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Shortcuts to Insincerity: Texting Abbreviations Seem Insincere and Not Worth Answering

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As social interactions increasingly move to digital platforms, communicators confront new factors that enhance or diminish virtual interactions. Texting abbreviations, for instance, are now pervasive in digital communication—but do they enhance or diminish interactions? The present study examines the influence of texting abbreviation usage on interpersonal perceptions. We explore how texting abbreviations affect perceived sender sincerity and the subsequent likelihood that recipients respond. Eight preregistered studies ($N = 5{,}306$) using mixed methods (e.g., surveys, field and lab experiments, and archival analysis of Tinder conversations) find that abbreviations make senders seem less sincere and recipients less likely to write back. These negative effects arise because abbreviations signal a lower level of effort from the sender. Communicator familiarity and text exchange length do not attenuate these effects, providing evidence for a robust phenomenon.

Public Significance Statement
Texting abbreviations are regularly used by a majority (99.3%) of texters, yet their consequences on interpersonal communication remain underexplored. Through eight studies using mixed methods ($N = 5{,}306$), we provide evidence that texting abbreviations can negatively impact perceptions of sincerity and the likelihood of receiving a response from the other texter due to perceptions of lower effort. This research is among the first to study the potential social and psychological consequences of texting abbreviations and accentuates the need for attentive language use in the digital era to foster stronger interpersonal connections.

Keywords: texting, communication, interpersonal relationships, conversations

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Social interactions are a backbone of human life, shaping our well-being and the connections we build with others. To navigate these social interactions effectively, we rely on our abilities to generate and comprehend language in real time and assess and cater to others' needs. As the world swiftly adopts digital technologies, our social interactions increasingly migrate to the digital realm. Texting has become a cornerstone of this transformation, carrying forward our innate need for connection with its distinct language patterns (Turkle, 2015).

Texting stands as the predominant form of digital communication worldwide, with an estimated 1 trillion texts sent within the United States in 2020 alone (Ovide, 2022; Pew Research Center, 2011). As with other communication modalities, texting has evolved over time, giving rise to a distinct linguistic dialect characterized by texting abbreviations, also known as textese or short message service language (Bryant et al., 2006; van Dijk et al., 2016). Texting abbreviations are characterized by the abbreviation of words and phrases (e.g., "how are you?" abbreviated to "hru?"; Javed, 2016)

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All data, materials, and preregistrations are available at https://osf.io/j3wxq/?view_only=4001b48e007c4f9ea9a7d0a125682515. Supplemental Materials contain details for additional studies, analyses, and study materials and are all referenced in the main article. Prior versions of this work have been disseminated at Stanford University and the Association for Consumer Research 2023 Annual Conference. The authors have no conflicts of interest. This work was supported in part by funding from the Social Sciences and Humanities Research Council of Canada and the University of Toronto Data Sciences Institute.

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and have become pervasive, now used by virtually all texters across age brackets (Crystal, 2008, p. 8). Indeed, an initial survey we conducted suggests that 99.3% of texters (N = 150; Prolific) tend to use some form of texting abbreviations in daily conversations. Despite the prevalence of texting abbreviations, their impacts on interpersonal relationships and broader social and psychological consequences have remained largely unexplored. The present study presents a novel examination of the influence of texting abbreviations use on perceived sincerity and a subsequent behavioral outcome (i.e., the desire for the other party to text back), thereby providing valuable insights into the social and psychological implications of this widespread communication practice.

Texting serves as a crucial tool for modern relational management, often characterized as a communication medium primarily used for maintaining and strengthening connectedness with relational partners (Harari et al., 2020; Ling, 2005). And when employed effectively, text messaging can significantly contribute to establishing new relationships and nurturing existing ones (Pettigrew, 2009). Individuals intuitively understand that how they construct text messages can influence how others interpret them and often deliberate on optimal texting strategies that cater to their audience (Battestini et al., 2010; Holtgraves, 2011). Despite text messaging's primary purpose being relational building, there is limited research on how linguistic expression or composition of text messages influences interpersonal perceptions. For example, research has scarcely explored optimal text message construction for effective communication. This gap in the literature, despite its significance, provides credence to the present investigation, which examines how texting abbreviations can impact interpersonal perceptions.

Language choices during communication can subtly influence how others perceive the speaker, and as researchers uncover more factors that may affect conversational outcomes, communicators are becoming increasingly careful when crafting messages. Various linguistic choices, such as word selection (e.g., Fang & Maglio, 2024; Loftus & Palmer, 1974) or tone (e.g., Stephan et al., 2010), can significantly impact how a message is received. The present investigation proposes that the use of texting abbreviations also alters how audiences interpret a message. Although it can be argued that texting abbreviations and their nonabbreviated counterparts may be semantically identical, the structural changes introduced by texting abbreviations can lead to individuals interpreting messages differently. This variation in interpretation gives rise to two potential hypotheses about the effects of texting abbreviations on relational communication. On one hand, the use of texting abbreviations might be perceived as a lack of effort, which could negatively impact interpersonal perceptions as predicted by the social exchange theory (Homans, 1958). Alternatively, the use of texting abbreviations could promote a greater sense of interpersonal closeness, as this casual method mirrors a more laid-back and approachable communication style, potentially fostering positive interpersonal evaluations. We test these parallel hypotheses across eight multimethod studies (N = 5,398), including high-powered vignette studies, analysis of real texting data, initiating a field experiment on Discord (a social messaging platform), launching interactive online speed dating experiments, and a large-scale archival analysis of Tinder text exchanges.

Our investigation provides both theoretical and practical contributions. First, we advance literature around the social psychology of impression management and interpersonal communications by examining how language framing (i.e., full text vs. abbreviations) within text exchange contexts can elicit differential social consequences. We examine our findings through the lens of social exchange theory, thus enriching the ongoing dialogue and literature on social exchange theory by offering further empirical evidence within the contemporary context of text messaging conversations. Second, we provide significant theoretical contributions to literature surrounding computer-mediated communications by showing that the creation and maintenance of impressions through virtual mediums such as text messages may suffer from texting abbreviations use. Finally, this study provides practical guidance for how individuals may more strategically go about constructing text messages to form better impressions.

Texting Abbreviations

Texting abbreviations are a form of abbreviated language that is prevalent globally (Thurlow & Poff, 2013) and typically characterized by the shortening of words (van Dijk et al., 2016). Extant literature categorizes texting abbreviations into several distinct types, such as orthographic abbreviations (e.g., msg for message), phonological abbreviations (e.g., thanx for thanks), acronyms or initialisms (e.g., ttyl for talk to you later), shortenings (e.g., Feb for February), accent stylizations (e.g., dat for that), and single letter or number homophones (e.g., u for you, 2 for to; Lyddy et al., 2014). Texting abbreviations are typically employed to speed up the message exchange process, as abbreviated words or expressions are faster to send. The present investigation will focus predominantly on texting abbreviations used to shorten existing phrases, expressions, or words from their longer length semantic equivalents (e.g., hru vs. how are you).

Texting Abbreviations as Facilitators of Closeness

From the positive perspective, texting abbreviations can be seen as a reflection of a more relaxed, informal, and approachable communication style. Texting abbreviations generally foster a sense of casualness between communicators (Battestini et al., 2010; Grace et al., 2015), which can generate greater levels of perceived closeness and intimacy (Hays, 1985). In this context, the use of abbreviations can serve to break down barriers between conversational partners and establish a sense of intimacy and emotional connection (Derks et al., 2008). Usage patterns of texting abbreviations suggest that people tend to associate a greater amount of texting abbreviations with those who are relationally closer to them (Kemp & Clayton, 2017). By utilizing more texting abbreviations, communicators could bridge social distance, thereby eliciting higher levels of perceived trust and closeness (Weiss et al., 2021). A greater sense of closeness often leads to more self-disclosure and increased perceptions of warmth and information certainty (Weiss et al., 2021) and can elicit greater positive social evaluations (Rempel et al., 1985), such as enjoying gifts from those who are socially closer (Aknin & Human, 2015). This increase in perceptions of closeness can translate to positive social perceptions and downstream texting correspondence behaviors. Furthermore, the use of texting abbreviations may foster a casual communication environment that lowers the perceived effort needed to respond, potentially diminishing stress and boosting response rates (Scholl & Sassenberg, 2014), especially since longer messages often obligate reciprocation with similar effort (Gouldner, 1960), which can deter replies. Therefore, by increasing perceptions of closeness and

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lowering the word count (WC) of a text exchange, communicators may respond more to texting abbreviations (vs. their full-length counterparts). In light of this body of research, one hypothesis is that the usage of texting abbreviations can lead to higher levels of perceived sincerity and engagement between conversation partners facilitated by increased levels of perceived interpersonal closeness, ultimately fostering stronger interpersonal perceptions and more frequent communication.

Texting Abbreviations as Indicators for Effort, a Social Exchange Theory Perspective

Conversely, from another perspective, a social exchange view posits that texting abbreviations might harm interpersonal perceptions due to the inference of lower effort; the use of texting abbreviations could be interpreted as a lack of investment in the conversation, potentially leading to perceptions of insincerity and dismissiveness. Social exchange theory, spanning the fields of social psychology, economics, and sociology, posits that relational perceptions depend on the cost–benefit balance within a relationship (Cook et al., 2013; Homans, 1958; Worthy et al., 1969). In interdependent relationships, the level of effort one party invests may influence the other party's reciprocal effort (Cook et al., 2013; Emerson, 1976; Molm, 1994), and individuals generally adjust their efforts based on their relational partner's input over time (Korsgaard et al., 2010; Settoon et al., 1996). We define perceived effort as the level of effort another party ascertains that an individual has put into completing a task (Kruger et al., 2004). By viewing text conversations as a modern substantiation of a social exchange—where two individuals engage in the give-and-take of receiving, interpreting, and responding messages—linguistic expressions can be interpreted as tools to communicate effort between texters.

Perceived Effort as a Mediator

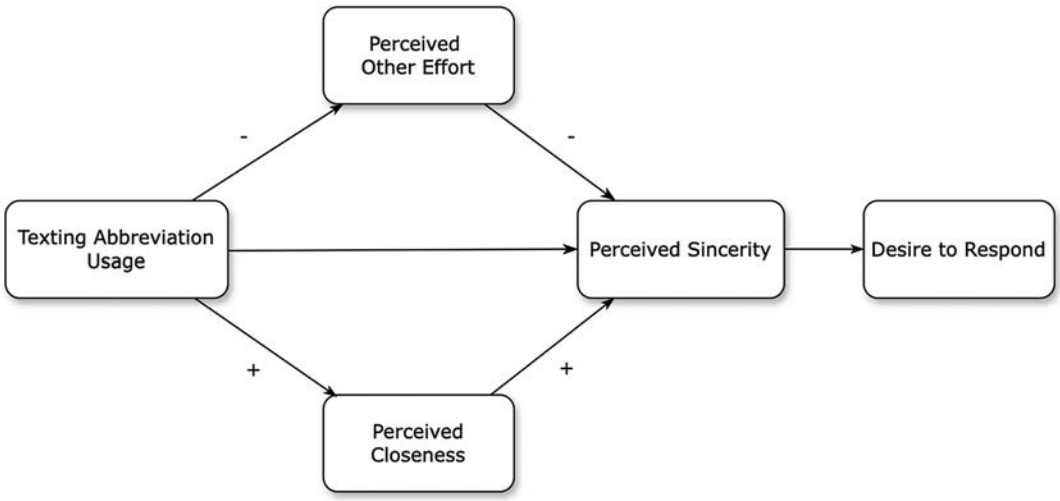
When text messages are viewed as an exchange of effort between two parties, it follows that if one party intuits that the other is inputting a comparatively lower amount of effort, this may sour the relationship (Kim et al., 2019). Using texting abbreviations in texting conversations could lead to lower perceived effort as, by definition, the message sent is shorter in characters than its full-length counterpart. And as communicators tend to intuit text length to ascertain levels of committed effort (Pan & Zhang, 2011), they may perceive that those who use texting abbreviations have expended a lower amount of effort during communications. This drop in perceived effort could influence perceived quality, as communicators tend to use effort as a heuristic for quality (Kruger et al., 2004). Perceiving a lower level of effort may trigger perceptions of lower conversational richness (i.e., lower quality text responses). Additionally, when lower effort is perceived in conversations, it may result in greater psychological distance (Proffitt et al., 2003; C.-C. Wang & Chiou, 2022; Zhang et al., 2024), fostering a sense of detachment among communicators. For instance, an appearance of lower effort could be construed by interlocutors as a lack of commitment and disinterest in the conversation (Dik & Aarts, 2007; Eastwood et al., 2012). Ultimately, this leads to a cycle where the recipient of texting abbreviations reduces their effort to match their partner's perceived lack of commitment, further degrading the quality of the conversation. A subsequent behavioral consequence of this is that recipients of messages with texting abbreviations will also put in less effort into their replies, which can reduce both response quality and response rates. Moreover, perception of sincerity is a strong antecedent to conversational response rates, suggesting that lower perceptions of sincerity could lower response rates (Rosenblum et al., 2020; Ziano & Wang, 2021). In summary, using texting abbreviations could potentially give the impression of less effort, leading to diminished perceptions of sincerity and, consequently, lower texting response rates (see Figure 1).

Potential Moderators

Number of Texting Abbreviations Used

The proportion of texting abbreviations to words might affect reactions to messages containing abbreviations, especially as previous

Figure 1
Process Diagram



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literature has shown that altering the frequency with which language features appear within a text (e.g., the number of verbs or abstract words within a passage) can shift audience reactions to those features (Beukeboom & Semin, 2006; Tyler et al., 2006; Wakslak et al., 2014). The impact of texting abbreviations on how communication is perceived might be either categorical, where simply using texting abbreviations prompts a reaction, or continuous, with perceptions shifting incrementally as more abbreviations are used. From a continuous standpoint, increasing the use of texting abbreviations may lead to the perception of diminishing effort by the sender; conversely, it could influence perceptions of a closer relationship through the fostering sense of a more informal dialogue. Another possibility is that a high volume of abbreviations could evoke negative judgments, suggesting the sender's departure from conventional communication norms. Finally, it might be that the occasional use of abbreviations is insignificant and ignored, implying that abbreviations must reach a certain prevalence before they affect perception. Given the possibilities, we test this moderator as part of our package of studies.

Closeness of the Other Party

The closeness of the other party could also potentially moderate the effects of texting abbreviations, a concept supported by several communication theories. According to social penetration theory, as relationships grow and deepen, the expectations between individuals evolve (Altman & Taylor, 1973). In contexts where there is already a strong closeness between parties, the effects of texting abbreviations on communication might be diminished or become less significant (Kelley, 1967). This reduced impact is due to a desensitization that occurs with familiarity (Campbell et al., 2014): When parties are already close, the nuances of communication, like the use of texting abbreviations, may not alter the perceived intimacy or quality of the interaction significantly. Furthermore, communication accommodation theory posits that communication styles naturally adapt as relationships progress (Giles et al., 1991). As individuals become closer, informal and casual exchanges, including the use of texting abbreviations, become more normative and expected. Accordingly, people tend to use more texting abbreviations with those they are close with, compared to with those who are less familiar or more distant. This suggests that the level of comfort and intimacy in a relationship influences texting communication styles, which might also suggest differing perceptions of texting abbreviations based on a relationship's depth (Crystal, 2008; Walther, 1996).

Overview of Studies

To study the influence of texting abbreviations on perceived sincerity and likelihood to respond, a variety of complementary methods (e.g., experiment, survey, field experiment, and archival analysis) were utilized across eight preregistered studies (N = 5,306, see Table 1) and four subsequent Supplemental Studies (N = 982). Study 1 asked participants to either rate text conversations with or without abbreviations. In Study 2, participants completed a discourse completion task (i.e., participants were given a prompt and asked to reply to it) for text conversations with or without abbreviations. To provide additional external validity, Study 3 was a survey, into which participants inputted and then rated their own text messaging history. Study 4 tested for our main effect in a field experiment, simultaneously testing response rates to messages with six different types of abbreviations (vs. a full-length equivalent message). Studies 5 and 6 sought to test for potential boundary conditions through experimental manipulations. Study 5 manipulated message length and abbreviation density (i.e., percentage of abbreviations within the text), and Study 6 manipulated relationship closeness. Finally, Studies 7 and 8 further sought to increase the ecological realism of our findings. In Study 7, we recruited participants for an interactive lab experiment, wherein participants had text-based speed dates with other participants while we manipulated the use of texting abbreviations. In Study 8, we sourced a large field data set of Tinder conversational data histories from 686 Tinder users to examine how abbreviation usage during naturalistic conversations maps onto real-world conversational outcomes.

Table 1
Overview of Studies

Study	Design	Task	N	Finding
1	Experiment	Rate text conversations	1,170	Participants rated others who use abbreviations in text message conversations as being more insincere and were less likely to text back to those who used abbreviations.
2	Experiment	Discourse completion task	240	Participants put in less effort when creating replies to those who use abbreviations.
3	Survey	Participants inputted own text conversations	200	Participants whose texting partners used more abbreviations put in less effort to the conversation, perceived partners as more insincere, and were less likely to continue the conversation.
4	Field experiment	Replying to a message	1,889	Discord users were less likely to reply to text messages with abbreviations.
5	Experiment	Rate text conversations	481	The length of the text exchange did not moderate our main effect, and our effects persisted even for exchanges with small numbers of abbreviations.
6	Experiment	Rate text conversations	444	The closeness of the other party did not moderate our main effects.
7	Interactive experiment	Rate text conversations	196	Participants were less likely to exchange contact information with those who were manipulated to use texting abbreviations.
8	Archival field data	Observational data from Tinder	686	Abbreviation usage among Tinder users is associated with lower average and median conversational length.
Posttest	Survey	Participant's intuition of main effect	120	Only 15.8% of participants accurately predicted our findings.

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A posttest (N = 120) revealed that only 15.8% of participants intuited our main effect findings.

The two preregistered dependent variables of interest measured across the experimental and survey studies were perceived sincerity and likelihood to continue the conversation. Perceived sincerity was selected due to its importance in social interactions (Eisinger & Mills, 1968; Ziano & Wang, 2021), and the likelihood to respond served as our primary consequential behavioral variable. We defined and measured perceived sincerity in a similar manner as previous studies, through observer judgments of others' sincerity (Barasch et al., 2016; Kroeper et al., 2022; Ziano & Wang, 2021). To prevent contamination across studies, all experimental studies contained unique participants. Finally, to address potential order effects, all collected measures were presented in a randomized order, and the scale directions were counterbalanced across participants. All experimental participants were native English speakers located either in the United States or the United Kingdom. For applicable studies (i.e., Studies 1, 2, 3, 5, 6, and 7), we conducted additional robustness tests (reported in the Supplemental Material) to account for control variables such as age, previous text messaging usage, familiarity with texting abbreviations, effort required to understand the other party, and perceived relational closeness with their texting partner. Our main effect for each study persisted in the face of these controls. Given the possibility of lower clarity and more frequent misunderstandings due to unfamiliarity with certain texting abbreviations (Perea et al., 2009; Rayner et al., 2006), we tested the comprehension of each of the texting abbreviations we employed in experiments for at least 95% comprehension before utilizing them.

Transparency and Openness

All preregistrations, data, and materials are available in the corresponding Open Science Framework folder (https://osf.io/j3wxq/?view_only=4001b48e007c4f9ea9a7d0a125682515).

Study 1

In this study, we investigated the effects of texting abbreviations on perceived sincerity and the likelihood of text back, testing two parallel hypotheses: (a) Abbreviations impede perceptions of sincerity and response rates by reducing the perception of effort, and (b) abbreviations foster sincerity and response rates due to heightened perceptions of closeness. Additionally, this study provides initial process evidence through the test of mediation.

Method

Participants

An a priori power test conducted with G*Power (Faul et al., 2007) with an estimated effect size of $f = 0.2$ and $\alpha = .05$ indicated that a sample size of 199 was required. In total, we collected data on 1,208 participants but excluded 38 participants who failed the attention check question (N = 38, or 3.1%). The final sample size in this study was 1,170 participants. Participants (48.8% female, 48.7% male, 2.2% nonbinary/third gender, 0.3% others; $M_{age} = 40.06$ years, SD = 13.81) were recruited from Prolific. Participants were asked to report their gender with an option to select male, female, nonbinary/third gender, or other—wherein we provided an option for them to specify further; in all subsequent studies, gender information was collected in a similar manner. A post hoc sensitivity analysis with power = 0.80, $\alpha = .05$, revealed a minimum detectable effect size of $f = 0.08$.

Procedure

Participants were randomly assigned to one of two conditions in a between-subject design: abbreviated text messages versus full-text messages. There were also 12 conversation topics, of which participants were randomly assigned to see only one. The topics were as follows: school, future plans, work, politics, everyday events, movies, family and friends, hobbies, sports, business, community, and fitness. We derived these 12 topics from a pretest ($N = 50$), which asked participants in an open-ended manner what kind of topics they most commonly discussed casually over text; these emerged as the 12 most common topics. This created a total of 24 conditions (2×12), where participants either saw a conversation in which their texting counterpart used abbreviated messages (N = 587, or 50.2%) or a full-text equivalent message (N = 583, or 49.8%), and the conversation they saw was about one of the 12 topics (see Figure 2 for sample conversations; Supplemental Material contains all conversation stimuli).

The abbreviated conversations we included as stimuli were pretested ($N = 100$) to ensure adequate comprehension (i.e., ability to fully comprehend the English written) and to rule out the possibility that comprehension was driving our effects. We asked participants to write exactly what each abbreviation used in the conversation was equivalent to (e.g., wuts = whats), which we used to generate an average abbreviation comprehension score for each stimulus (see Supplemental Study 1 for more details). All 12 conversations had at least a 95% comprehension rate (i.e., 95% of participants were able to spell out the abbreviations used in the stimuli).

For each conversation, we asked participants to imagine the conversation as a casual text conversation between the participant and another individual and then asked them to rate how they felt about the other individual and the conversation.

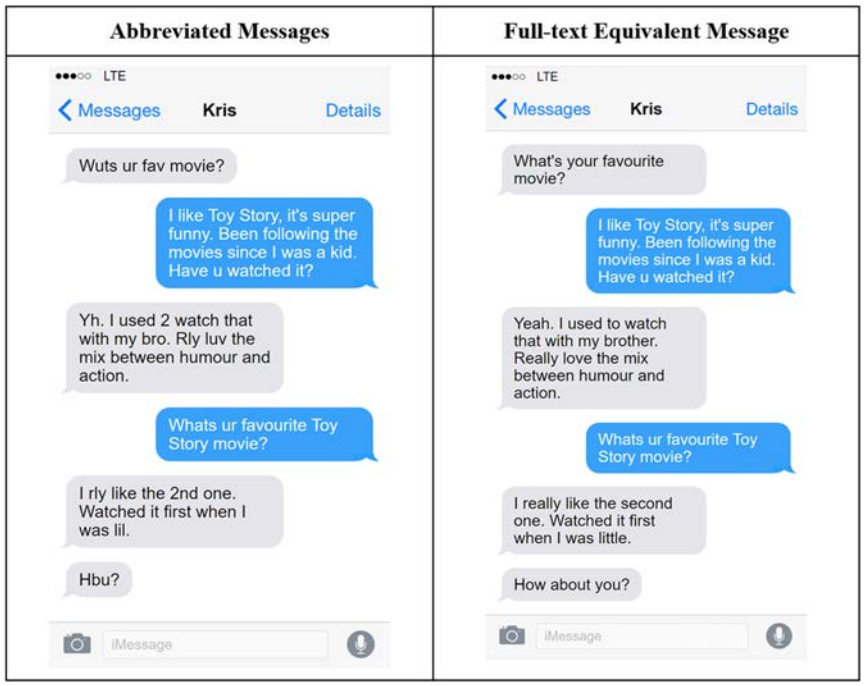
Measures

Dependent Variables. Participants rated perceived sincerity (e.g., "How sincere was the other party?") on a scale ranging from 1 (*not at all*) to 7 (*very much*; adapted from Ziano & Wang, 2021) and their likelihood of texting back (e.g., "Based on the other's texts, how likely would you text back?") on a scale ranging from 1 (*extremely unlikely*) to 7 (*extremely likely*).

Mediators. We also measured perceived effort (e.g., "How much effort did the other party invest in texting?") on a scale ranging from 1 (*no effort at all*) to 7 (*very much effort*; adapted from Bigman & Tamir, 2016) and perceived closeness (e.g., "How socially close do you perceive yourself to be to the other party?") on a scale ranging from 1 (*not close at all*) to 7 (*very close*; adapted from Van House et al., 2005; van Noort et al., 2012). We report additional variables we recorded to add as controls and exploratory measures in the Supplemental Material.

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Figure 2
Examples of Conversations on Movies



Note. Participants were told that messages displayed in gray were sent by the other texting party, while messages in blue were sent by the participant. To enhance the realism of the stimuli, we included the LTE logo, which represents a fourth-generation (4G) wireless communication standard. LTE = long-term evolution. See the online article for the color version of this figure.

Results

Perceived Sincerity

A linear mixed effects model analysis was performed, incorporating the abbreviated (vs. full) text condition as a fixed effect. This model was structured to account for variability by grouping both conversation topics and participants as random effects. We found that the full-text message ($M = 5.67$, $SD = 1.28$) elicited significantly greater perceived sincerity when compared to the abbreviated message ($M = 5.12$, $SD = 1.50$), $b = 0.53$, $t = 6.92$, $p < .001$.

Likelihood to Text Back

Utilizing a similar mixed effect model, we found that full-length messages ($M = 5.65$, $SD = 1.59$) elicited a significantly greater likelihood to text back when compared to the abbreviated messages ($M = 5.06$, $SD = 1.74$), $b = 0.56$, $t = 6.04$, $p < .001$ (see Figure 3 for breakdown by topic; see Figure 4 for aggregated comparison).

Perceived Other Effort

Participants rated perceived the other person's effort to be lower for abbreviated messages ($M = 4.12$, $SD = 1.60$) when compared to full-text messages ($M = 5.05$, $SD = 1.43$; $b = 0.93$, $t = 10.59$, $p < .001$). We ran a mediator model (PROCESS model 4; Hayes et al., 2017) with abbreviated (vs. full) text as the independent variable, perceived sincerity as the dependent variable, and perceived effort as the mediator. The results revealed a significant indirect effect of perceived effort on perceived sincerity ($b = .31$, 95% CI [.23, .39]). An additional serial mediation (Model 6; Hayes et al., 2017) with perceived other effort (M1) and perceived sincerity (M2) as the mediators on the effects of abbreviation usage (X) on a participant's likelihood to text back (Y) revealed significant total indirect effects ($b = .27$, $SE = .03$, 95% CI [.21, .35]).

Perceived Closeness

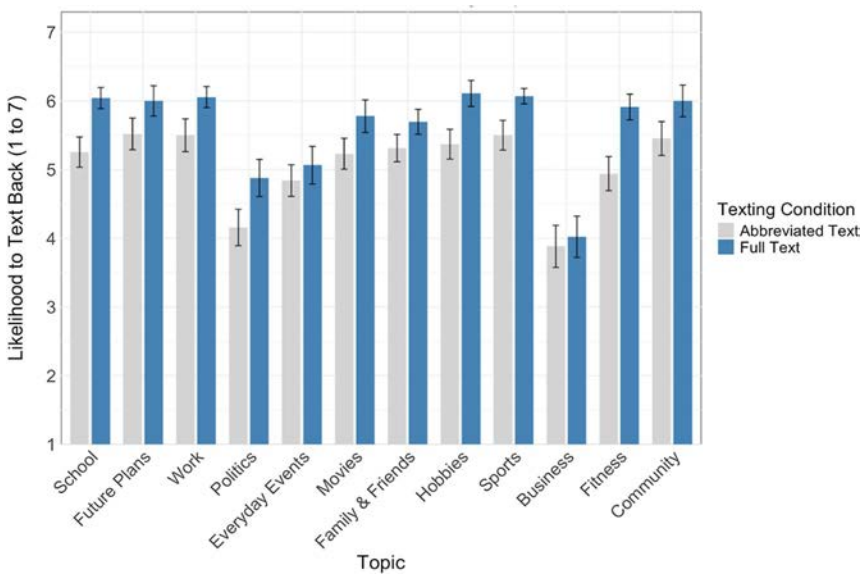
Abbreviated messages ($M = 4.71$, $SD = 1.53$) did not significantly affect perceived closeness to the sender compared to full-text messages, $M = 4.85$, $SD = 1.42$, $F(1, 1168) = 2.76$, $p = .10$, $\eta_p^2 = .002$. We ran a mediator model with abbreviated (vs. full) text as the independent variable, perceived sincerity as the dependent variable, and perceived closeness as the mediator. The results revealed no significant indirect effect of perceived closeness ($b = .05$, 95% CI [−.01, .12]) on perceived sincerity. A serial mediation model with perceived closeness (M1) and perceived sincerity (M2) similarly did not reveal significant indirect effects on likelihood to text back ($b = .04$, $SE = .03$, 95% CI [−.01, .10]).

Findings from this study suggest that our hypothesis that abbreviations engender perceptions of closeness, which can increase perceptions of sincerity and response rates, may not be applicable in this context. On the other hand, we did find initial support for our hypothesis suggesting that abbreviations can be detrimental to interpersonal perceptions and lower subsequent response rates

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Figure 3

The Effect of Conversation Topics and Texting Conditions on the Likelihood to Text Back



Note. See the online article for the color version of this figure.

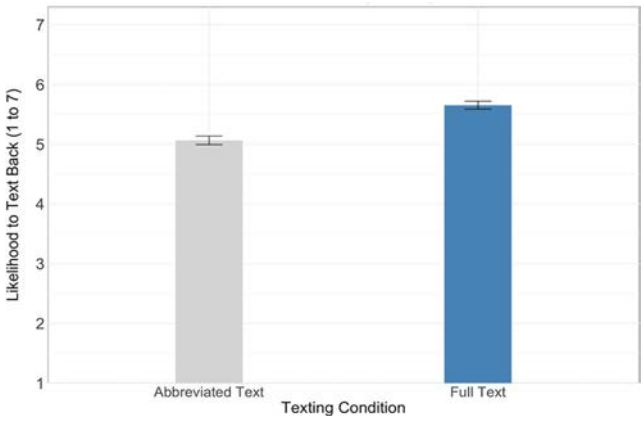
through a mechanism of decreased perceptions of effort. As an added measure of robustness, we asked participants to speculate on the study's purpose, with 4% successfully guessing. Even when analyzing only the data from those who did not guess the study's purpose, which we report in the Supplemental Material, our findings remain consistent. In subsequent studies, we will turn to focus on finding evidence to support this initial finding—that abbreviations can be negative for interpersonal perceptions—as well as test boundary conditions for when this effect may be attenuated.

Study 2

Study 2 sought to further probe the behavioral consequence of sending texts with abbreviations by utilizing a discourse completion task, wherein participants composed replies to texts with or without abbreviations.

Figure 4

The Effect of Texting Conditions on the Likelihood to Text Back



Note. See the online article for the color version of this figure.

Method

Participants

An a priori power test conducted with G*Power (Faul et al., 2007) with an estimated effect size of $f = 0.2$ and $\alpha = .05$ indicated that a sample size of 199 was required. Two hundred fifty participants were recruited from Prolific, of whom 240 participants ($M_{age} = 36.81$, $SD = 12.11$, 71.7% female, 27.5% male, 0.8% nonbinary/third gender) successfully fully completed their responses and passed the attention check question. A post hoc sensitivity analysis with power = 0.80, $\alpha = .05$, revealed a minimum detectable effect size of $f = 0.18$.

Procedure

Participants were asked to imagine themselves in five conversational prompts and asked to rate the other party and reply to each one. Participants saw five conversations that were either composed of full-text texts or abbreviated texts.

Measures

Dependent Variables. Participants rated perceived sincerity (e.g., "How sincere was the other party?") on a scale ranging from −3 (*not at all*) to 3 (*very much*; adapted from Ziano & Wang, 2021) and their likelihood of texting back (e.g., "Based on the other's texts, how likely would you text back?") on a scale ranging from −3 (*extremely unlikely*) to 3 (*extremely likely*). Participants also composed a reply to the other party, for which we measured their self-reported effort input on a scale ranging from −3

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(*extremely unlikely*) to 3 (*extremely likely*) and the average length of their response (in characters). We report additional variables we recorded to add as controls for additional robustness tests in the Supplemental Material.

Mediators. We also measured perceived effort (e.g., "How much effort did the other party invest in texting?") on a scale ranging from −3 (*no effort at* all) to 3 (*very effort*; adapted from Bigman & Tamir, 2016).

Results

A linear mixed effects model analysis was performed, incorporating the abbreviated (vs. full text) condition as a fixed effect, with each measured variable separately incorporated into the model as a fixed effect variable. This model was structured to account for variability by grouping both conversation topics and participants as random effects.

Perceived Sincerity

We found that the full-text message ($M = 0.28$, $SD = 0.74$) elicited significantly greater perceived sincerity when compared to the abbreviated message ($M = -0.65$, $SD = 0.85$), $b = 0.93$, $t = 12.80$, $p < .001$.

Likelihood to Text Back

Utilizing a similar mixed effect model, we found that full-text messages ($M = 0.96$, $SD = 0.96$) elicited a significantly greater desire to text back when compared to the abbreviated messages ($M = 0.12$, $SD = 1.14$), $b = 0.84$, $t = 9.07$, $p < .001$.

Perceived Other Effort

Participants rated perceived other effort to be lower for abbreviated messages ($M = -0.68$, $SD = 1.06$) when compared to full-text messages ($M = 0.04$, $SD = 1.04$), $b = 1.29$, $t = 12.46$, $p < .001$. We ran a mediator model (PROCESS model 4; Hayes, 2018) with abbreviated (vs. full) text as the independent variable, perceived sincerity as the dependent variable, and perceived effort as the mediator. The results revealed a significant indirect effect of perceived effort on perceived sincerity ($b = .92$, $SE = .10$, 95% CI [.74, 1.11]). To test whether perceived other effort (M1) and perceived sincerity (M2) mediated the relationship between abbreviation usage (X) and a participant's response rate (Y), we performed a serial mediation analysis with bootstrapping using the PROCESS macro (Model 6; Hayes et al., 2017). The indirect effect with the two mediators was significant ($b = .76$, $SE = .12$, 95% CI [.53, 1.02]).

Reply Effort

On average, participants replied with less effort to others who used abbreviations ($M = 16.23$, $SD = 10.28$) relative to those who used full-text messages ($M = 25.54$, $SD = 16.91$), $b = 0.72$, $t = 7.87$, $p < .001$.

Average Length of the Response

On average, participants replied with shorter texts to others who used abbreviations ($M = 16.47$, $SD = 10.35$) than to the full-text conversation condition ($M = 25.74$, $SD = 16.92$), $b = 9.27$, $t = 7.96$, $p < .001$.

Study 3

Study 3 sought to increase the external validity of our findings by conducting a field survey, wherein we sourced real text conversations from participants that they rated and which we coded for abbreviation usage.

Method

Participants

An a priori power test conducted with G*Power (Faul et al., 2007) with an estimated effect size of $f = 0.2$ and $\alpha = .05$ indicated that a sample size of 199 was required. Two hundred sixty-five participants were recruited from Prolific. Participants were asked at the beginning of the survey whether they were comfortable providing transcripts of their personal conversational data, of which 19 participants opted out. In total, 200 participants ($M_{age} = 36.81$, $SD = 12.74$, 60.5% female, 38.0% male, 1.5% nonbinary/third gender) were eligible for analyses after removing those who entered empty text conversations or failed the attention check questions. A post hoc sensitivity analysis with power = 0.80, $\alpha = .05$, revealed a minimum detectable effect size of $f = 0.20$.

Procedure

Participants were asked to input up to eight texts from a recent text conversation that they had with another individual. A research assistant then coded each of the conversations for how many abbreviations the other texter used across the conversation. We used the Linguistic Inquiry Word Counter (LIWC; Boyd et al., 2022) to generate the number of words in each conversation and then derived our central dependent variable by dividing the number of other texter abbreviations by the total word count of the conversation. We opted for this account of abbreviation usage as the lengths of the text exchanges varied heavily across participants ($M_{wc} = 62.7$, $SD = 35.63$), which helped to normalize relative abbreviation usage across participants. We report additional variables we recorded to add as controls (e.g., relational familiarity, familiarity with texting abbreviations, other party relational status) for additional robustness tests in the Supplemental Material.

Measures

Dependent Variables. Participants rated perceived sincerity (e.g., "How would you rate the sincerity of the other texter?") on a scale ranging from −3 (*strongly disagree*) to 3 (*strongly agree*) and their likelihood to continue the conversation (e.g., "How likely would you be to continue the conversation?") on a scale ranging from −3 (*extremely unlikely*) to 3 (*extremely likely*).

Mediator. We also measured perceived effort (e.g., "Based on the other's texts, how would you rate the level of effort the other texter put into the conversation?") on a scale ranging from 1 (*extremely low*) to 7 (*extremely high*).

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Results

Perceived Sincerity

Full-text messages ($M = 1.83$, $SD = 1.07$) elicited significantly greater perceived sincerity when compared to abbreviated messages, $M = 1.08$, $SD = 1.14$, $F(1, 198) = 19.70$, $p < .001$, $\eta_p^2 = .09$, with a mean difference of 0.75, $SE = 0.17$, $p < .001$.

Likelihood to Continue the Conversation

Full-text messages ($M = 1.85$, $SD = 1.40$) elicited a significantly greater desire to text back when compared to abbreviated messages, $M = 1.28$, $SD = 1.65$, $F(1, 198) = 6.15$, $p = .014$, $\eta_p^2 = .03$, with a mean difference of 0.57, $SE = 0.23$, $p = .014$.

Perceived Other Effort

Participants rated perceived the other's effort to be lower for abbreviated messages ($M = 4.32$, $SD = 1.50$) when compared to full-text messages, $M = 5.30$, $SD = 1.12$, $F(1, 198) = 26.25$, $p < .001$, $\eta_p^2 = .12$, with a mean difference of 0.98, $SE = 0.19$, $p < .001$. We ran a mediator model (PROCESS model 4; Hayes, 2018) with abbreviated (vs. full) text as the independent variable, perceived sincerity as the dependent variable, and perceived effort as the mediator. The results revealed a significant indirect effect of perceived effort on perceived sincerity ($b = .39$, $SE = .10$, 95% CI [.21, .60]). An additional serial mediation (Model 6; Hayes et al., 2017) with perceived other effort (M1) and perceived sincerity (M2) as the mediators on the effects of abbreviation usage (X) on a participant's likelihood to text back (Y) revealed significant total indirect effects ($b = .09$, $SE = .05$, 95% CI [.001, .21]).

Study 4

In this study, we aimed to test our main effect in a field experiment setting, as well as test whether our main effect held across all six generally recognized texting abbreviation types, including contractions, phonological abbreviations, acronyms, shortenings, accent stylizations, and homophones of numbers and letters (Lyddy et al., 2014). Our field experiment was conducted on Discord, a widely used online social messaging platform that houses numerous independent communities described as channels. For our experiment, we focused on a highly popular social channel dedicated to discussing animation shows; the channel hosts over 500,000 members. We chose Discord for two reasons: (a) Participants who use Discord tend to be adept internet users (Uong et al., 2022), which is highly correlated with familiarity with texting abbreviations (Lu et al., 2011); (b) the demographic of Discord users tends to be young adults (Uong et al., 2022), who are some of the heaviest texters (Skierkowski & Wood, 2012); and (c) Discord is primarily a social platform, and so the act of socializing on the platform is normative. If abbreviations still significantly reduce response rates in this demographic, it highlights the robustness of our findings.

Method

Participants

An a priori power test conducted with G*Power (Faul et al., 2007) with an estimated effect size of $f = 0.2$ and $\alpha = .05$ indicated that a sample size of 199 was required. In total, we collected data on 1,889 participants from a Discord channel. Due to the nature of this field experiment and Discord's privacy guidelines, where we measured naturalistic behaviors, we were unable to gather demographic details like gender, age, or ethnicity and race. A post hoc sensitivity analysis with power = 0.80, $\alpha = .05$, revealed a minimum detectable effect size of $f = 0.06$.

Procedure

The members of a largely popular anime social Discord channel hosting over 500,000 members were scraped, and from those scraped, 1,900 potential participants were randomly selected and assigned to one of 12 conditions. Participants were put into one of six type abbreviation conditions (i.e., contractions, phonological abbreviations, acronyms, shortenings, accent stylizations, and homophones of numbers and letters), and they either saw a corresponding full-text message ($N = 946$, or 50.0%) or the abbreviated message ($N = 943$, or 50.0%), which resulted in 12 conditions (6×2). A post hoc sensitivity analysis ($\alpha = .05$) indicated the study had adequate power to detect a small effect size ($f = .18$).

Measures

Discord allows direct messaging of users, and so to test the effect of using texting abbreviations, we sent a direct message to participants. In the message, we introduced ourselves and asked the participants to recommend recent anime shows they had watched. Our dependent variable was whether the participant responded to our message. We pretested each abbreviated message we included as stimuli ($N = 100$) by asking active Discord users whether they were able to comprehend (yes/no) what the message was trying to convey. A notable 97% reported comprehension, suggesting a nonsignificant difference from a 100% rating ($p = .81$). This ensures that any variations observed in the main study are not due to differences in the stimuli comprehensibility. Four research assistants, who were not briefed on the experiment's hypotheses, sent out the messages over a span of 1 day. See Table 2 for samples of messages that were sent; the Supplemental Material contains all message stimuli.

Table 2
Examples of Conversations on Abbreviation Type

Abbreviation type	Abbreviated and full-text equivalent message
Shortening	Hi, I'm new to anime and hav (have) been tryin (trying) to find info (information) bout (about) new shows to watch. I see that ur (you're) a memb (member) at Chill Heaven! What's a recent anime you watched that you really liked? Any recs (recommendations) would be fab (fabulous), thx (thanks)!
Contractions	Hi, I'm new to anime and hv (have) been trying to find new shows to wtch (watch) ltr (later). I see you're a member at Chill Heaven! Wats (whats) a recent anime you wtched (watched) tht (that) you rlly (really) liked? Any recommendations wud (would) be helpful, thnks (thanks)!

Note. Content inside parentheses is the full-text equivalent message.

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Results

Response Rate

We performed a logistic regression with linear mixed effects, adjusting for random effects associated with different types of abbreviations, and found that full-text messages ($M = 0.20$, $SD = 0.40$) elicited significantly greater response rates compared to abbreviated messages ($M = 0.15$, $SD = 0.36$), $b = 0.02$, $t = 2.68$, $p = .007$. Directionally, response rates were higher for full-text (vs. abbreviated) messages for nearly all abbreviation types (see Figure 5). The only abbreviation type where response rate was comparable between abbreviated and full-text messages was the phonological abbreviation condition.

Study 5

This study was designed to test one of our proposed boundary conditions in the introduction, examining whether the word length of text message exchanges (i.e., 30–40 word text exchange vs. 70–80 word text exchange) or the ratio of abbreviations to total words would moderate our observed effects.

Method

Participants

An a priori power test conducted with G*Power (Faul et al., 2007) with an estimated effect size of $f = 0.2$ and $\alpha = .05$ indicated that a sample size of 199 was required. Four hundred eighty-five participants were recruited from Prolific, of whom 481 ($M_{age} = 38.27$, $SD = 15.16$, 69.6% female, 29.3% male, 0.8% nonbinary/third gender, 0.2% others) qualified for analyses after removing those who failed the attention check questions. All participants texted on a regular basis. A post hoc sensitivity analysis with power = 0.80, $\alpha = .05$, revealed a minimum detectable effect size of $f = 0.13$.

Procedure

Participants were asked to imagine being in a text conversation between themselves and another individual. They then sequentially rated three text conversations in which the other texter either used 0% abbreviations, 10% abbreviations, or 20% abbreviations, and the word count of the text exchange was either short at 30–40 words or long at 70–80 words (3 × 2; six between-subject conditions). To avoid the number of text exchanges being a confounding factor, the total text messages exchanged between participants were five messages for both the short and long word-count conditions. Finally, as 18.75%–25% of all words exchanged through text messages is a form of abbreviation (Holtgraves, 2011; Lyddy et al., 2014), to add ecological validity, we chose 20% abbreviation to word count density as our upper limit to represent the prototypical abbreviation usage condition. The semantic content exchanged across conversations was identical aside from abbreviation usage.

Measures

Dependent Variables. Participants rated perceived sincerity on a scale ranging from −3 (*not at all*) to 3 (*very much*) and their likelihood of texting back on a scale ranging from −3 (*extremely unlikely*) to 3 (*extremely likely*).

Mediator. We also measured perceived effort on a scale ranging from −3 (*strongly disagree*) to 3 (*strongly agree*).

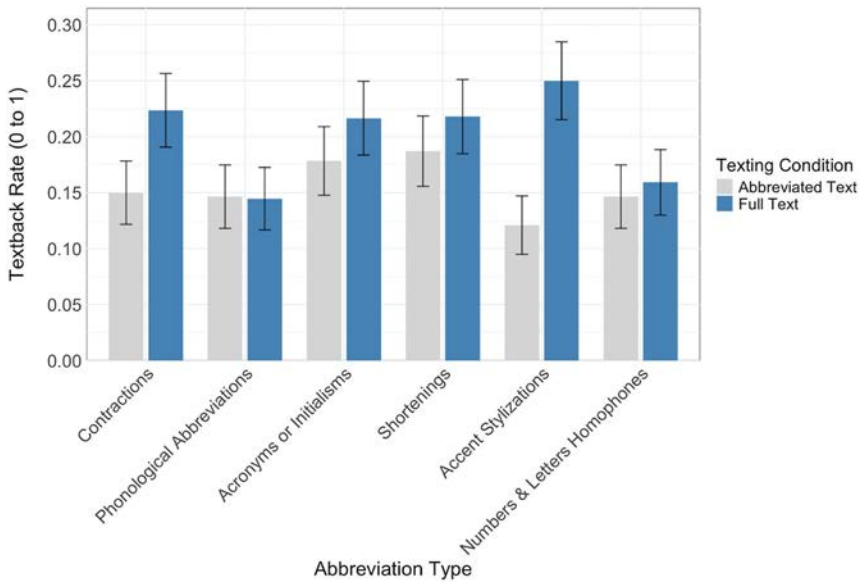
Results

Perceived Sincerity

We performed a linear mixed effects model analysis, incorporating the abbreviated (vs. full) text condition as a fixed effect. This model was structured to account for variability by grouping both conversation topics and length as random effects. We found that

Figure 5

The Effect of Abbreviation Types and Texting Conditions on the Likelihood to Text Back



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full-text messages ($M = 1.15$, $SD = 0.75$) elicited significantly greater perceived sincerity when compared to abbreviated messages ($M = 0.61$, $SD = 0.91$), $b = 0.53$, $t = 8.25$, $p < .001$. Relative to full-text equivalents, perceived sincerity was significantly lower for both the 10% abbreviated conversation ($M_{10\%} = 0.70$, $SD = 0.81$) and 20% abbreviated conversation ($M_{20\%} = 0.52$, $SD = 1.00$; $M_{\text{diff}} = -0.18$, $SE = 0.10$, $p = .06$), $b = 0.31$, $t = 8.41$, $p < .001$.

Likelihood to Text Back

Utilizing a similar mixed effect model, we found that full-text messages ($M = 1.85$, $SD = 0.79$) elicited a significantly greater desire to text back when compared to the abbreviated messages ($M = 1.11$, $SD = 1.24$), $b = 0.56$, $t = 6.04$, $p < .001$. Relative to full-text equivalents, the likelihood to text back was significantly lower for the 10% abbreviated condition ($M_{10\%} = 1.31$, $SD = 1.06$) and the 20% abbreviated condition ($M_{20\%} = 0.92$, $SD = 1.37$; $M_{\text{diff}} = 0.39$, $SE = 0.12$, $p = .002$), $b = 0.47$, $t = 10.41$, $p < .001$.

Interaction Effects

There was not a significant interaction effect between length of the text conversation and abbreviation usage for both perceived sincerity $F(1, 477) = 0.162$, $p = .69$, and likelihood to text back $F(1, 477) = 0.16$, $p = .69$.

Perceived Other Effort

Participants rated perceived other effort to be lower for abbreviated messages ($M = 4.09$, $SD = 1.11$) when compared to full-text messages ($M = 5.12$, $SD = 0.85$), $b = 1.03$, $t = 13.86$, $p < .001$. We ran a mediator model (PROCESS model 4; Hayes, 2018) with abbreviated (vs. full) text as the independent variable, perceived sincerity as the dependent variable, and perceived effort as the mediator. The results revealed a significant indirect effect of perceived effort on perceived sincerity ($b = .60$, $SE = .06$, 95% CI [.48, .73]). An additional serial mediation (Model 6; Hayes et al., 2017) with perceived other effort (M1) and perceived sincerity (M2) as the mediators on the effects of abbreviation usage (X) on a participant's likelihood to text back (Y) revealed significant total indirect effects ($b = .29$, $SE = .06$, 95% CI [.19, .41]).

Study 6

This study manipulated the relationship of the other individual whom the participants imagined themselves texting to causally determine if relational closeness could moderate our observed effects, testing one of our proposed boundary conditions.

Method

Participants

An a priori power test conducted with G*Power (Faul et al., 2007) with an estimated effect size of $f = 0.2$ and $\alpha = .05$ indicated that a sample size of 199 was required. Four hundred fifty-seven participants were recruited from Prolific, of whom 444 ($M_{\text{age}} = 41.42$, $SD = 14.52$, 63.3% female, 34.0% male, 2.3% nonbinary/third gender, 0.4% others) qualified for analyses after removing those who failed the attention check questions. A post hoc sensitivity analysis with power = 0.80, $\alpha = .05$, revealed a minimum detectable effect size of $f = 0.13$.

Procedure

Participants were asked to imagine being in a text conversation either with someone they are close to, distant to, or a control (no explicit relational description). They then sequentially rated either five text conversations where the other texter used abbreviations or a full-text equivalent (between subjects). Conversations were identical aside from abbreviation usage. Before participants began rating the conversations, they rated (1 = *very distant*, 7 = *very close*) the closeness of their relationship to the imagined other texter as a manipulation check ($M_{\text{control}} = 5.66$, $SD = 1.26$; $M_{\text{close}} = 6.13$, $SD = 0.98$; $M_{\text{distant}} = 4.53$, $SD = 2.10$). The mean difference between the relational distant and relational close conditions was highly significant ($M_{\text{diff}} = 1.60$, $SE = 0.18$, $p < .001$).

Measures

Dependent Variables. Participants rated perceived sincerity on a scale ranging from −3 (*not at all*) to 3 (*very much*) and their likelihood of texting back on a scale ranging from −3 (*extremely unlikely*) to 3 (*extremely likely*).

Mediators. We also measured perceived effort on a scale ranging from −3 (*strongly disagree*) to 3 (*strongly agree*).

Results

Perceived Sincerity

A linear mixed effects model analysis was performed, incorporating the abbreviated (vs. full) text condition as a fixed effect. This model was structured to account for variability by grouping conversation topics as random effects. We found that full-text message ($M = 1.13$, $SD = 0.71$,) elicited significantly greater perceived sincerity when compared to the abbreviated message ($M = 0.27$, $SD = 0.94$), $b = 0.53$, $t = 6.92$, $p < .001$.

Likelihood to Text Back

Utilizing a similar mixed effect model, we found that full-text messages ($M = 1.70$, $SD = 0.82$) elicited a significantly greater desire to text back when compared to the abbreviated messages ($M = 0.70$, $SD = 1.23$), $b = 0.86$, $t = 16.56$, $p < .001$ (see Figure 6).

Interaction Effects

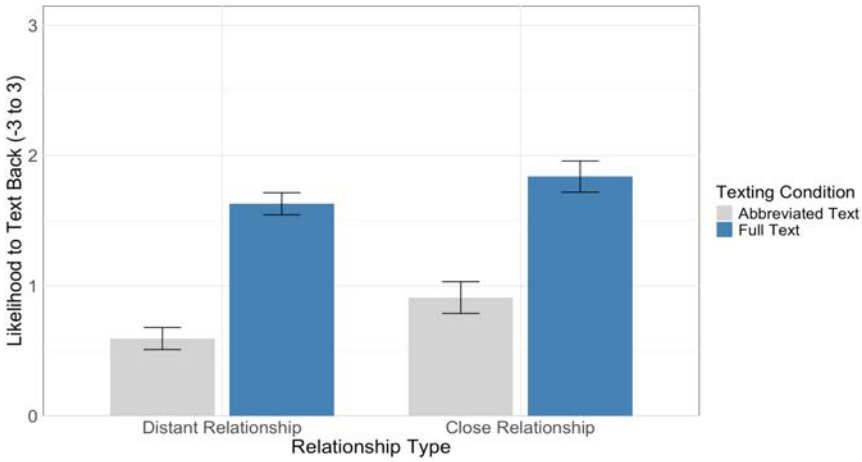
There was not a significant interaction effect between relationship type and abbreviation usage for both perceived sincerity $F(5, 438) = 0.588$, $p = .56$, and likelihood to text back $F(5, 438) = 1.20$, $p = .33$.

Perceived Other Effort

Participants rated perceived other effort to be lower for abbreviated messages ($M = 3.45$, $SD = 1.05$) when compared to full-text messages ($M = 4.74$, $SD = 0.76$), $b = 1.30$, $t = 22.90$, $p < .001$. We ran a mediator model (PROCESS model 4; Hayes, 2018) with abbreviated (vs. full) text as the independent variable, perceived sincerity as the dependent variable, and perceived effort

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Figure 6
Perceived Sincerity Ratings for Study 6 Texting Conditions



Note. See the online article for the color version of this figure.

as the mediator. The results revealed a significant indirect effect of perceived effort on perceived sincerity ($b = .84$, $SE = .07$, 95% CI [.69, .99]). An additional serial mediation (Model 6; Hayes et al., 2017) with perceived other effort (M1) and perceived sincerity (M2) as the mediators on the effects of abbreviation usage (X) on a participant's likelihood to text back (Y) revealed significant total indirect effects ($b = .48$, $SE = .07$, 95% CI [.35, .64]).

Study 7

In this study, to increase realism, we sought to experimentally test our effect in an interactive environment, where participants can text between each other in real time. To achieve this, we matched participants on virtual speed dates during Valentine's Day week and observed their texting patterns whilst manipulating one party's use of texting abbreviations.

Method

Participants

An a priori power test conducted with G*Power (Faul et al., 2007) with an estimated effect size of $f = 0.2$ and $\alpha = .05$ indicated that a sample size of 199 was required. In total, we collected data on 250 participants located in the East Coast of the United States with the help of Prolific. Following preregistered data exclusion guidelines, after excluding participants who failed to be matched and participants who were in dyads where one party did not engage in any conversation, we were left with 196 participants (totaling 98 dyads), of whom 48.8% were female, 48.7% were male, 2.2% were nonbinary/third gender, and 0.3% were others. Participant demographics were collected in a similar manner as in previous studies. A post hoc sensitivity analysis with power = 0.80, $\alpha = .05$, revealed a minimum detectable effect size of $f = 0.29$.

This experiment was carried out during Valentine's Week 2024, with the recruitment criteria focusing on heterosexual, single individuals aged 21–35 located in the East Coast of the United States. Each dyad was composed of a male and a female.

Procedure

Leveraging the SmartIQS platform (Molnar, 2019), we built an interactive online experiment, matching participants in dyads to text each other in a real-time interactive environment. Participants were recruited under the pretense of participating in an online speed dating event with another individual of the opposite sex who was single and in the same region (i.e., East Coast of the United States). Once recruited, participants were given instructions and then placed into a waiting room to be matched with another participant of the opposite sex to form dyads. Once matched, we then separated the individuals within the dyads into a sender and receiver condition. Participants in the sender condition were given a list of eight terms and told that for each term they used in the conversation they would gain a bonus of 5 cents. They were told to keep this task secret from the other party. The list of eight terms that the sender was told to send for a bonus was either a full-text term or an abbreviated version of the term with a separate column with the full-text version visible for understandability. The receiver did not receive those instructions. The dyad was then given instructions to communicate with each other. Our dependent variables were based on the reactions of the receiver to the sender as a function of whether the sender was given instructions to include full-text terms in their messages ($N = 52$, or 53.1%) or abbreviated terms ($N = 46$, or 46.9%).

Dyads engaged in up to 5 min of text interaction, with the option to exit at any time. Following the chat, as a dependent variable, participants were offered the chance to decide whether they wanted to exchange their Prolific email addresses with their partner to continue chatting, which we did if both parties agreed.

Measures

Dependent Variables. Participants rated perceived sincerity on a scale ranging from 1 (*not at all*) to 7 (*very much*; adapted from Ziano & Wang, 2021), their likelihood of texting back on a scale ranging from 1 (*extremely unlikely*) to 7 (*extremely likely*), and their desire to exchange contact information or not (1 = *yes*, 0 = *no*).

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Mediators. We also measured perceived effort on a scale ranging from 1 (*no effort at all*) to 7 (*very much effort*; adapted from Bigman & Tamir, 2016). We report additional variables we recorded to add as controls and exploratory measures in the Supplemental Material.

Results

Perceived Sincerity

We found that full-text messages ($M = 4.87$, $SD = 1.59$) elicited significantly greater perceptions of sincerity when compared to abbreviated message, $M = 3.88$, $SD = 1.89$, $F(1, 96) = 7.72$, $p = .007$, $\eta_p^2 = .074$.

Desire to Keep Texting

We found that full-text messages ($M = 3.70$, $SD = 1.88$) elicited a significantly greater desire to text back when compared to abbreviated messages, $M = 2.54$, $SD = 1.75$, $F(1, 96) = 9.91$, $p = .002$, $\eta_p^2 = .094$.

Choice to Exchange Contact Information

A chi-square test of independence was performed to evaluate the relationship between the percentage of choosing to exchange contact information and abbreviation usage. The relationship between these variables was marginally significant, $\chi^2(1, 98) = 2.99$, $p = .08$, where participants were more likely to exchange contact information when receiving full-text messages (yes = 36.96% vs. no = 63.04%) compared to the abbreviated message condition (yes = 21.15% vs. no = 78.85%).

Perceived Other Party Effort

Participants rated perceived other effort to be lower for abbreviated messages ($M = 3.33$, $SD = 1.92$) when compared to full-text messages, $M = 4.13$, $SD = 1.81$, $F(1, 96) = 4.52$, $p = .036$, $\eta_p^2 = .036$. We ran a mediator model (PROCESS model 4; Hayes, 2018) with abbreviated (vs. full) text as the independent variable, perceived sincerity as the dependent variable, and perceived effort as the mediator. The results revealed the significant indirect effect of perceived effort ($b = .37$, CI [.03, .81]) on perceived sincerity. To test whether perceived other effort (M1) and perceived sincerity (M2) mediated the causal relationship between abbreviation usage (X) and a participant's response rate (Y), we performed a serial mediation analysis with 5,000 bootstraps using the PROCESS macro (Model 6; Hayes et al., 2017), revealing a significant total indirect effect ($b = .21$, $SE = .12$, 95% CI [.02, .47]).

Study 8

Study 8 supplements the existing set of studies by analyzing text message abbreviation usage in a naturalistic conversational context—that of Tinder conversations. In this study, we conducted a large-scale analysis of Tinder conversations from 686 Tinder users to examine how abbreviation usage maps onto average conversational length, a pertinent user-level outcome. Tinder is a useful platform to analyze the effects of texting abbreviations on conversational outcomes for four reasons. First, the platform is a global platform, spanning 197 countries with over 75 million monthly active users, making it relatively easy to procure a diverse and large data set of digital dyadic interactions. Second, the Tinder platform primarily consists of younger individuals, between the ages of 18–34 (Stephure et al., 2009), a population that is perceived to be more receptive to texting abbreviations. Third, the relational status of users on Tinder is standardized, whereby individuals who match typically have no prior contact. Fourth, since users on Tinder usually aim to establish and enhance social rapport over conversations, this makes conversational variables such as average conversational length relevant for assessing how language style, including abbreviation usage, impacts relationship-building outcomes.

Method

Procedure

We obtained the profile and conversational history of 1,209 Tinder users from swipestats.io, a third-party data provider who collects data from their userbase. Due to the confidential nature of the data, access to the data set is available upon request. As per European Union General Data Protection Regulation data privacy regulation procedures, the data set we obtained contained exclusively outbound messages and not inbound messages (i.e., messages they received from their matches). Although this may be a limitation, having all the outbound messages of a Tinder user still allows meaningful analysis of how linguistic styles, such as abbreviation usage, impact the level of engagement and responsiveness from their matches and is sufficient for the present study's purposes. The respect for privacy and compliance with regulations strengthens the ethical foundation of the research. After preregistered data cleaning procedures, which involved removing users with non-English conversations (filtered with langDetect in Python), missing conversation data, or missing conversation statistics data (e.g., no average conversation length data), a total of 686 users (202,154 conversations) spanning 37 different countries across five continents, including North America, South America, Asia, Europe, and Australia (see Supplemental Material for distribution), remained for analyses. The diverse geographical representation in the data set offers increased stability and generalizability of our findings across cultural and regional boundaries, providing a more comprehensive understanding of communication patterns and preferences in a global context.

To operationalize abbreviation usage, we opted to use a modified version of the netspeak variable from the LIWC (Boyd et al., 2022). The netspeak variable quantifies the proportion of words (ranging from 0% to 100%) within a given document that belong to a predefined list of 439 prevalent internet abbreviations (e.g., 4ever, b4). Given that the list of words within netspeak may not always reflect abbreviations and may also include slang and other internet terms (e.g., dank, snapchat), we employed three research assistants impervious to our hypotheses to hand code each of the 439 list of words to further filter for only those that were abbreviations and only kept those with agreement from all three research assistants. This resulted in a modified netspeak variable with 199 abbreviations. The full list of words within the modified dictionary is available in the Supplemental Material. For our variable of interest, we aggregated a user's message history (i.e., all the messages they had sent on Tinder) and then derived a netspeak score based on this history

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(i.e., the proportion of internet abbreviations used across their entire message history). For robustness, we analyzed our results with both our modified netspeak variable, which we report in the main article, and the unmodified original netspeak variable, which we report in the Supplemental Material. Utilizing netspeak from the LIWC to operationalize abbreviation usage presents several benefits for the study. First, the LIWC is a well-established and widely accepted tool for analyzing various linguistic features, providing a reliable and standardized method for measuring abbreviation usage. This ensures that the research findings are both valid and comparable with other studies using the same tool. Second, netspeak extensively captures variations of common abbreviations and acronyms in digital communication, making it a highly suitable variable for investigating the impact of abbreviation usage on conversational outcomes. The precision of netspeak as a measure strengthens the study's ability to uncover nuanced relationships between abbreviation usage and various aspects of online communication. Last, by using an established variable from the LIWC, the study benefits from the extensive research and development that has gone into refining the tool, thereby increasing the credibility and rigor of the analysis. As our dependent variable, we calculated a user's average conversation length, which we naturally logged given the right-skewed nature of the data (West, 2022).

We report the preregistered regression model within the main article. This model includes a plethora of covariates, including user profile characteristics such as gender, education, and Instagram verification and derived LIWC variables such as words per sentence, filler words, word count, big words, and pronouns. Additionally, we also report our analyses with 10 latent Dirichlet allocation topic models as covariates, which controls for the content of the conversations by identifying underlying themes and topics. See the Supplemental Material for a more thorough explanation of methods and statistical assumptions (e.g., multicollinearity). By incorporating covariates into our analyses, we can more accurately determine the unique contribution of abbreviation usage to conversational outcomes while accounting for potential confounders. Additionally, to further increase the robustness of our findings, we probed our analyses with additional regression models with different covariates beyond our preregistered model (i.e., controlling for countries, additional LIWC features, and profile popularity), which we report in the Supplemental Material.

Results

An increase in netspeak is associated with shorter conversations, $b = -0.066$, $t(684) = -2.35$, $p = .02$. After controlling for basic profile factors such as age, gender, education, and Instagram verification, an increase in netspeak is still associated with shorter Tinder conversations, $b = -0.064$, $t(681) = -2.30$, $p = .02$. This finding persists even after controlling for other style factors through the LIWC and content factors through latent Dirichlet allocation topic models, $b = -0.076$, $t(667) = -2.54$, $p = .01$ (see Table 3). Note that the netspeak score serves as a percentage point measure that ranges from 0 to 100, and so a 1 percentage point increase in netspeak is

Table 3
Abbreviation Usage and Tinder Outcomes

	Dependent variable			
	Logged average conversation length			
Variable	(1)	(2)	(3)	(4)
Netspeak	−0.066** (0.028)	−0.064** (0.028)	−0.078*** (0.030)	−0.076** (0.03)
Gender		−0.116 (0.078)	−0.045 (0.076)	−0.044 (0.077)
Education		−0.107 (0.071)	−0.03 (0.069)	−0.03 (0.07)
Instagram true		−0.009 (0.069)	−0.065 (0.066)	−0.071 (0.067)
Words per sentence			0.001*** (0.0003)	0.001*** (0.0003)
Filler words			0.557*** (0.185)	0.573*** (0.187)
Word count			0.00000*** (0.000)	0.00000*** (0.000)
Big words			0.047*** (0.013)	0.049*** (0.013)
Pronouns			−0.012 (0.009)	−0.011 (0.009)
Topic 1				−0.128 (0.209)
Topic 2				0.011 (0.198)
Topic 3				0.159 (0.203)
Topic 4				0.1 (0.2)
Topic 5				0.18 (0.21)
Topic 6				0.21 (0.20)
Topic 7				0.094 (0.21)
Topic 8				0.16 (0.18)
Topic 9				0.048 (0.21)
Constant	1.75*** (0.037)	1.94*** (0.095)	1.30*** (0.26)	1.10*** (0.31)
Observations	686	686	686	686
R^2	0.008	0.015	0.125	0.134
Adjusted R^2	0.007	0.009	0.114	0.11
Residual standard error	0.76 ($df = 684$)	0.76 ($df = 681$)	0.72 ($df = 676$)	0.72 ($df = 667$)
F Statistic	5.53**	2.54**	10.78***	5.72***

Note. Values in parentheses are standard errors. Gender = 1 if female. Education = 1 if university educated.
** $p < .05$. *** $p < .01$.

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associated with a roughly 7 percentage point decrease in average conversational length.

Posttest

Following our main studies, we conducted a posttest with participants recruited through Prolific ($N = 120$) to assess whether our findings were intuitive to laypeople. Participants were asked to predict the effects of texting abbreviations on relational communication, with the options being that receivers were either positively influenced, negatively influenced, or indifferent toward texting abbreviations. Interestingly, 80% of participants predicted that others would be indifferent toward texting abbreviations, followed by 4.2% predicting that it would be positive, while only 15.8% of the participants accurately predicted our findings, suggesting that the negative impact of texting abbreviations on perceived effort, responsiveness, and sincerity is not immediately apparent to the general population. This highlights the value of our research in uncovering the nuanced consequences of texting practices on interpersonal communication.

General Discussion

The present research is among the first to investigate the interpersonal impact of using texting abbreviations in communication. Across eight studies (and four additional Supplemental Studies), findings suggest that individuals who use texting abbreviations are perceived to be more insincere and are less likely to be replied to. This phenomenon is driven by the perception of the abbreviation user exerting less effort into their messages. Furthermore, by examining additional moderating factors such as the level of familiarity between communicators, the type of relationship they have, and the influence of different types of texting abbreviations, we were able to identify when texting abbreviations are most likely to have a negative impact on communication.

In the context of our first study, we did not find evidence supporting the hypothesis that using abbreviations may enhance feelings of closeness due to heightened informality in texting conversations. Nor did we find evidence across our studies that using texting abbreviations increased perceived sincerity or response rates, suggesting that in the contexts and paradigms we examined, brevity in communication does not necessarily translate to higher engagement levels, especially when that brevity comes at the cost of lower perceptions of effort. This might suggest that our original theorized link between perceptions of casualness leading to increased closeness supported by previous literature (e.g., Stephan et al., 2010; Torrez et al., 2019) may not be as steadfast within the text conversation scenarios we explored. Our findings echo literature indicating that people value conversational quality, preferring messages that convey thoughtfulness and personal connection (Clark et al., 2019; Raman et al., 2023). Overall, our findings offer practical guidance for individuals to strategically construct text messages to form more positive interpersonal texting interactions.

A possible consideration may be whether our effect varies with age. Given that younger individuals tend to be more acquainted with abbreviations (Al Shlowiy, 2014), it stands to reason that younger populations may be more socially accepting of abbreviations. In the Supplemental Material, we conduct additional analyses controlling for age, and our observed negative effects of abbreviation usage on perceived sincerity and response rates remain. Furthermore, the Supplemental Material includes moderation tests with age for each study when age was collected. We find inconsistent moderation effects, suggesting that age does not consistently alter the impact of abbreviation usage. Another possibility is that the typicality of texting abbreviations could affect how it is perceived: More familiar abbreviations might be viewed more favorably, given that familiarity breeds liking (Monin, 2003). We conducted posttests to measure the typicality of each abbreviation, where we first had a new set of participants ($N = 403$, Prolific) rate the abbreviations used in our experiments for typicality on a scale from 1 (*not typical at all*) to 7 (*extremely typical*). The mean typicality rating across all abbreviations was averagely typical ($M = 4.27$, $SD = 2.13$). As detailed in the Supplemental Material, we conducted further analyses controlling for abbreviation typicality for our reported studies and found that our effects remain significant. Additional moderation tests yielded mixed evidence: Studies 2 and 6 suggested that atypical abbreviations were perceived more negatively than typical abbreviations, while other studies found a null effect. A limitation of our approach is the post hoc nature of our abbreviation typicality measurement, which may be less sensitive than measuring it during the experiment (Wagenmakers et al., 2012). Future studies could explore typicality in a priori experimental designs.

Theoretical and Practical Contributions

Our findings offer several theoretical contributions, which can be organized under two main categories: (a) extending the literature around the social psychology of relational communication and language use and (b) contributing to the literature around computer-mediated communication and the unintended consequences of the effects of the evolution of language.

In relation to the social psychology of relational communication and language use, our findings emphasize the significance of language choices in shaping perceptions and fostering interpersonal relationships. The potential negative impact of texting abbreviations on perceived sincerity, effort, and likelihood to respond in text-based conversations can be inferred from our results. Previous research suggests that in relational exchanges, such as in the context of gift exchanges, perceived effort invested in procuring a gift is a key factor accounting for how much a gift is appreciated (Zhang & Epley, 2012). Our findings suggest that beyond gift exchanges, the role of perceived effort in modern digital text exchanges is also important, suggesting that a lack of perceived effort could be detrimental to interpersonal connections when texting. Our findings also highlight the need for further exploration of how language evolution affects the quality of interpersonal interactions, as well as the underlying psychological processes driving these perceptions.

Regarding the literature around computer-mediated communication and the unintended consequences of the effects of the evolution of language, our findings provide a valuable perspective on the complexities of navigating digital communication platforms. In this vein, the present studies contribute to the growing body of research examining how changes in language use across modern digital platforms have influenced social, psychological, and behavioral outcomes (Holtgraves, 2011; Valkenburg & Peter, 2009; Varnhagen et al., 2010). The use of texting abbreviations, which emerged as a result of the evolution of language in digital spaces, has both benefits

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and drawbacks. While abbreviations can save time and effort, our research suggests that they may also hinder effective communication and negatively influence interpersonal perceptions. This contribution to the literature underscores the importance of examining the trade-offs associated with the adoption of new language forms, as well as the potential need for interventions that mitigate their unintended consequences.

Our study's findings also have significant practical implications for individuals engaging in text-based communication. By being aware of the potential consequences of using texting abbreviations, individuals can make more informed decisions about their language use in various contexts. This can lead to more effective and empathetic communication, benefiting personal relationships, educational settings, and work environments alike.

Limitations and Future Directions

The current research has a number of limitations, which provide opportunities for future research. First, while we did measure perceived closeness in the first study, we acknowledge that the majority of our experimental studies focus on brief text exchanges, which do not offer participants the normally large degree of context regularly used to gauge level of closeness to another individual. Such limited interactions provide only a sliver of information for participants to perceive closeness, potentially explaining why the relationship between casualness and closeness might not be as strong theorized. Given the complex nature of texting conversations, there might be scenarios that we have not explored within our studies where abbreviations might harbor positive relational perceptions and reveal a stronger connection between texting abbreviations and perceived closeness (e.g., real-world conversations with deeper emotional ties). Nonetheless, all interactions inevitably start from initial brief interactions. These exchanges are ubiquitous (Ferguson et al., 2019), and individuals are generally able to accurately judge interpersonal feelings such as liking from brief exchanges (e.g., thin slicing; Ambady & Rosenthal, 1992). Furthermore, prior work suggests that people are capable of gauging social closeness even with minimal information (e.g., Maglio & Feder, 2017; Polman & Maglio, 2017). Accordingly, our research still provides valuable insights into the initial impact of abbreviations on impression formation and their potential negative effects on perceived effort, albeit without testing the exhaustive array of contexts in which this behavior takes place.

Furthermore, although the current investigations examined the interpersonal perceptions and consequences that result from abbreviation usage across participants from a multitude of countries, the studies primarily focus on English-speaking texters. Changes in languages may influence the observed effects of texting abbreviations on relational communication, as previous research has demonstrated that texting practices can vary across countries and that the use and perceptions of abbreviations may be influenced by cultural factors (Grace et al., 2015). Additionally, the present study did not consider the potential influence of individual beliefs or characteristics on how texting abbreviations are perceived. Although the existing studies included additional robustness tests (reported in the Supplemental Material) that control for individual factors such as familiarity with texting, age, gender, motivations for abbreviation usage, and other personal characteristics, there may be heterogeneity within these factors and other moderating influences that have not been examined. For example, individual differences in personality traits and communication styles could interact with the use of texting abbreviations in relational communication. Future research should explore the role of cultural variations as well as the impact of personal beliefs and communication styles in shaping the effects of texting abbreviations on relational communication. Additionally, language abbreviations are also commonly used in contexts beyond conversations, for instance, in online posts (e.g., Twitter posts) or written communication (e.g., blog posts). The essence of texting lies in fostering close connections via repeated interactions in private spheres, a role distinctly different from that of online postings, which prioritize disseminating information in public with limited back-and-forth among users (Shi et al., 2014; Tulane & Beckert, 2013). In these more public contexts, perceptions of effort or closeness might not hold the same weight, encouraging further examination of the effects of abbreviated language in these settings and highlighting opportunities for additional research.

Our findings from Study 4 suggest that the effect of texting abbreviations may be heterogeneous across abbreviation types, with some texting abbreviations being worse than others. Notably, Study 4 did not find a directional effect for phonetic abbreviations on response rates. In a subsequent supplemental study (Supplemental Study 3), we specifically tested for abbreviations that were phonetically abbreviated versus initialized and did not find that the negative effects of texting abbreviations were attenuated for phonetic text abbreviations. This may suggest that there may be something specific to certain types of phonetical abbreviations. Future research could further explore this phenomenon.

Beyond the types of abbreviations, abbreviations are also applied to different types of message content. For instance, content can be emotional (i.e., expressing feelings or affection) or rational (i.e., conveying information or instructions), and this dichotomy can influence how a message is processed (Rosselli et al., 1995; Y. Wang, 2024). In the context of abbreviations, content that is relatively more emotional, relative to more rational, may be more prone to negative consequences when abbreviated, as perceptions of invested effort may be more pronounced when the sender is trying to convey emotion rather than information (Zajonc, 1980). Another consideration is the level of formality within the conversation. More formal texts (e.g., business discussions) utilizing abbreviations may be viewed more negatively as they can be seen as norm-breaking (Lyddy et al., 2014), which has the potential to elicit negative interpersonal perceptions (van Kleef et al., 2019). To partly test this, we coded the 12 distinct scenarios in Study 1 as either informal or formal and used that as a moderation variable. We did not find that formality moderated the negative effects of abbreviation usage; this analysis is detailed further in the Supplemental Material. Although our current studies use a wide variety of materials, we do not explicitly distinguish these content types a priori. Future research could explore these boundary conditions to better understand their impact.

Another promising avenue for future research is to delve deeper into understanding why people choose to use abbreviations in their text messages. Investigating the underlying motivations for sending abbreviations could provide valuable insights into the dynamics of interpersonal communication in a digital context. For instance, individuals may use abbreviations for reasons such as enhancing communication efficiency, expressing playfulness, or managing the impressions they create in the eyes of their conversation partners. By examining these motivations, researchers could explore how the intention behind using abbreviations might shape or interact with the

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subsequent effects on interpersonal communication. Furthermore, this line of inquiry could help uncover potential individual differences or situational factors that could moderate the impact of texting abbreviations on interpersonal outcomes.

Finally, the present study primarily examined the short-term effects of texting abbreviations on interpersonal communication. Future research should investigate the long-term implications of using texting abbreviations on relationship development, satisfaction, and stability in order to better understand the potential consequences of this communication practice. Longitudinal studies could provide valuable insights into how repeated exposure to texting abbreviations might influence relationship trajectories over time and whether certain relational contexts or stages are more sensitive to the effects of abbreviations. Additionally, exploring how the frequency and nature of abbreviation use evolve within relationships can shed light on the dynamic interplay between communication styles and communication outcomes.

Constraints on Generalizability Statement

The main participant group examined in this study were western adult English speakers. Given that texting patterns can vary across cultures (Grace et al., 2015), as noted within the limitation section of this article, there is a possibility that our findings may not generalize across other languages or cultures. Furthermore, our research predominantly focused on dyadic interactions, but there is a possibility that our findings may be less relevant in polyadic contexts where multiple individuals are engaged in the conversation (e.g., group chats). Finally, the applicability of our results to long-term, repeated conversations warrants careful consideration, as this study does not fully encompass the gradual evolution of relationships and the effects that unfold over time. Although texting abbreviations used in social contexts are expected to evolve significantly over time, the fundamental insight of our study is likely to endure through these variations given that the effect of texting abbreviations on effort perception is expected to remain relevant. A direct replication of this research would entail applying the methods we have developed to online populations, for instance, those found on Prolific. We have no reason to believe that the results depend on other characteristics of the participants, materials, or context.

Conclusion

Our research contributes to the understanding of the effects of texting abbreviations on social interactions and offers insights into the underlying mechanisms. Our research reveals that texting abbreviations negatively affect interpersonal communication by decreasing perceived effort, which in turn leads to lower perceived sincerity and responsiveness. Ultimately, our findings underscore the importance of considering the impact of evolving language use in the digital era on the quality and nature of interpersonal communication.

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