Effects of Gender and Word Choice on Qualitative Inference During Reading

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Research Problem

- Do Gender and Word Choice affect qualitative inference during reading?

- Marketing Incentives
• Combining meaning of text with previously learned knowledge (Gernsbacher 1997; Kintsch 1998; Marmolejo-Ramos 2009)

• Text comprehension is complex and has many components (Marmolejo-Ramos, de Juan, Gygax, Madden, and Roa, 2009)
Qualitative Inference

- **Inference, stereotype, impression, or attitude formation**
  - Social Psychologists (Hilton & von Hippel, 1996), (Tesser & Shaffer, 1990)
  - Cognitive Psychologists (Schmidt & Paris, 1983)
- **Impression formed by a receiver (Holtgraves, 2002)**
  - Communication influences the way we perceive the world
  - Speech versus reading (Giles & Powesland, 1975)
  - Explicate/Deliberate or automatic/implicit
  - Situational or individual (Bodenhauser & Gawronski, 2006).
Gender

- Females mature sooner than males (Bank, Biddle, and Good, 1980)
  - Maturity level can affect text comprehension
- Study on effects of gender and text comprehension show no significant effect (Slotte, Lonka, & Lindblom-Ylänne, 2001)
  - Males and females showed difference in study strategies
Word Choice

- When reading or listening to a story and product or service description
  - Diagnostic Information/irrelevant information (Meyvis & Janiszewski, 2002)
  - Language, sentence structure; words, phrases, figurative language (Motes, W., Hilton, C., and Fielden, J., 1992)
Interactions of Gender and Word Choice

- Little research on interactions of Gender and Word Choice on qualitative inference during reading
  - Males tend to rely on phonological segmentation whereas females tend to rely more on direct processing (Thompson, 1987)
  - Assumption made that words may be processed differently between males and females
Methods

- **Participants**
  - Forty-four subjects (20 male, 24 female)
  - Various ages (M = 26.45)
  - No compensation given

- **Materials**
  - Four different stimuli
    - Two stimuli were filled with descriptive adjectives
    - Two stimuli were removed of all descriptive adjective
  - Background Questionnaire
  - Response Sheet
• Sample of Stimuli without adjectives
  ○ That’s why with E, you have a card for contacts, situations and people you meet in life.

• Sample of Stimuli with adjectives
  ○ That’s why with the amazing E, you have a specific card ready for each separate contact, every single situation, and any kind of person you meet in real life.
Methods (cont.)

- **Procedure**
  - Individuals given study and asked to read 2 product descriptions
  - 10 question Response Sheet with Likert-Scale

- **Design & Analyses**
  - **Design**
    - 2 x 2 design with 2 conditions in both studies; with adjectives and without adjectives
    - Both were between-subjects
  - **Measure**
    - Likert scale, scores ranging from 0 to 102 mm with the mid-scale score being 51 mm
    - Measured distance on the continuum for each answer given from NOT AT ALL to VERY MUCH
Main effects of Gender

- No significant effect of Gender on
  - ratings of coolness $F(1,40)<1$
  - how well the product worked $F(1,40)<1$
  - usefulness $F(1,40)<1$
  - influence of the description $F(1,40)<1$
Results (cont.)

- **Effects of Gender and Education**
  - No significant effect on ratings of
    - how well the product worked $F(1,40)<1$
    - usefulness $F(1,40)<1$
    - influence of the description $F(1,40)<1$
  - Small trend on ratings of coolness $F(1,40) = 3.917, p < .055$
    - Males with college degrees ($M = 64.91, SD = 20.92$)
    - Males with high-school diplomas ($M = 43.53, SD = 10.98$)
    - Females with college degrees ($M = 53.40, SD = 26.85$)
    - Females with high-school diplomas ($M = 56.45, SD = 18.59$)
Main effects of Word Choice
- Significant effect of Word Choice on all ratings for participants with adjective than for participants without adjectives
  - (M = 67.034, SD = 3.709) With Adjectives
  - (M = 42.710, SD = 3.77) Without Adjective
  - $F(1,40) = 21.137, p<.0001$
Results (cont.)

- **Word Choice breakdown of rating:**
  - **How well the product worked**
    - participants who read the product description with adjectives believed the product worked significantly better ($M = 69.386$, $SD = 3.525$), than participants without adjectives ($M = 54.366$, $SD = 3.585$), $F(1,40) = 8.923$, $p<.005$.
  - **Usefulness, convenience, and ease of use**
    - participants rated the product as significantly more useful with adjectives ($M = 71.174$, $SD = 3.603$) than participants without adjectives ($M = 56.033$, $SD = 3.665$), $F(1,40) = 8.680$, $p<.005$.
  - **Influence of description on the product**
    - participants rated the product descriptions as more significant with adjectives ($M = 59.000$, $SD = 3.924$), than without adjectives ($M = 42.013$, $SD = 3.991$), $F(1,40) = 9.211$, $p<.004$. 
Results (cont.)

- Interactions of Gender and Word Choice
  - No significant effect on ratings of
    - coolness $F(1,40) < 1$
    - usefulness $F(1,40) < 1$
    - influence of the description $F(1,40) < 1$
  - Small trend on how well the product worked $F(1,40) = 2.715, p < .107$
    - Males read text with adjectives (M = 74, SD = 12.41)
    - Females read text with adjectives (M = 64.77, SD = 16.93)
    - Males read text without adjectives (M = 50.7, SD = 15.85)
    - Females read text without adjective (M = 58.04, SD = 19.42)
Other factors

Effects of Age

- Significant effect was found on ratings of
  - Coolness $F(1,40) = 16.819, p < .0001$
    - Older participants ($M = 71.39, SD = 12.3$)
    - Younger participants ($M = 47.68, SD = 19.74$)
  - How well the product works $F(1,40) = 12.007, p < .001$
    - Older participants ($M = 74.75, SD = 11.65$)
    - Younger participants ($M = 56.36, SD = 19.74$)
Effects of Age (cont.)

- Significant effect was found on ratings of Usefulness $F(1,40) = 10.699, p < .002$
  - Older participants (M = 75.74, SD = 13.71)
  - Younger participants (M = 58.37, SD = 17.36)

- Influence of description $F(1,40) = 9.503, p < .004$
  - Older participants (M = 63.35, SD = 15.13)
  - Younger participants (M = 44.65, SD = 19.22)
Discussion

Gender had no effect on inference during reading

- Consistent with
  - Previous study by Slote, Lonka, & Lindblom-Ylänne (2001)
    - Participants followed similar procedure
    - Participants had different incentives

- Inconsistent with
  - Previous research by Bank, Biddle & Good (1980)
    - Assumption that maturity level can affect inference during reading
Word Choice has significant effect on inference during reading

- Consistent with
  - Study of words effect by Meyvis and Janiszewski (2002)
  - Adjectives were used in the product and service description
  - Study diverged in the area of inclusion of irrelevant words on purpose and review of
  - Research on speech (Childers, & Jass, 2002)

- Inconsistent with
  - Research on speech (Giles, & Powesland, 1975)
  - Pre-dominant focus is social evaluation based on speaking style and quality
Interactions of Gender and Word Choice showed no significant effect on inference during reading.

- Inconsistent with assumption that because males rely on phonological segmentation to process words, different inferences than females could be made. (Thompson, 1987)
  - Thompson (1987) used sequence of pseudohomophones and matching lexical words
  - Participants were children between ages of 7 and 8
Age had a significant effect on inference during reading

- Consistent with research done by Rawson & Touron (2009)
  - Older adults have better reading comprehension
  - Participants read a story and were asked to answer yes/no comprehensive questions

Future research

- Different levels of Word Choice
- More research on effects of gender of the reader on qualitative inference
- Bilingual communication (Noriega, J., Blair, E., 2008)
- Inference formation at various ages (Schmidt & Paris, 1983)
Questions?

Thank you.
References


