Most research on individual differences has used reading comprehension as the primary measure of reading ability. Recent research suggests spelling skill may be a more precise predictor of reading ability. According to the lexical quality hypothesis (LQH), high and low-skill readers are differentiated by the quality of word representations. High quality: accurate spelling, sound, and meaning components and strong connections between them Low quality: absent, inaccurate, or underspecified spelling, sound, and/or meaning components, and weak connections between them During reading, spelling is the primary pathway to activating that word’s meaning Measuring spelling skill directly measures the accuracy of the spelling component Reading comprehension may measure a variety of skill (e.g. working memory, inferencing) Thus, high-skill spellers are thought to have high-quality spelling representations that will facilitate activation of word meanings

**Current Study:** The current study investigates differences in total reading time when participants are assessed for both reading comprehension ability and spelling skill

**Methods**

**Participants:** One hundred and eight Kent State University students participated in this study for course credit.

- 12 removed for failing to answer comprehension questions with 80% accuracy; 6 removed for track loss
- 90 participants contributed data

**Skill Assessment**

- Spelling recall measure
- Nelson-Denny Test of Reading Comprehension

**Stimuli**

- Materials adopted from Dopkins, Morris, and Rayner (1992)
- Half of the sentences contained strong context

**Context:** Viciously snarling and growling, the boxer soon barked at the baggage attendant.

**Neutral:** As we had all expected and feared, the boxer soon barked at the baggage attendant.

**Procedure**

- Participants read 16 experimental sentences followed by comprehension questions while their eye movements were recorded
- The average comprehension question score was 86%

**Background**

- Analyzed using a Linear Mixed-Effect Model (LMM) using R statistical software (R project, 2013).

**Results**

- Moderate correlation between spelling and comprehension skill ($r = .31$, $p < .05$)
- Greater number of high-skill readers than high-skill spellers
- Main effects of spelling and comprehension skill
  - High-skill readers read more quickly than low-skill readers
  - Replicates previous individual differences research with spelling measure
- High-skill spellers are significantly faster readers than high-skill comprehenders
- Low-skill spellers are significantly faster readers than low-skill comprehenders
- Better model fit for spelling skill than comprehension skill
- Spelling skill is a better predictor of total reading time than reading comprehension skill

**Conclusions**

- Spelling is a valid measure of reading ability
  - Replicates previous research in individual differences using a spelling measure
- High-skill comprehenders took longer to access words and to integrate them into the text representation than high-skill spellers
- LQH: High-quality representations and strong connections from spelling to meaning may facilitate reading time in high-skill spellers
- Low-skill comprehenders had longer reading times than low-skill spellers
  - Few participants scored <33% on the comprehension test
- Spelling is a more precise measure of reading ability than reading comprehension

**References**

