. The CLD is a large-scale lexical database for Mandarin Chinese that provides over 260 descriptive and lexical-distributional variables for more than 48,644 words in simplified Chinese. The information in the CLD 2.1 can be used for the construction of experimental stimuli and the analysis of experimental data in psycholinguistic research on simplified Chinese. The CLD can be downloaded for free, and an online search interface is provided at <http://www.chineselexicaldatabase.com>.

**Keywords:** lexical database, Mandarin Chinese, simplified Chinese, Chinese Lexical Database, CLD

## Introduction

Lexical databases are a valuable research tool for psycholinguistic research. They provide researchers with descriptive and lexical-distributional information about a large number of words in a language. This information can be used to efficient construction of experimental stimuli, as well as for a thorough analysis of experimental data. Furthermore, patterns of results for existing data sets can be directly compared through a re-analysis using the predictors in the database.

Large-scale lexical databases have been released for a number of languages in the last decades. Lexical databases are now available for most well-studied languages, including English (see, e.g., Balota et al., 2007; Coltheart, 1981; Keuleers et al., 2012; Baayen et al., 1995), German (see, e.g., Heister et al., 2011; Baayen et al., 1995), French (see, e.g. New et al., 2001, 2004, 2007; Ferrand et al., 2010), and Dutch (Brysbaert et al., 2016; Baayen et al., 1995). However, for less-studied languages, relatively few lexical resources have been developed.

For Mandarin Chinese, a few databases with lexical information exist. Taiwan Sinica, for instance, constructed a lexical database of with 12 numerical predictors for 3,314 commonly used characters. For simplified Chinese, at least two lexical resources currently exist. Liu et al. (2007) provide 15 lexical variables for 2,423 characters that can be used as independent words, whereas Cai and Brysbaert (2010) released character frequencies and word frequencies based on a large collection of subtitles from movies. Nonetheless, compared to the resources available for other languages these databases are

limited in size. The Chinese Lexical Database (CLD) is the largest lexical resource for simplified Chinese. Here, we present version 2.1 of the CLD.

### The Chinese Lexical Database (CLD)

Below, we briefly introduce version 2.1 of the Chinese Lexical Database (CLD). For a comprehensive description of the CLD, the interested reader is referred to Sun et al. (2018). The Chinese Lexical Database (CLD) contains 4,895 unique characters. In Mandarin Chinese, not all characters can be used as words. Therefore, the Chinese Lexical Database 2.1 (CLD) 2.1 contains lexical information for 3,913 one-character words, 34,233 two-character words, 7,143 three-character words, and 3,355 four-character words, in simplified Chinese. The number of words in the CLD 2.1 is substantially larger than the number of words in existing resources for Chinese.

The CLD contains a wealth of lexical information. A large number of categorical variables provide information about the characters in a word, pronunciations, Pinyin transcriptions (a translation of characters into a romanized form based on pronunciations), tones, character types and structures, and phonetic and semantic radicals.

Numerical predictors in the CLD describe lexical-distributional properties of characters and words, and were calculated on the basis of the Leiden Weibo Corpus (Van Esch, 2012) and SUBTLEX-CH (Cai & Brysbaert, 2010). Numerical predictors in the CLD include measures of the orthographic and phonological frequency of words, characters, radicals and phonemes, as well as measures of the visual complexity of words and characters at various grain sizes. Orthographic and phonological neighborhood characteristics are included as well, as are lexical variables that describe the orthography-to-phonology consistency of characters and phonetic radicals. Finally, the CLD provides a number of information-theoretic measures that describe combinatorial properties of characters. Sun (2016) and Sun et al. (2018) documented the importance of such measures for understanding language processing in the lexical decision and word naming tasks.

The CLD is released under the GNU General Public License. A database dump is freely available with this publication in `.txt` format. Downloads of the CLD in other formats, as well as an online search interface are available at <http://www.chineselexicaldatabase.com>. The online search interface allows users to view subsets of the words and lexical variables in the CLD, and to receive the result of search queries by e-mail. Future versions of the CLD will be released under a new handle in the online repository of the University of Tübingen, as well as on <http://www.chineselexicaldatabase.com>.

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