

Kent Academic Repository

Ferguson, Heather J. (2024) Commentary on the Special Issue: new approaches to figurative language research. Discourse Processes, 61 (1-2). pp. 103-111. ISSN 0163-853X.

Downloaded from

https://kar.kent.ac.uk/105049/ The University of Kent's Academic Repository KAR

The version of record is available from

https://doi.org/10.1080/0163853X.2024.2314945

This document version

Publisher pdf

DOI for this version

Licence for this version

CC BY (Attribution)

Additional information

Versions of research works

Versions of Record

If this version is the version of record, it is the same as the published version available on the publisher's web site. Cite as the published version.

Author Accepted Manuscripts

If this document is identified as the Author Accepted Manuscript it is the version after peer review but before type setting, copy editing or publisher branding. Cite as Surname, Initial. (Year) 'Title of article'. To be published in *Title* of *Journal*, Volume and issue numbers [peer-reviewed accepted version]. Available at: DOI or URL (Accessed: date).

Enquiries

If you have questions about this document contact ResearchSupport@kent.ac.uk. Please include the URL of the record in KAR. If you believe that your, or a third party's rights have been compromised through this document please see our Take Down policy (available from https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies).



Discourse Processes



ISSN: 0163-853X (Print) 1532-6950 (Online) Journal homepage: www.tandfonline.com/journals/hdsp20

Commentary on the special issue: new approaches to figurative language research

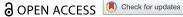
Heather J. Ferguson

To cite this article: Heather J. Ferguson (2024) Commentary on the special issue: new approaches to figurative language research, Discourse Processes, 61:1-2, 103-111, DOI: 10.1080/0163853X.2024.2314945

To link to this article: https://doi.org/10.1080/0163853X.2024.2314945

9	© 2024 The Author(s). Published with license by Taylor & Francis Group, LLC.
	Published online: 21 Feb 2024.
	Submit your article to this journal $oldsymbol{oldsymbol{\mathcal{G}}}$
hil	Article views: 2329
Q	View related articles ☑
CrossMark	View Crossmark data ☑
4	Citing articles: 1 View citing articles 🗗







Commentary on the special issue: new approaches to figurative language research

Heather J. Ferguson

School of Psychology, University of Kent

ABSTRACT

The papers in this Special Issue showcase some of the current work that aims to understand how people attribute meaning when speakers employ figurative language. Figurative language serves various communication goals, such as softening messages, enhancing politeness, and conveying criticism more subtly. However, misinterpretations are common due to the inherent conflict between direct and indirect messages. In this commentary, I provide a broader context to this work by couching the study of figurative language as an important and timely exploration of social language use, which is in turn influenced by new methodological approaches and challenges. I begin by reviewing how power dynamics influence the interpretation of language, including how cues to politeness (e.g. honorifics) vary based on social status and cultural context. The importance of language and culture in shaping interpretation of meaning is demonstrated in studies that have compared Western individualism with Eastern collectivism, or by comparing speakers with different levels of language proficiency (i.e. second language learners). Next, I review how the advent of technology and social media has transformed language use, requiring researchers to explore new methods and cues for communication. Finally, I discuss how future research could make use of methodological advancements, such as large-scale eye-tracking studies to analyze individual differences, and more diverse populations and developmental stages to advance our understanding of real-time language comprehension. Contributions of the articles in this Special Issue are featured throughout.

The research presented in this special issue examines when and how meaning is attributed when speakers convey information using figurative language. A speaker's choice to use figurative language over more "simple" literal language is thought to reflect a taxonomy of communication goals, with overlapping and distinct goals accomplished by different forms of figurative speech (Roberts & Kreuz, 1994). For example, although figurative language can include explicitly negative content (e.g., "Just as I was going on stage, my mother told me to break a leg"), it is frequently used by speakers to soften a difficult message, for example by adding humor, increasing politeness, reducing aggression, or expressing criticism in a positive way (Dews & Winner, 1995; Filik et al., 2017; Zhu & Filik, 2023). However, because figurative language necessarily involves a conflict between direct and indirect messages (e.g., in sarcasm or irony, the speaker intends to express one meaning by saying the opposite; Grice, 1975), communicators frequently misunderstand the intended meaning (e.g., Barchard et al., 2017; Littlemore et al., 2011), which can have significant negative consequences on future interactions. More broadly, understanding the social value of language is important due to its profound impact on our

understanding of human behavior, communication, and society. Language is used to shape, reflect and influence our interactions, identity, and the broader sociocultural landscape; difficulties in successfully interpreting meaning in communication can therefore have negative implications on our social participation and mental well-being (Berkman & Syme, 1979; Bailey et al., 2008).

In this commentary, I highlight some of the compelling reasons why the study of social language is so important and timely. In doing so, I will draw on the articles in this Special Issue to highlight the new approaches that are being developed in this field of figurative language, and to consider some of the current challenges and avenues for future study that are prompted by these questions.

Power, social status and honorifics

Language can reinforce or challenge interpersonal power dynamics in society (Fairclough, 1989). For instance, examining political discourse reveals how those in power may employ persuasive language to maintain their authority, as marginalized groups use language to resist oppression. In discourse, the balance of social status between a speaker and listener is known to influence whether or not an indirect meaning is inferred from a literal utterance (e.g., "It's getting dark in this room," could imply that the listener should get up and turn the light on if the speaker is of a higher status). Knowledge of a speaker's social status can also modulate the likelihood that a nonliteral meaning is understood (Holtgraves, 1994; Katz & Pexman, 1997) and can influence the negative valence that is attributed to a sarcastic comment (Gucman, 2016). These findings illustrate the importance of building and maintaining relationships on effective interpersonal communication, and vice versa. There are many strategies that people use to maintain face or social identity while interacting with others (Brown & Levinson, 1987), and understanding these may help to improve communication and reduce misunderstandings, which is essential in personal and professional settings.

One sociolinguistic mechanism that is influenced by social relationships between interlocutors is honorification, or the use of lexical/grammatical expressions to represent politeness and formality. Politeness is a particularly interesting phenomenon for language researchers because its use violates Gricean expectations for maximally efficient communication to achieve a social purpose (Grice, 1975; T.M. Holtgraves, 2019; Yoon et al., 2020). Although there has been extensive research on the topic of honorifics in the field of sociolinguistics, applying this to experimental pragmatics and psychology is a relatively recent development (McCready, 2019). Speakers' use of politeness expressions is known to be sensitive to interlocutors' social status (Jiang & Zhou, 2015) and communicative goals (Yoon et al., 2020).

Researchers have also found that politeness influences the granularity of encoding for conversational exchanges (Holtgraves, 1997); people are well above chance at remembering the politeness wording or form of an utterance, and this memory bias is enhanced when the politeness form mismatches the social context (e.g., a low-status speaker using an impolite form). In addition, researchers have examined figurative use of honorifics in studies on "mock politeness" (e.g., "that's very helpful, thanks") and found that the speaker's intended impolite meaning is inferred by the listener because they recognize a mismatch between the utterance's stereotypical meaning (i.e., that honorifics are typically associated with positive values, such as respect) and the situation's contextual meaning (i.e., a power or social status imbalance between speaker and listener in the opposite direction; Brown, 2013; Culpeper et al., 2003). Similarly, listeners infer rudeness when honorifics are not stereotypically anticipated (e.g., a conversation with a friend; Okamoto, 2011).

In this Special Issue, Zhu and Filik experimentally tested how social status influences sarcasm interpretation. Large samples of participants from the United Kingdom and China ($N_{total} = 400$) read stories that depicted interactions between two people who either had equal social status (e.g., a man and his brother) or were mismatched in social status (e.g., a professor and a student), then rated a critical comment in terms of the speaker's intention to be sarcastic, amusing, polite, or aggressive.

Results showed that social status influenced inferences about whether the speaker intended to be aggressive, polite, or amusing in their sarcastic comment, but crucially, the direction and strength of these effects was different across the two cultures. These findings reinforce the importance of accurately interpreting power and social status dynamics to guide meaning from language, and emphasize that these relationships and expectations are not static in societies. The findings therefore have significant implications for theoretical accounts of social language by beginning to elucidate some of the contexts that trigger different interpretations, highlighting the importance of modeling the interactive influences of social status and culture on communication. We will consider some of these cross-cultural effects now.

Language and cultural norms

Language is a social tool that offers a powerful way to signal one's group affiliations, such as ethnicity, gender, and age, and for expressing one's social identity. It is also intricately tied to culture, reflecting norms, values, and beliefs of a particular community (Gelman & Roberts, 2017). One significant way in which language shapes cultural norms is through the vocabulary available to describe specific concepts. For example, in some cultures, there are distinct words for emotions that may not have an equivalent in other languages, highlighting cultural influences on language and thought. Similarly, the Inuit people of the Arctic have multiple words for different types of snow, reflecting their deep knowledge and unique connection to their environment. However, the dynamic relationship between language and culture goes beyond vocabulary, with cultural differences known to impact language use, interpretation, and, ultimately, the success of communication between people from different cultural backgrounds (e.g., Lev-Ari & Keysar, 2010; Münster & Knoeferle, 2018). In an increasingly interconnected world, it is vital that we increase our understanding of how diverse communities use language in their everyday communication and how language operates in crosscultural communication.

Linguists Leech (1983) and Gu (1990) have proposed that the social rules of language have different weightings in different societies. However, empirical research in this area is relatively new. The majority of experimental work has compared communication strategies between Eastern and Western cultures, based on a large body of research that has documented sociocognitive differences between Westerners and East Asians (for a review see Varnum et al., 2010). Specifically, people in Western societies tend to be more individualistic in their social orientation style and more analytic in their thinking, whereas people from East Asian societies tend to be more collectivist in their social orientation style and holistic in their thinking (Nisbett et al., 2001). The consequences of these cultural differences have been observed in their language use and interpretation. For example, Easterners and Westerners differ in their perception of humor (e.g., Jiang et al., 2019), expectations of politeness (Gretenkort & Tylén, 2021; Hill et al., 1986), and use and conceptualization of figurative language (Blasko et al., 2021; Wang, 2022; Yu & Jia, 2016).

As discussed previously, the article by Zhu and Filik in this Special Issue compares sarcasm interpretation across two different cultural contexts: United Kingdom and China. Replicating the findings from an earlier study (Zhu & Filik, 2023), they found that interpretation of sarcasm differed between the different cultures: participants viewed the use of sarcasm as more polite and less aggressive than literal criticism in the United Kingdom but more aggressive in China. These patterns are explained in terms of East-West cultural differences in language usage due to collectivist versus individualistic processing biases (Blasko et al., 2021; Rockwell & Theriot, 2001). Although these culturally specific effects of language interpretation provide critical empirical input to theoretical models (because very little work has yet systematically tested these accounts), a fuller account of cultural diversity on language use and meaning needs to extend beyond traditional East-West dichotomies to understand the mechanisms and nuances that underlie differences. This work could

take inspiration from social psychology, where researchers interested in culture have started to consider how distinctive combinations of independent and interdependent preferences, such as social orientation, self-construal, and cognitive styles, drive social behavior (e.g., across the Mediterranean region in Uskul et al., 2023).

Another way that culture can influence social language interpretation is via the level of expertise that a person holds in that language, in other words, whether that language is their native or laterlearned language. The article by Senaldi and Titone in this Special Issue explores the role of context on meaning selection by comparing real-time reading patterns for idioms among first language readers (L1; who are thought to retrieve idioms directly) and second language readers (L2; who are thought to process idioms more compositionally). Everyday language often includes idiomatic expressions (e.g., "It'll be a piece of cake!" or "I'm just trying to break the ice"), and their meaning relies on the context in which they appear. Readers tend to process idioms differently based on their familiarity with the expressions and the availability of direct retrieval from memory. When idiomatic phrases are read without a prior context, figurative interpretations are facilitated if readers can directly access the idiomatic meaning from their lexicon, and this is particularly evident when readers are highly familiar with the idioms. In contrast, decomposable idioms tend to be processed more easily when the idiomatic meaning can be incrementally constructed through compositional parsing. Results from Senaldi and Titone's study showed that the context in which an idiom appears does not alter these different interpretation strategies in L1 and L2 readers. This suggests that although there are cultural variations in the way social language is used and understood, familiarity with the cultural use of figurative language may be more important in successful interpretation than the linguistic context in which it appears.

Language, technology, and social media

With the advent of digital communication, language research has been heavily influenced by developments in social media and technology. Language use and interpretation has adapted in these online communities, reflecting evolving social norms and identity construction within these virtual spaces (Danescu-Niculescu-Mizil et al., 2013), and even influencing the meaning of words over time (Tsakalidis et al., 2019). A timely example of this is the word "hallucinate," which has been selected by Cambridge Dictionary as the "Word of Year 2023" due to its updated meaning to reflect false information produced by artificial intelligence technology. The way that issues are presented and discussed in the media or public discourse can also significantly impact how people perceive and respond to those issues (Entman, 1993; Goffman, 1974); therefore, understanding these linguistic framing techniques is essential for media literacy and critical thinking. In an era of rapid technological advancement and globalization, language research in different social contexts is needed to promote effective communication, understand cultural diversity, and foster a more inclusive and empathetic society.

The proliferation of technology-based communication has prompted some researchers to explore how visual cues can be used alongside written language to influence the meaning that is inferred. One example is the use of emoticons (symbols that depict emotions by combining standard keyboard characters), which can help to clarify a communicator's indirect message (e.g., sarcasm in, "I loved your shoes last night"). Thompson and Filik (2016a) investigated the efficiency of emoticons as markers of intention when sarcasm is present in written text. Results showed that people frequently use emoticons to clarify the intended meaning of written text, with the use of emoticons being more likely following sarcastic versus literal comments (88% vs. 51%). This suggests that emoticons serve as effective cues to signal the presence of sarcasm in written communication, and that the inclusion of emoticons can enhance a reader's ability to accurately interpret the intended meaning of sarcastic comments. In a related article, Thompson et al. (2016b) employed psychophysiological measures to explore peoples' real-time emotional responses to irony and emoticons in written language. They found that, generally, emotional responses were reduced when reading ironic versus literal comments,

which suggests that the ambiguity of figurative language might weaken the emotional impact it has on the reader. However, positive emotional responses were increased when the message included emoticons. Overall, this line of research suggests that emoticons play an important role in facilitating the interpretation of figurative language in written communication, and can soften the affective tone of a message for the reader. The practical value of combining visual and written cues has been demonstrated by Garcia et al. (2022), who showed that emojis (i.e., pictograms that express an emotion) are a particularly effective means of helping older adults interpret appropriate sarcastic intent, and therefore might facilitate intergenerational communication.

Another form of nonverbal indicator of figurative language has been examined in this Special Issue by Bambini and colleagues, specifically the use of multimodal verbal-pictorial stimuli to elicit a metaphoric meaning. Although the majority of research on metaphors has been conducted within constrained verbal contexts (e.g., Bambini et al., 2019; Noveck et al., 2001), rapid changes in the way people communicate through the internet have triggered a massive increase in the use of multimodal stimuli to convey an indirect meaning, for example using "memes" (e.g., ElShami et al., 2023; Shifman, 2013). Bambini et al. recorded event-related brain potentials (ERPs) to compare real-time processing of metaphors that were triggered by either word pairs or word-picture pairs. In the time window associated with an N400 effect (i.e., indicating sensitivity to semantic expectations), metaphor pairs elicited a more negative N400 compared to literal pairs, and this effect was not influenced by modality. However, in a later processing time window, this metaphor effect was only significant for multimodal pairs and not for verbal pairs, suggesting that multimodal metaphors trigger a sustained negativity due to the ongoing interpretation of the complex pairing. Thus, semantic/pragmatic interpretation of metaphors can be triggered by both verbal and visual input, but when this information is presented across multiple modalities, this engages an additional elaborative stage that incurs greater inferential efforts. These findings emphasize the challenges and costs associated with multimodal metaphors in meaning derivation, and mark the first step toward future research that could explore more complex multimodal phenomena, such as memes.

Methodological approaches to social language research

Research in experimental pragmatics has primarily focused on whether and when listeners use the conversational context or shared knowledge to go beyond the semantic content, and infer a speaker's intended meaning (Breheny et al., 2013a, 2013b; Filik et al., 2014; Olkoniemi et al., 2022). Relatively few studies have considered the speaker's role in facilitating interpretation, or how speakers and listeners coordinate meaning in real-time. One reason for this is that the majority of research that has examined social language and conversational inferences has done so in isolated contexts that do not reflect the complexity and dynamic nature of real-life social interaction. Findings in these controlled contexts may therefore be misleading, because interactivity is known to alter sensitivity to others' perspectives and influence communication success (Kuhlen & Abdel Rahman, 2022; Surtees et al., 2016). In addition, experimental work in this area has tended to use stripped down paradigms or isolated language fragments, to identify specific processes that underlie a single moment of understanding (e.g., whether an utterance is interpreted as figurative or not), and has largely neglected the broader meaning that is encoded in these conversations (i.e., the message that is understood and what this tells us about the speaker) or how this impacts on later communication (Gibbs & Colston, 2020). As such, significant gaps exist in our understanding of naturalistic social language, which call for a step-change in methodological approach.

In this Special Issue, the article by Olkoniemi, Mézière, and Kaakinen sought to address some of these methodological challenges by combining data from two previous eye-tracking studies (Kaakinen et al., 2014 Exp2; Olkoniemi et al., 2016) to produce a larger sample (N = 120) that enables exploration of individual differences. Figurative (or literal) language was embedded in longer narratives to provide an appropriate context, and readers' real-time scan paths were analyzed as a predictor of the meaning that was ascribed to the language. This approach revealed that readers deploy distinct scan path

patterns for ironic and literal narratives, and that individual differences in working memory capacity influence the reading strategy that they use to understand ironic (but not literal) stories. Eye-tracking during reading offers a relatively ecologically valid means of examining naturalistic reading behavior, because participants can read each experimental item at their usual pace and can regress back to important parts of the text as needed. This offers an important advancement on many other psycholinguistic paradigms that present text in a word-by-word format, and do not allow readers to revisit earlier parts of the text for clarification. Nevertheless, eye-tracking studies tend to be timeconsuming and resource intensive to run, meaning that sample sizes are typically modest (~40 participants per group). By combining datasets, researchers can maximize the value and reliability of naturalistic eye-tracking data to make predictions about the individual mechanisms that influence fluent reading and interpretation of meaning (also see Kuperman et al., 2018; Mézière et al., 2023; Staub, 2021).

Future research in this area should build on this approach by employing cutting-edge techniques to examine unscripted, face-to-face interaction in real-time, placing a greater emphasis on distinguishing the unique roles that the producer and comprehender play in enabling successful social communication. Understanding how awareness of other people's mental states influences the language and other cues that people use during conversation will be important to model the mechanisms of successful social language use. This immersive real-world approach capitalizes on recent advances in technology and statistical modeling. Most research on social language has been conducted in relatively tightly controlled lab-based settings, in which individual participants observe other people in conversation situations (e.g., reading or listening to stories), and are not physically copresent in a social interaction. This approach offers high gain in terms of capturing social language in more natural, collaborative contexts than tightly controlled experimental tasks, but is also challenging because interlocutors' behavior is less predictable and more time-consuming to code by hand in these authentic social contexts.

In addition to addressing these practical methodological challenges, research on figurative language would benefit from testing its constraints in more diverse populations. More recent theories of irony comprehension explicitly emphasize a special role for individual differences (Fabry, 2021; Pexman, 2008). Although there has been a notable recent increase in focus on bilingualism and cultural differences in figurative language interpretation (see Senaldi & Titone and Zhu & Filik in this Special Issue), researchers have only recently begun to assess the extent to which social language capacity changes across the lifespan (i.e., in line with developmental changes in related domains). These studies show that older adults are less likely than young adults to use knowledge about others' mental states to interpret language (Pomareda et al., 2019; Saryazdi & Chambers, 2021), produce more redundant language in conversation (James et al., 1998), and show greater variability in lexical selection (Saryazdi et al., 2019). Similarly, very few studies have examined the development of social language during adolescence, though this period is characterized by a protracted maturation of sociocognitive skills and underlying brain functions (Blakemore, 2008; Dumontheil et al., 2010) as well as significant changes in social behavior and sensitivity to the social environment (Blakemore & Mills, 2014; Peper & Dahl, 2013; Van den Bos et al., 2011). Examining figurative language use and interpretation at these opposing ends of development may have important implications for theoretical accounts, because they offer direct tests of how figurative language is influenced by changing sociocognitive mechanisms, and the sorts of contextual sensitivities that influence their interpretation.

Conclusion

In conclusion, the study of social language is indispensable for understanding the complex interplay between language and society. By investigating figurative language, the articles in this Special Issue offer insights into how we construct identities, navigate power dynamics, maintain relationships, and interpret the world around us. The issues discussed in this Commentary and across the Special Issue articles do not exist in isolation but often intersect and overlap, and further research is needed to



understand these complex interdependencies and to continue to develop methods to better reflect the real-world use of social language across different populations.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was carried out with the support of a Leverhulme Trust grant [Ref: RPG-2022-017].

References

- Bailey, P. E., Henry, J. D., & Von Hippel, W. (2008). Empathy and social functioning in late adulthood. *Aging and Mental Health*, 12(4), 499–503. https://doi.org/10.1080/13607860802224243
- Bambini, V., Canal, P., Resta, D., & Grimaldi, M. (2019). Time course and neurophysiological underpinnings of metaphor in literary context. *Discourse Processes*, 56(1), 77–97. https://doi.org/10.1080/0163853X.2017.1401876
- Barchard, K., Grob, K., & Roe, M. (2017). Is sadness blue? The problem of using figurative language for emotions on psychological tests. *Behavioral Research Methods*, 49(2), 443–456. https://doi.org/10.3758/s13428-016-0713-5
- Berkman, L. F., & Syme, S. L. (1979). Social networks, host resistance, and mortality: A nine-year follow-up study of Alameda County residents. *American Journal of Epidemiology*, 109(2), 186–204. https://doi.org/10.1093/oxfordjournals.aje.a112674
- Blakemore, S.-J. (2008). The social brain in adolescence. *Nature Reviews, Neuroscience*, 9(4), 267–277. https://doi.org/10. 1038/nrn2353
- Blakemore, S. J., & Mills, K. L. (2014). Is adolescence a sensitive period for sociocultural processing? *Annual Review of Psychology*, 65(1), 187–207. https://doi.org/10.1146/annurev-psych-010213-115202
- Blasko, D. G., Kazmerski, V. A., & Dawood, S. S. (2021). Saying what you don't mean: A cross-cultural study of perceptions of sarcasm. *Canadian Journal of Experimental Psychology*, 75(2), 114–119. https://doi.org/10.1037/cep0000258
- Breheny, R., Ferguson, H. J., & Katsos, N. (2013a). Taking the epistemic step: Toward a model of on-line access to conversational implicatures. *Cognition*, 126(3), 423–440. https://doi.org/10.1016/j.cognition.2012.11.012
- Breheny, R., Ferguson, H. J., & Katsos, N. (2013b). Investigating the timecourse of accessing conversational implicatures during incremental sentence interpretation. *Language and Cognitive Processes*, 28(4), 443–467. https://doi.org/10. 1080/01690965.2011.649040
- Brown, L. (2013). "Mind your own esteemed business": Sarcastic honorifics use and impoliteness in Korean TV dramas. *Journal of Politeness Research*, 9(2), 159–186. https://doi.org/10.1515/pr-2013-0008
- Brown, P., & Levinson, S. C. (1987). *Politeness. Some universals in language usage* [Originally published as Universals in language usage: politeness phenomenon. In: Goody E. (Ed.), Questions and Politeness: strategies in Social Interaction, CUP, New York, 1978]. CUP.
- Culpeper, J., Bousfield, D., & Wichmann, A. (2003). Impoliteness revisited: With special reference to dynamic and prosodic aspects. *Journal of Pragmatics*, 35(10–11), 1545–1579. https://doi.org/10.1016/S0378-2166(02)00118-2
- Danescu-Niculescu-Mizil, C., Sudhof, M., Jurafsky, D., Leskovec, J., & Potts, C. (2013). A computational approach to politeness with application to social factors. *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics*, 250–259. https://doi.org/10.48550/arXiv.1306.6078
- Dews, S., & Winner, E. (1995). Muting the meaning a social function of irony. *Metaphor & Symbolic Activity*, 10(1), 3–19. https://doi.org/10.1207/s15327868ms1001_2
- Dumontheil, I., Apperly, I. A., & Blakemore, S. J. (2010). Online usage of theory of mind continues to develop in late adolescence. *Developmental Science*, 13(2), 331–338. https://doi.org/10.1111/j.1467-7687.2009.00888.x
- ElShami, T. H. S., Shuaibi, J. A., & Zibin, A. (2023). The function of metaphor modality in memes on jordanian Facebook pages. *SAGE Open*, *13*(1), 215824402311548. https://doi.org/10.1177/21582440231154848
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43(4), 51–58. https://doi.org/10.1111/j.1460-2466.1993.tb01304.x
- Fabry, R. E. (2021). Getting it: A predictive processing approach to irony comprehension. *Synthese*, 198(7), 6455–6489. https://doi.org/10.1007/s11229-019-02470-9
- Fairclough, N. (1989). Language and Power. Longman.
- Filik, R., Brightman, E., Gathercole, C., & Leuthold, H. (2017). The emotional impact of verbal irony: Eye-tracking evidence for a two-stage process. *Journal of Memory and Language*, 93, 193–202. https://doi.org/10.1016/j.jml.2016. 09.006



- Filik, R., Leuthold, H., Wallington, K., & Page, J. (2014). Testing theories of irony processing using eye-tracking and ERPs. Journal of Experimental Psychology: Learning, Memory, and Cognition, 40(3), 811-828. https://doi.org/10.1037/ a0035658
- Garcia, C., Turcan, A., Howman, H., & Filik, R. (2022). Emoji as a tool to aid the comprehension of written sarcasm: Evidence from younger and older adults. Computers in Human Behavior, 126, 106971. https://doi.org/10.1016/j.chb.
- Gelman, S. A., & Roberts, S. O. (2017). How language shapes the cultural inheritance of categories. Proceedings of the National Academy of Sciences of the United States of America, 114, 7900-7907.
- Gibbs, R. W., & Colston, H. L. (2020). Pragmatics always matters: An expanded vision of experimental pragmatics. Frontiers in Psychology, 11, 1619. https://doi.org/10.3389/fpsyg.2020.01619
- Goffman, E. (1974). Frame analysis: An essay on the organization of experience. Northeastern University Press.
- Gretenkort, T., & Tylén, K. (2021). The dynamics of politeness: An experimental account. Journal of Pragmatics, 185, 118–130. https://doi.org/10.1016/j.pragma.2021.09.003
- Grice, H. P. (1975). Logic and Conversation. In P. Cole & J. L. Morgan (Eds.), Syntax and semantics, Vol. 3. Speech acts (pp. 41-58). Academic Press.
- Gu, Y. (1990). Politeness phenomena in modern Chinese. Journal of Pragmatics, 14(2), 237-257. https://doi.org/10.1016/ 0378-2166(90)90082-O
- Gucman, M. (2016). The role of individual differences and situational factors in perception of verbal irony. Psychology of Language and Communication, 20(3), 255-277. https://doi.org/10.1515/plc-2016-0016
- Hill, B., Ide, S., Ikuta, S., Kawasaki, A., & Ogino, T. (1986). Universals of linguistics politeness: Quantitative evidence from Japanese and American English. Journal of Pragmatics, 10, 347-371. https://doi.org/10.1016/0378-2166(86)
- Holtgraves, T. (1994). Communication in context: Effects of speaker status on the comprehension of indirect requests. Journal of Experimental Psychology: Learning, Memory, and Cognition, 20(5), 1205-1218. https://doi.org/10.1037// 0278-7393.20.5.1205
- Holtgraves, T. (1997). Yes, but ...: Positive politeness in conversation arguments. Journal of Language and Social Psychology, 16(2), 222-239. https://doi.org/10.1177/0261927X970162006
- Holtgraves, T. M. (2019). Politeness. In C. Cummins & N. Katsos (Eds.), The Oxford Handbook of Experimental Semantics and Pragmatics (pp. 511–523). Oxford University Press.
- James, L. E., Burke, D. M., Austin, A., & Hulme, E. (1998). Production and perception of verbosity in younger and older adults. Psychology of Aging, 13, 355. https://doi.org/10.1037//0882-7974.13.3.355
- Jiang, T., Li, H., & Hou, Y. (2019). Cultural differences in humor perception, usage, and implications. Frontiers in Psychology, 10, 123. https://doi.org/10.3389/fpsyg.2019.00123
- Jiang, X., Zhou, X. (2015). Impoliteness electrified: ERPs reveal the real time processing of disrespectful reference in Mandarin utterance comprehension, and M. Terkourafi (Ed.), Interdisciplinary perspectives on im/politeness. AILA applied linguistics series 14 (pp. 239-266). John Benjamins.
- Kaakinen, J. K., Olkoniemi, H., Kinnari, T., & Hyönä, J. (2014). Processing of written irony: An eye movement study. Discourse Processes, 51(4), 287-311. https://doi.org/10.1080/0163853X.2013.870024
- Katz, A. N., & Pexman, P. M. (1997). Interpreting figurative statements: Speaker occupation can change metaphor to irony. Metaphor and Symbol, 12(1), 19-41. https://doi.org/10.1207/s15327868ms1201_3
- Kuhlen, A. K., & Abdel Rahman, R. (2022). Mental chronometry of speaking in dialogue: Semantic interference turns into facilitation. Cognition, 219, 104962. https://doi.org/10.1016/j.cognition.2021.104962
- Kuperman, V., Matsuki, K., & Van Dyke, J. A. (2018). Contributions of reader-and text-level characteristics to eye-movement patterns during passage reading. Journal of Experimental Psychology: Learning, Memory, and Cognition, 44(11), 1687-1713. https://doi.org/10.1037/xlm0000547
- Leech, G. N. (1983). Principles of Pragmatics. Longman.
- Lev-Ari, S., & Keysar, B. (2010). Why don't we believe non-native speakers? The influence of accent on credibility. Journal of Experimental Social Psychology, 46(6), 1093-1096. https://doi.org/10.1016/j.jesp.2010.05.025
- Littlemore, J., Chen, P. T., Koester, A., & Barnden, J. (2011). Difficulties in metaphor comprehension faced by international students whose first Language is not English. Applied Linguistics, 32(4), 408-429. https://doi.org/10. 1093/applin/amr009
- McCready, E. (2019). The semantics and pragmatics of honorification: Register and social meaning (1st) ed.). Oxford University Press.
- Mézière, D. C., Yu, L., Reichle, E. D., von der Malsburg, T., & McArthur, G. (2023). Using eye-tracking measures to predict reading comprehension. Reading Research Quarterly, 58(3), 425-449. https://doi.org/10.1002/rrq.498
- Münster, K., & Knoeferle, P. (2018). Extending situated language comprehension (accounts) with speaker and comprehender characteristics: Toward socially situated interpretation. Frontiers in Psychology, 8, 2267. https://doi.org/10. 3389/fpsyg.2017.02267
- Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic vs. analytic cognition. Psychological Review, 108(2), 291-310. https://doi.org/10.1037/0033-295X.108.2.291



- Noveck, I. A., Bianco, M., & Castry, A. (2001). The costs and benefits of metaphor. Metaphor and Symbol, 16(1-2), 109-121. https://doi.org/10.1080/10926488.2001.9678889
- Okamoto, S. (2011). The use and interpretation of addressee honorifics and plain forms in Japanese: Diversity, multiplicity, and ambiguity. Journal of Pragmatics, 43(15), 3673-3688. https://doi.org/10.1016/j.pragma.2011.06.012
- Olkoniemi, H., Bertram, R., & Kaakinen, J. K. (2022). Knowledge is a river and education is like a stairway: An eye movement study on how L2 speakers process metaphors and similes. Bilingualism: Language and Cognition, 25(2), 307-320. https://doi.org/10.1017/S1366728921000869
- Olkoniemi, H., Ranta, H., & Kaakinen, J. K. (2016). Individual differences in the processing of written sarcasm and metaphor: Evidence from eye movements. Journal of Experimental Psychology: Learning, Memory, and Cognition, 42 (3), 433-450. https://doi.org/10.1037/xlm0000176
- Peper, J. S., & Dahl, R. E. (2013). Surging hormones: Brain-behavior interactions during Puberty. Current Directions in Psychological Science, 22(2), 134-139. https://doi.org/10.1177/0963721412473755
- Pexman, P. M. (2008). It's fascinating research: The cognition of verbal irony. Current Directions in Psychological Science, 17(4), 286-290. https://doi.org/10.1111/j.1467-8721.2008.00591.x
- Pomareda, C., Simkute, A., & Phillips, L. H. (2019). Age-related differences in the ability to decode intentions from non-literal language. Acta Psychologica, 198, 102865. https://doi.org/10.1016/j.actpsy.2019.102865
- Roberts, R. M., & Kreuz, R. J. (1994). Why do people use figurative language? Psychological Science, 5(3), 159-163. https://doi.org/10.1111/j.1467-9280.1994.tb00653.x
- Rockwell, P., & Theriot, E. (2001). Culture, gender, and gender mix in encoders of sarcasm. Communication Research Reports, 18(1), 44-52. https://doi.org/10.1080/08824090109384781
- Saryazdi, R., Bannon, J., & Chambers, C. G. (2019). Age-related differences in referential production: A multiple-measures study. Psychology and Aging, 34(6), 791-804. https://doi.org/10.1037/pag0000372
- Saryazdi, R., & Chambers, C. G. (2021). Real-time communicative perspective taking in younger and older adults. Journal of Experimental Psychology: Learning, Memory, and Cognition, 47, 439-454. https://doi.org/10.1037/ xlm0000890
- Shifman, L. (2013). Memes in digital culture. The MIT Press.
- Staub, A. (2021). How reliable are individual differences in eye movements in reading? Journal of Memory and Language, 116, 1-18. https://doi.org/10.1016/j.jml.2020.104190
- Surtees, A., Apperly, I., & Samson, D. (2016). I've got your number: Spontaneous perspective-taking in an interactive task. Cognition, 150, 43-52. https://doi.org/10.1016/j.cognition.2016.01.014
- Thompson, D., & Filik, R. (2016a). Sarcasm in written communication: Emoticons are efficient markers of intention. Journal of Computer-mediated Communication, 21(2), 105-120. https://doi.org/10.1111/jcc4.12156
- Thompson, D., Mackenzie, I. G., Leuthold, H., & Filik, R. (2016b). Emotional responses to irony and emoticons in written language: Evidence from EDA and facial EMG. Psychophysiology, 53(7), 1054-1062. https://doi.org/10.1111/
- Tsakalidis, A., Bazzi, M., Cucuringu, M., Basile, P., & McGillivray, B. (2019). Mining the UK web archive for semantic change detection. Proceedings of recent advances in natural language processing, 1212–1221. https://doi.org/10.17863/ CAM.43534
- Uskul, A. K., Kirchner-Häusler, A., Vignoles, V. L., Rodriguez-Bailón, R., Castillo, V. A., Cross, S. E., Yalçın, M. G., Harb, C., Husnu, S., Ishii, K., Jin, S., Karamaouna, P., Kafetsios, K., Kateri, E., Matamoros-Lima, J., Liu, D., Miniesy, R., Na, J., Özkan, Z., & Uchida, Y. (2023). Neither eastern nor western: Patterns of independence and interdependence in mediterranean societies. Journal of Personality and Social Psychology, 125(3), 471-495. https://doi. org/10.1037/pspa0000342
- van den Bos, W., van Dijk, E., Westenberg, M., Rombouts, S. A., & Crone, E. A. (2011). Changing brains, changing perspectives: The neurocognitive development of reciprocity. Psychological Science, 22(1), 60-70. https://doi.org/10. 1177/0956797610391102
- Varnum, M. E., Grossmann, I., Kitayama, S., & Nisbett, R. E. (2010). The origin of cultural differences in cognition: Evidence for the social orientation hypothesis. Current Directions in Psychological Science, 19(1), 9-13. https://doi. org/10.1177/0963721409359301
- Wang, R. (2022). The cultural differences between English and Chinese idioms and translation. Proceedings of the 2022 international conference on creative industry and knowledge economy, 610-614. https://doi.org/10.2991/aebmr.k.
- Yoon, E. J., Tessler, M. H., Goodman, N. D., & Frank, M. C. (2020). Polite speech emerges from competing social goals. Open Mind, 4, 71–87. https://doi.org/10.1162/opmi_a_00035
- Yu, N., & Jia, D. (2016). Metaphor in culture: LIFE IS A SHOW in Chinese. Cognitive Linguistics, 27(2), 147–180. https:// doi.org/10.1515/cog-2015-0080
- Zhu, N., & Filik, R. (2023). Individual differences in sarcasm interpretation and use: Evidence from the UK and China. Journal of Experimental Psychology: Learning, Memory, and Cognition, 49(3), 445-463. https://doi.org/10.1037/ xlm0001227