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Human-Computer Interaction 251-SWE-503-01

Literature Review

Research Question: Do younger users (Gen-Z) rely on emojis in ways that older generations may misinterpret?

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1. Introduction

Emojis are now a central layer of digital interaction, adding nuance, tone, and affecting that plain text often fails to convey. However, their meanings are not fixed. Younger users, especially Gen-Z, frequently re-appropriate emojis for irony, exaggeration, or humor for example, 🔥 meaning ***"amazing"*** or 💀 to mean ***"hilarious."*** By contrast, older adults often interpret emojis more literally, such as 🔥 for ***"fire"*** or ***"emergency."*** These mismatches introduce opportunities for misunderstanding, even in everyday exchanges.

Prior research shows that this ambiguity arises both from user interpretation and from the emoji system itself: rendering differences across platforms and cultures shift meanings unpredictably. A consistent theme across studies is that adding short textual context stabilizes interpretation, reducing disagreement between users and enhancing clarity in communication.

2. Proxy Paper

The methodological foundation for this research is Miller et al (2017), who directly tested whether accompanying text reduces emoji misinterpretation. Their study compared **emoji only** prompts with **emoji plus text** conditions and demonstrated that even minimal text significantly improved agreement on intended meaning.

Our study extends their approach by introducing automatic clarification mechanisms, rather than relying on users to type explanatory text. In addition, our work explicitly compares younger and older populations to examine whether automatic clarifiers can mitigate generational misinterpretation gaps.

3. Thematic Summary

- **Theme A: Ambiguity and Context**

Large scale analyses confirm that many emojis are inherently ambiguous without context. Czestochowska et al (2022) demonstrated that only a small subset of emojis is consistently interpreted, with most showing wide variance across users. Similarly, Zhou et al (2024) showed that cross-linguistic variations exacerbate this ambiguity. At the same time, studies consistently highlight that short textual additions even single words can reduce disagreement and stabilize meaning (Miller et al 2017; Riordan, 2017). Together, these findings justify exploring lightweight clarification mechanisms that preserve expressiveness while reducing misinterpretation.

- **Theme B: Generational Differences**

Generational factors significantly influence emoji use. Herring and Dainas (2020) found that older adults tend to interpret emojis functionally and literally, while younger users adopt them for irony, creativity, and affective expression.

More recent work, however, complicates this picture: Kempe & Raviv (2025) reported *no major generational differences* when measuring agreement on the meanings of **face emojis** such as 😊 or 😢. Their findings suggest that for highly conventionalized emojis, interpretations may converge across age groups.

However, this scope is limited: they focused only on face emojis in isolation, without testing **reappropriated symbols** (e.g., 💀 for **"that's hilarious"**) or **contextualized social messaging**. Earlier studies (Miller et al 2017; Herring & Dainas, 2020) consistently show that ambiguity increases when emojis are used creatively or sarcastically, which is where Gen-Z practices diverge most. Our study specifically targets these *reappropriated uses*, asking whether **automatic clarifiers** can reduce misinterpretation across generations in naturalistic conversations.

4. Research Gap

The reviewed literature establishes three key insights:

1. Emoji meanings are frequently ambiguous.
2. Supplemental text reduces misinterpretation.
3. Age and generational background influence interpretation styles.

Yet no prior study has evaluated automatic clarifiers lightweight, system generated text explanations across age groups. Existing approaches assume users will provide clarifying text, which is unrealistic in fast paced digital conversations.

Our proposed study directly addresses this gap by testing whether automatic clarifiers reduce intergenerational misinterpretation in messaging contexts. The research design is a **2×2** factorial: **Generation (Gen-Z vs. ≥35) × Cue Type (emoji-only vs. emoji+clarifier).** This structure builds on Miller et al (2017), extends to generational factors, and evaluates the feasibility of automated clarification mechanisms in real world communication.

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