



The field of communication is becoming less disruptive: analyses of citation data over four decades

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Abstract

Innovation is fundamental to knowledge advancement in all realms of scholarship. The current study focuses on 2 forms of innovation in communication, as manifested via citation practices: consolidation and disruption. This study examines whether the field of communication has become consolidative or disruptive over time and projects the near-future trajectory of consolidation and disruption. Based on 92 communication journals and their citation data spanning from 1976 to 2022, our citation analyses of 52,294 focal publications suggested that communication research is overall disruptive. However, the level of disruption has been declining over time. Our linguistic analyses of article titles and abstracts further confirm the decreasing disruption in the field. Overall, this study suggests a deceleration in innovation within the field of communication, which serves as a sign that communication has been solidifying its status as an increasingly independent field, grounded in a growing body of shared intellectual legacy. We further interpreted the change in innovation from the perspectives of theory building, knowledge burden, journal scopes, academic platforms, and recent advances in artificial intelligence and large language models.

Lay Summary

Knowledge innovation drives the development of a field. Based on citation analyses of 52,294 publications across 92 communication journals from 1976 to 2022, our study suggests that innovation in the field of communication relies on novel work, but the trend of such innovation has slowed down. Meanwhile, the field of communication has gradually solidified its identity with a coherent body of intellectual legacy.

Keywords: citation analysis, communication, innovation, bibliometrics, consolidation, disruption, communication theory

Innovation is fundamental to knowledge development in all realms of scholarship. By innovation, we mean not only novel ideas, methods, or products but also the dissemination of such knowledge (White, 2001). Within academic practice, scholars must demonstrate how their work advances existing knowledge through substantive contributions. These advances can take the form of theoretical construction, methodological innovations, or practical applications, all of which can be documented and validated through scholarly citations. In the field of communication, this process of knowledge building and its subsequent verification through citation practices serves as a critical indicator of the discipline's intellectual evolution and impact.

This study is concerned with two citation-based types of innovative knowledge development: consolidation and disruption (Arthur, 2007; Tushman & Anderson, 1986). At the level of a single publication, consolidation occurs when a focal publication receives citations that continue to build upon the same body of knowledge (i.e., attracting citations that cite both the focal study and its predecessors). If more publications become consolidative, innovation can slow over time. In this case, knowledge *evolves* by relying more on *prior* work. Disruption occurs when a focal publication receives citations that break with previous studies (i.e., attracting citations that cite the focal study only). If more publications become disruptive, innovation may become faster. In this case, knowledge *surges* because scholars rely more on *novel* work

(Funk & Owen-Smith, 2017; Park et al., 2023). Overall, consolidation means that a field tends to inherit its own body of knowledge and continue its traditional roots, whereas disruption means that a field tends to break existing paradigms and engage other fields of knowledge (Yang et al., 2023).

In light of the background that, in the broad realm of science, academic papers and patents have become less disruptive and more consolidative, which implicates slower innovative research activities (Park et al., 2023), our study seeks to understand whether the field of communication research has experienced a similar trend of consolidation or disruption, how the trend has evolved in the past 40 years, and how the field may develop in the near future. We conducted citation analyses of publications in 92 journals in the field of communication from 1976 to 2022 to address our questions.

This study presents an introspective examination of the field of communication. Although less disruption implies slower innovation (Park et al., 2023), a normative assumption of whether it is beneficial for a field to have a consolidative or disruptive trend is not necessary. Indeed, the most recent theme call of the annual conference of the International Communication Association (2025) has indicated that disruption and consolidation may be more dialectical than antithetical. Being consolidative means that communication scholarship is drawing on existing knowledge and serving as a stabilizing force in academia, whereas being disruptive implies that the scholarship is contributing as a

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transformative and revolutionary force that breaks old paradigms. To gain a deeper understanding of how communication scholarship has evolved in terms of knowledge innovation, the main goal of the current study is to uncover the nature and the rate of innovation in the communication scholarship. To our knowledge, this is the first attempt within the field of communication to systematically examine the two types of innovation (i.e., consolidation and disruption) through citation analyses.

Citations are an important dimension to evaluate innovation, as they serve as evidence of how knowledge is transmitted within a scholarly community (Park et al., 2023; Small, 1978; White, 2001). Quantifying consolidation and disruption through citation analyses can identify structural shifts in a field's intellectual priorities—whether communication research is reinforcing its foundational paradigms or branching into novel territories that challenge established norms (Tushman & Anderson, 1986; Yang et al., 2023). This is particularly critical for communication, a discipline historically shaped by interdisciplinary engagements and debates about its core identity (Craig, 1999; Rogers, 1994). Citation analysis can reveal whether communication subfields converge around shared frameworks or diverge into siloed innovations. Furthermore, longitudinal citation data offers a scalable way to assess how external forces—such as digital technologies or societal crises—accelerate or constrain transformative scholarship (Funk & Owen-Smith, 2017). As the communication field grapples with its role as both a stabilizer and a disruptor of our society (International Communication Association, 2025), citation analyses can portray the field's development trajectory, ensuring that debates about its future are grounded in robust and replicable analyses rather than anecdotal perceptions.

Literature review

Innovation and citation

To examine the fundamental role of innovation in communication scholarship, it is essential to first conceptualize innovation. White (2001) defined innovation as the “processes through which scientists originate, evaluate, and develop ideas relevant to scientific practice” (p. 290). Considering that White (2001) situated the conceptualization of innovation in the broad academic discourse transcending disciplinary boundaries, the definition should be applicable to the field of communication research, given our field's distinctively multidisciplinary nature (Herbst, 2008; Hu et al., 2024) that covers the “rhetorical, semiotic, phenomenological, cybernetic, socio-psychological, sociocultural, and critical traditions” (Craig, 1999, p. 119) and spans engineering, humanities, natural sciences, and social sciences.

Meanwhile, despite the applicability of White's (2001) conceptualization to communication, it is important to expand White's (2001) notion of “conceptual innovation,” which primarily addresses “scientific theory and problem choice as well as the application of theories to problems and the modification of theories as a result of scientific activity” (p. 290), to other types of innovation. That is, whereas White's (2001) conceptualization effectively captures theoretical innovation, a comprehensive analysis of innovation in communication should also account for methodological and practical innovations that characterize the field's development.

Innovation has essentially been a communal and discursive practice (White, 2001). At its core, innovation resulted from communicative rationality (Habermas, 1984) and the ability to articulate, evaluate, and defend one's knowledge claims or proposition in order to achieve mutual understanding and scientific consensus (White, 2001). The practice of citation can be considered a form of such articulation, evaluation, and defense based on prior work. It has been widely considered an effective measure of quality and impact of academic studies (Hu et al., 2023).

Bibliometrics offer multiple theories to explain citation behavior (Tahamtan & Bornmann, 2018, 2019). The most comprehensive of these is a process model that describes how multiple factors can influence the process from article selection to citation, including citing reasons, decision rules, features of the cited document, and features of the citing document (Tahamtan & Bornmann, 2018). Prior literature has identified 13 reasons for an author to cite others (see Tahamtan and Bornmann [2018] for the full description). For the purpose of the current study, we believe that seven of the 13 citing reasons are closely related to innovation: *critical*, where an author disagrees with the cited work; *contrastive*, where results in the cited work are compared to the findings in the citing work; *classical*, where an author cites because the cited work is a foundational reading on the subject; *persuasive or claiming*, where the cited work is used to support one's claim; *conceptual or understanding*, where the cited work is essential for defining a concept or understanding a theory (Tahamtan & Bornmann, 2018). These reasons can either accelerate or decelerate innovation depending on the citing authors' intention. For example, an author may cite a classical article because it is foundational in laying out the scientific consensus. Yet, the same article may also be considered as outdated in light of the current findings in the citing article, which may shift the scientific inquiry into a new research direction.

Hence, based on White's (2001) argument and theories in bibliometrics, citation is an integral part of communicative rationality in scholarship. Along the same lines, Lievrouw (1989) suggested that the production of communication papers involves two steps: the first step involves how authors attribute credit to others' work to express their own ideas, while the second step involves others' review, critique, and evaluation of the authors' expressions. Both steps consist of interactions among the authors, those the authors cite, and those who cite the authors. Citing others' work is a communicative action that creates a connection in a scholarly network (Lievrouw, 1989).

Most peer-reviewed publications can make a convincing case by showing the critical difference between what a scholarly community has known and what an author has proposed or found. This gap can be either large or small. If the gap is large enough, the work in question has the potential to make prior work irrelevant and push future research into a new direction, thus becoming more disruptive. If the gap is small, the work innovates by contributing to the existing body of knowledge and invites future research to continue the efforts set by previous studies, thus becoming more consolidative (Funk & Owen-Smith, 2017; Park et al., 2023). No matter how large or small the gap is, scholars use citations to present extant knowledge, review others' arguments, and compare their findings with previous studies. Thus, citation patterns have been used as a principal form of bibliometrics to

examine innovation, which can reveal the field status quo, research front, social networks, and academic community building (Lievrouw, 1989). Following the significance of understanding citations, this study aims at understanding how innovation has evolved in the field of communication research. It also examines how innovation has accelerated or decelerated by examining how focal publications direct the flow of traffic of subsequent citations.

Bibliometric analyses of communication: a bird's-eye view

The field of communication has grown in the past 50 years (Oliver et al., 2024). During its growth, two streams of perspectives have emerged regarding whether communication is its own field or is more dependent upon traditions outside communication. One of the well-known theses was that “communication theory as an unidentifiable field of study does not yet exist” (Craig, 1999, p. 119). According to Craig (1999), communication became productive by importing fragments from other traditions (i.e., rhetoric, semiotics, phenomenology, cybernetics, social psychology, sociocultural studies, critical studies) and these fragments did not cohere as a self-sustaining field. This thesis was consistent with some early pioneering works on the bibliometric evaluation of the communication scholarship. For example, Reeves and Borgman (1983) found that between 1977 and 1979, nine top-tier communication journals made only about 13% of their citations to other communication journals, which suggested that communication was a field highly dependent on knowledge outside communication. Similarly, So (1988) found that unlike disciplines such as sociology and business, communication research heavily relied on psychology literature and stayed on the periphery in social sciences.

The other stream of scholarly viewpoints has stressed that communication is gradually forming its own field, although more dialogues among subdisciplines are needed. For example, Vorderer and Weinmann (2016) in their *Journal of Communication* special issue, “Getting the Discipline in Communication With Itself,” suggested that the various theoretical, metatheoretical, and methodological approaches in contemporary communication scholarship were divergent from each other and that by connecting them, communication scholars can find and evaluate contradictory viewpoints and learn how to expand our approaches when conducting communication research. In another *Journal of Communication* special issue, Tenenboim-Weinblatt and Lee (2020) expressed similar views: cross-cutting discussions about the subfields within communication are crucial for theoretical innovation and public impact. Whereas Waisbord (2019) characterized communication as a highly divisive field, Song et al.'s (2020) analysis of the full text of top 20 communication journals from 2010 to 2019 found that the subdisciplinary linkage in communication was more frequent than expected, which demonstrated an encouraging degree of cohesion within the field.

What merits attention here is that innovation can occur both within a strong tradition of a field and in opposition to that (Katz et al., 2003). On one side, it is important to understand the canonic texts in communication research and reference prior knowledge to “stand on someone's shoulders” (Katz et al., 2003, p. 3). On the other side, the ability to integrate different identities and systems of knowledge can increase creative performance in the field (Cheng et al., 2008).

It is here that citation analyses could be useful to the field of communication, as this approach can offer a bird's-eye view of the state of research, including looking back into its history and looking forward into the future (Funkhouser, 1996; Hu et al., 2024; So, 1988). Citation analyses can reveal whether a field tends to rely on its own body of knowledge to evolve or engage other fields of knowledge to guide innovation. Hu et al. (2024) have recently collected journal citation data from 2010 to 2020 and found that the citation patterns in communication research remained balanced, featuring almost an equal proportion of incoming citations and outgoing citations. This study complemented Song et al.'s (2020) analysis of the field and provided more information of knowledge production and integration by looking at citation patterns in communication.

Examining the citation patterns in communication journals may further reveal citation biases and journal impacts in the field. Drawing on data from 14 communication journals from 1995 to 2018, Wang et al. (2021) found that papers with women as first authors were underrepresented and those with men as first authors were overrepresented, a gender inequality in citation behavior they interpreted as an undervaluation of women's research in communication. Feeley (2008) also conducted a bibliometric analysis of 19 communication journals from 2002 to 2005 and found that *Human Communication Research*, *Journal of Communication*, and *Communication Research* were top-ranked journals based on their citation indices.

Bibliometrics can have an inward focus, where certain citation practices are examined within a field (e.g., Funkhouser, 1996). By contrast, an outward focus draws comparisons of citation practices among several fields or disciplines (e.g., Hu et al., 2024; So, 1988). The current study contributes to the existing literature by using an inward focus and examining the backward citation pattern at the publication level within the field of communication over the course of four decades. The core of our inquiry is concerned with whether communication as a field tends to rely on a continuous thread of intellectual foundation (i.e., consolidation) or tends to develop new directions at times (i.e., disruption). Park et al. (2023) found that scholarship in four broad fields (i.e., life sciences and biomedicine, physical sciences, social sciences, and technology) became less disruptive from 1945 to 2010. As communication scholars, we aim to zoom in and examine whether the same pattern emerged in our own field.

Considering that prior citation analyses have been based on a narrow range of data, focusing on either a decade of publications or conventionally high-impact communication journals, the current study adopts a much more comprehensive approach by including 92 journals listed under the category of communication in the 2023 Web of Science's Social Science Citation Index (SSCI). It also includes citation data from 1976 to 2022, which effectively allowed us to measure citation behavior over 40 years. Analyses of the four-decade data may well address the theme call of the 2025 ICA conference, which seeks to probe the potential of the communication field to generate original knowledge, break existing paradigms, and solidify its existing body of knowledge (International Communication Association, 2025). Therefore, we propose the following research questions.

RQ1: Has the field of communication research been in a state of consolidation or disruption?

RQ2: How has the trend of consolidation or disruption evolved in the field of communication?

RQ2a: How has the trend of consolidation or disruption in high-impact communication journals and ICA journals evolved in the past four decades?

RQ3: How is the consolidation-disruption trend likely to change in the next two decades?

RQ4: How have the linguistic patterns in the publication titles and abstracts reflected the consolidation-disruption trend in the field of communication?

Methods

Consolidation-Disruption (CD) Index

To examine RQ1, RQ2, and RQ3, we used the Consolidation-Disruption (CD) index (Funk & Owen-Smith, 2017; Park et al., 2023) to operationalize whether and to what extent a focal publication is consolidative or disruptive. The equation of the index for a focal publication is:

$$CD_t = \frac{1}{n} \sum_{i=1}^n (-2f_{it}b_{it} + f_{it}), \quad (1)$$

where t is time to the publication of the focal publication; n is the number of publications that cite *either* the focal publication, the publications that the focal article cites, or both; i is the i th publication out of the n publications; $f_{it} = 1$ if the i th publication cites the focal publication as of time t ($f_{it} = 0$ if not); and $b_{it} = 1$ if the i th publication cites a publication that the focal publication cites as of time t ($b_{it} = 0$ if not). CD_t ranges from -1 to 1 , where zero represents the midpoint, -1 is completely consolidative, and 1 is completely disruptive.

The CD index reflects *how a focal article directs traffic for subsequent work*. In an illustrative case, imagine that a focal article is published in 2010. We define the articles that the focal article cites as Set A. There are four articles published between 2011 and 2015 (inclusive; i.e., $t=5$) that cite either an article from Set A, the focal article, or both. Define these four articles as Set B (i.e., $n=4$). Based on Equation 1, among the Set B articles:

If all four cite the focal article only (Figure 1A):

$CD_5 = (1 + 1 + 1 + 1)/4 = 1$ (maximally disruptive)

If one of the four also cites a Set A article:

$CD_5 = (-1 + 1 + 1 + 1)/4 = .5$ (moderately disruptive)

If two of the four also cites a Set A article:

$CD_5 = [-1 + (-1) + 1 + 1]/4 = 0$ (midpoint)

If three of the four also cites a Set A article:

$CD_5 = [-1 + (-1) + (-1) + 1]/4 = -.5$ (moderately consolidative).

If all four cite both the focal and a Set A article (Figure 1B):

$CD_5 = [-1 + (-1) + (-1) + (-1)]/4 = -1$ (maximally consolidative).

There are several points to clarify before we proceed. First, although not included in the illustrative case above (Figure 1), it is important to clarify that the successors may include publications that cite the predecessors only but do not cite the focal article. These articles would score zero in the parentheses in Equation 1: $-2(0)1 + 0 = 0$. One implication is that if the focal publication cites many articles but is rarely cited at time t , CD_t tends to center around zero. Second, the CD index is able to determine the qualitative distinction between a consolidative article with a *negative* CD and a disruptive article with a *positive* CD (Funk & Owen-Smith, 2017). The component $-2f_{it}b_{it} + f_{it}$ in Equation 1 makes a qualitative distinction between these two cases: (1) among the n publications, if there are more publications that cite only the focal article than those that cite both the focal articles and the articles that the focal article cites, $-2f_{it}b_{it} + f_{it}$ will be positive; (2) if there are fewer publications that cite only the focal article than those that cite both, $-2f_{it}b_{it} + f_{it}$ will be negative (see the illustrative case presented above). In other words, a positive CD means that a focal article's ability to draw subsequent citation traffic only to itself (i.e., disruptive) is greater than its ability to draw subsequent traffic to both itself and earlier work (i.e., consolidative), and vice versa. Third, discipline is irrelevant in the CD index. A highly consolidative article only means that this article directs much traffic to itself *and* the articles that this article cites, but the CD index does not include the information about the disciplinary of such traffic.

Journal selection and citation data

To answer the research questions, we collected the citation data from the publications in the field of communication. We started with 96 journals that were listed under the category of communication in the Web of Science's SSCI as of July 2023. We then used Dimensions (Hook et al., 2018), a scholarly communication database, to gather the citation information for every publication in the 96 journals. Because the citation data in Dimensions were based on the digital object identifier (DOI), we excluded two journals, *International Journal of Communication* and *Technical Communication*, which did not have a DOI registered via Crossref for their publications. *International Journal of Mobile Communications* was also excluded because there was no citation information for this journal in the database. We

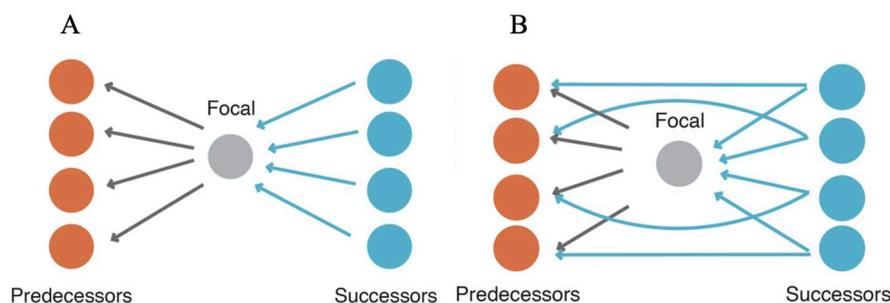


Figure 1. A conceptual demonstration of the CD index. Panel A demonstrates a completely disruptive case, whereas Panel B demonstrates a completely consolidative case.

excluded one more journal, *Comunicar*, which publishes articles in both Spanish and English. Hence, a total of 92 journals were included for final data analysis.

We cleaned the data by first removing those publications that are commentaries, corrigenda, book reviews, errata, corrections, review articles, and introductions. Review articles were excluded primarily because they tend to be disruptive, meaning that succeeding research might just draw on the conclusions of review articles to proceed with their arguments, which could inflate the CD index. While some editorial introductions offer theoretical advancements, their primary function is to connect the specific contributions of a special issue to established traditions. This connecting function may lead scholars to cite the introduction alongside the established literature it discusses, which might skew the CD index toward consolidation.

We then excluded those focal publications that did not have any articles cited based on the records in Dimensions. If a focal publication does not have any citations at all, its CD index will be zero, which will conflate the number of zero-CD focal publications that truly represent the mid-point of the CD index.

The time window where we collected citing articles for a focal publication (t in [Equation 1](#)) was set to 5 years. That is, suppose the focal article was published in 2011; if another publication came out during 2012–2016 and cited the focal article, cited a publication that the focal publication cited, or cited both, this latter publication was included in the n publications in [Equation 1](#). This 5-year window was empirically found to generate a conservative estimate of a downward trend of CD ([Park et al., 2023](#)). [Park et al.'s \(2023\)](#) sensitivity test compared the CD trends in their data across three windows: 5 years, 10 years, and all citations made to journal articles as of 2017. Their results showed that the downward trends were similar, but longer windows exhibited a steeper decline. Following [Park et al.'s \(2023\)](#) approach, we used the 5-year window to generate a conservative estimate of the CD index.

Because we collected the data in 2023, and Year 2022 was the last full year in which we were able to collect citation data, the most recent focal publication we were able to analyze given the 5-year window was from 2017. Also, earlier years had fewer publications that met all the above criteria than recent years. We chose the year of 1976 because it was the first year that had 200 or more eligible publications (see [Table A1 in Appendix A](#) for number of publications by year). The final number of focal publications under analysis was 52,294. For title, there was no missing data; for abstract, the missing percentage was 12% among the publications under study (see [Table A1 in Appendix A](#) for the percentage of publications without an abstract in the data by year).

Linguistic changes

To answer RQ4, we followed [Park et al.'s \(2023\)](#) approach and examined two aspects of changes in the linguistic features of the publications under study. This examination was based on the titles and abstracts collected for a publication. First, we looked at the diversity of words used across the years under study. As more disruptive works were more likely to introduce new terms to break away from an existing theory ([Kuhn, 1987/2000a; 1991/2000b; Wray, 2011](#)), the diversity of words should be an indicator of a more disruptive scholarship ([Park et al., 2023](#)). Thus, to operationalize the diversity of words, a ratio of the number of unique words over the

number of total words were calculated for each year. The analysis was separately done for article titles and abstracts. Text preprocessing was completed using the spaCy package in Python ([Honnibal et al., 2020](#)). The text was first tokenized into individual words (unigrams). Then, English stopwords, punctuations, numbers, and words shorter than three characters or longer than 250 were removed. The filtered words were then all converted to lowercase and to their lemmatized forms (e.g., “gave” and “giving” were turned into their base form “give”). To strengthen the analysis, we also calculated the unique-total-word ratio based on pairs of words (bigrams); text preprocessing was done in the same way as in the unigram case described above, except that the text was tokenized into two neighboring words.

In addition to the diversity of words, we also examined the top-frequency verbs used in abstracts to gain some qualitative insights ([Park et al., 2023](#)). Beyond the same preprocessing procedure, we used spaCy ([Honnibal et al., 2020](#)) to tag a word as either noun, verb, adjective, or adverb. The number of verbs was normalized by the total number of verbs, which was then multiplied by 100. This procedure generated a relative frequency of verbs per 100 verbs used. The top 20 verbs were compared between 1976 and 2017.

Results

To answer whether the field of communication has been in consolidation or disruption (RQ1), results suggested that the field is disruptive overall ($M = 0.014$, $SD = 0.09$, 95% CI: [0.013, 0.015], $N = 52,294$). To demonstrate the validity of the CD index, we present four papers as examples. [Gerbner and Gross \(1976\)](#) had the second-highest CD score in the dataset (0.94). This pioneering piece laid the foundational framework for cultivation theory and was disruptive in that it shifted the focus of media effects studies to long-term effects. As another example on the disruptive side, the [Marwick and Boyd \(2011\)](#) article was a disruptive piece that popularized the concept of networked audience based on the then-burgeoning Twitter platform. The CD index for this article was 0.06, a high value in the dataset at approximately the 93th percentile. On the consolidative side, [Eastman and Otteson \(1994\)](#) had a very low CD score (−0.83 at the 0.04th percentile). Their article examined whether promotion of prime-time programs during the Olympics could improve the ratings of those programs. The problem under study was highly specific. Whereas the results were informative, the article offered limited groundbreaking perspectives that challenged existing paradigms. As another example, the [Scheufele and Tewksbury \(2007\)](#) article was a consolidative piece that reviewed the framing, agenda setting, and priming models. The CD index for this article was −0.007, a relatively low value in the dataset at approximately the 14th percentile.

To answer how the trend of consolidation or disruption has changed in the field of communication (RQ2), we first present the trend in [Figure 2](#). There is a clear downward trend in CD with some oscillations. From 1976 ($M = 0.06$) to 2017 ($M = 0.004$), the mean CD decreased by 93%. To test whether this downward trend is statistically significant, we conducted an ordinary least squares (OLS) regression analysis and regressed year on CD ([Table 1](#)). Year's effect on CD was significant and negative ($b = -0.001$, $SE = 3.94 \times 10^{-5}$, 95% CI: [−0.001, −0.001]). Therefore, the downward trend in CD over the

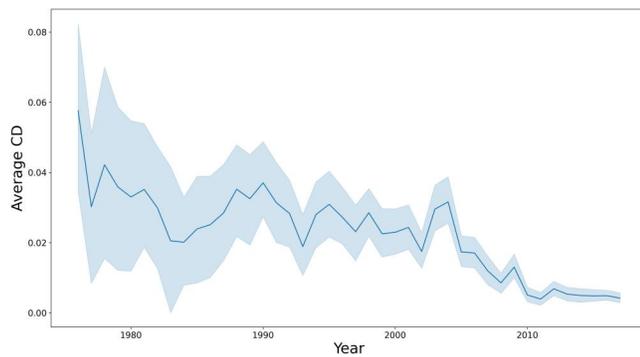


Figure 2. Changes in CD over the years (1976–2017). CD = Consolidation-Disruptive Index (see Equation 1). The time window of calculating CD is 5 years. $N = 52,294$. Shaded band represents 95% confidence intervals.

Table 1. OLS regression analysis: effect of year on CD.

	Estimate	SE	95% CI	p
Intercept	1.97	0.08	[1.82, 2.13]	<.001
Year	-0.001	3.94×10^{-5}	[-0.001, -0.001]	<.001

Note. $R^2 = .012$; Adj. $R^2 = .012$; $N = 52,294$.

years was statistically significant, meaning that over time, the field has become less disruptive.

To further examine how CD has changed in high-impact communication journals and ICA journals (RQ2a), we plotted the CD trend for the top 10 communication journals in SSCI based on the 5-year impact factor (Web of Science, 2024), five SSCI-indexed ICA journals, and *Communication Research* (Figure 3). The ICA journals were marked in orange in Figure 3. The descriptive statistics of the CD index for each journal were presented in Table 2. All but two journals were disruptive with a positive mean CD; the exceptions were *Digital Journalism* ($M = -0.002$) and *Human Communication Research* ($M = -0.006$). Among the remaining 12 top/ICA journals, six demonstrated a similar consolidation-disruption trend to the overall communication scholarship citation patterns presented in Figure 2: *Political Communication* ($M = 0.014$), *Journal of Computer-Mediated Communication* ($M = 0.005$), *Journal of Communication* ($M = 0.031$), *New Media & Society* ($M = 0.011$), *Science Communication* ($M = 0.017$), and *Communication Research* ($M = 0.00003$). *Communication Monographs* ($M = 0.001$) showed a similar downward trend apart from a spike in 1990. The other five demonstrated a more levelled trend: *Communication Methods and Measures* ($M = 0.0002$), *Journal of Advertising* ($M = 0.015$) (apart from spikes in 2004 and in 2008), *Human Communication Research* ($M = -0.006$), *Communication Theory* ($M = 0.000007$), and *Communication, Culture and Critique* ($M = 0.003$). What merits note here is that *Digital Journalism* and *Human Communication Research* maintained in consolidation (i.e., CD is consistently below zero), whereas *Social Media + Society* ($M = 0.001$) and *Communication, Culture and Critique* ($M = 0.003$) maintained in disruption (i.e., CD is consistently above zero).

To predict how the consolidation-disruption trend in the field of communication will change in the next two decades (RQ3), considering that the data were based on time series,

we specified a Seasonal AutoRegressive Integrated Moving Average (SARIMA) to forecast future CD values for 2018–2037, where the number of journals per year was controlled. The predicted pattern is shown in Figure 4. We found that the CD value will continue to decrease and will drop below zero starting 2023, although uncertainty remains with the upper bound of the 95% confidence interval staying above zero. This suggests that without deliberate effort in the field, CD is likely to continue downward in the next two decades.

To examine how the linguistic patterns in communication literature inform the consolidation-disruption trend (RQ4), we first present the results for the diversity of words used in the titles and abstracts based on both unigrams and bigrams (Figure 5). All four unique-total-word ratios showed a decreasing trend (Figure 5A–D). Consistent with the trend of the CD index (i.e., communication research has become less disruptive), the diversity of words also decreased over the study period, which corroborated our results in RQ1 and RQ2.

Next, we compared the top 20 verbs used in 1976 and 2017 based on the abstracts (Table 3). We identified verbs appearing exclusively in the top 20 list for their respective year (indicated in bold in Table 3). We then retrieved CD values for articles in each year whose abstracts contained any of that year's top unique verbs. The articles in 1976 ($n = 93$) had a significantly higher mean CD ($M = 0.06$) than those in 2017 ($M = 0.003$; $n = 3,205$), with Welch's $t = 2.99$, $p = .004$. These results corroborated the trend that communication research has become less disruptive.

Discussion

This study conducted citation analyses to examine whether communication research has been consolidative or disruptive (RQ1), how the trend has evolved over the past four decades (RQ2), and what the trend could be in the near future (RQ3). Results suggest that the field of communication is in disruption but has become less disruptive since 1976. The trend is likely to continue such that it will become consolidative in the next two decades. The change in the linguistic characteristics based on the titles and abstracts of focal publications was also examined (RQ4). Results validated the decreasing disruption in the field of communication via word-use diversity and top verbs used.

Consistent with a previous study where the CD index was found to decrease over time (i.e., less disruptive) in four broad academic fields (i.e., life sciences and biomedicine, physical sciences, social sciences, and technology; Park et al., 2023), the current study observed a similar pattern in the field of communication. The CD index for social sciences decreased by 92% from 1945 to 2010 according to the earlier study (Park et al., 2023); in our analysis, the CD index for communication decreased by 93% from 1976 to 2017.

Considered within a historical view of the development of the communication field, the decreasing disruption and the predicted increasing consolidation in the future suggests that rather than heavily incorporate knowledge from other fields, communication is gradually evolving into its own body of knowledge. Although So (1988) and Reeves and Borgman (1983) expressed concerns over communication scholars' overly reliance on other fields, the decreasing disruption over time indicated that communication is developing into its own field, allowing scholars to rely on existing knowledge to

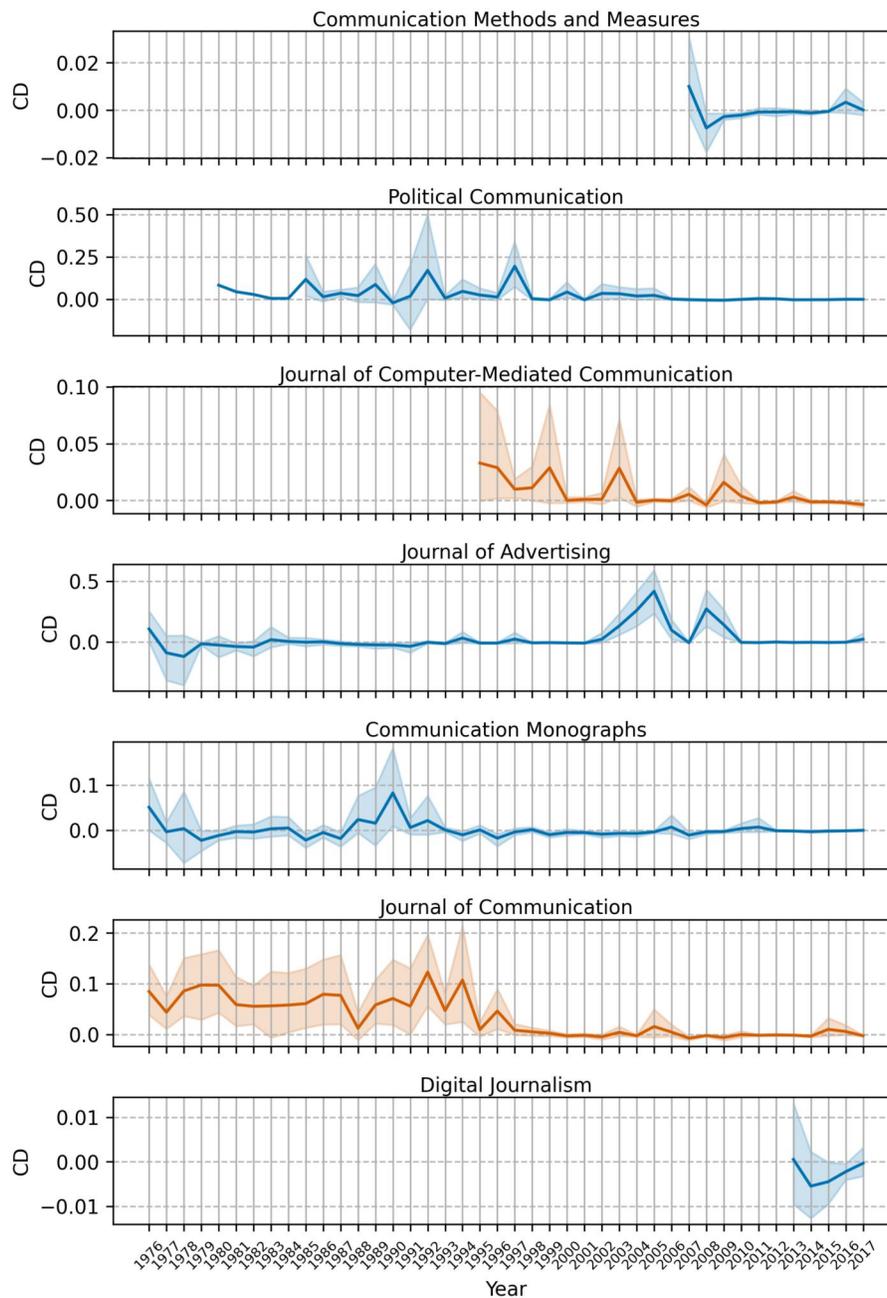


Figure 3. Changes in CD over the years: high-impact communication and ICA journals. Journals are ranked based on the 5-year impact factor as of October 2024. ICA journals (presented in orange color) include *Journal of Computer-Mediated Communication*, *Journal of Communication*, *Human Communication Research*, *Communication Theory*, and *Communication, Culture, and Critique*.

make further contributions. The pattern is also consistent with Song et al.'s (2020) finding that communication is experiencing cohesion within the field, enabling its subdisciplines to inform and complement each other.

This trend of decreasing disruption has been reflected in publications in high-impact communication journals such as *Journal of Communication*, *Communication Research*, *New Media & Society*, *Science Communication*, *Political Communication*, and *Journal of Computer-Mediated Communication*, whose CD values demonstrate that these journals have been contributing to innovation by continually referring to classic works within the field. A few factors may explain their decreasing disruption. First, high-impact communication journals have put great emphasis on theory construction, which might have led authors to proactively

build their work on existing communication theories and to evaluate or challenge outdated models, frameworks, and findings. This perspective aligns with Walter et al.'s (2018) finding that among all published research in *Journal of Communication*, the origins of the top 10 most popular theories applied during the 2010s predated the previous two decades; older theories such as agenda setting and dual processing models were still popular in the 2010s. It is also consistent with Park et al.'s (2023) observation that scientists are experiencing an increasing knowledge burden compared to early time, which may have inhibited innovations that disrupt the status quo.

The second possible explanation for the decreasing disruption is that the topics published in these high-impact journals might have become more homogeneous over time. Journals

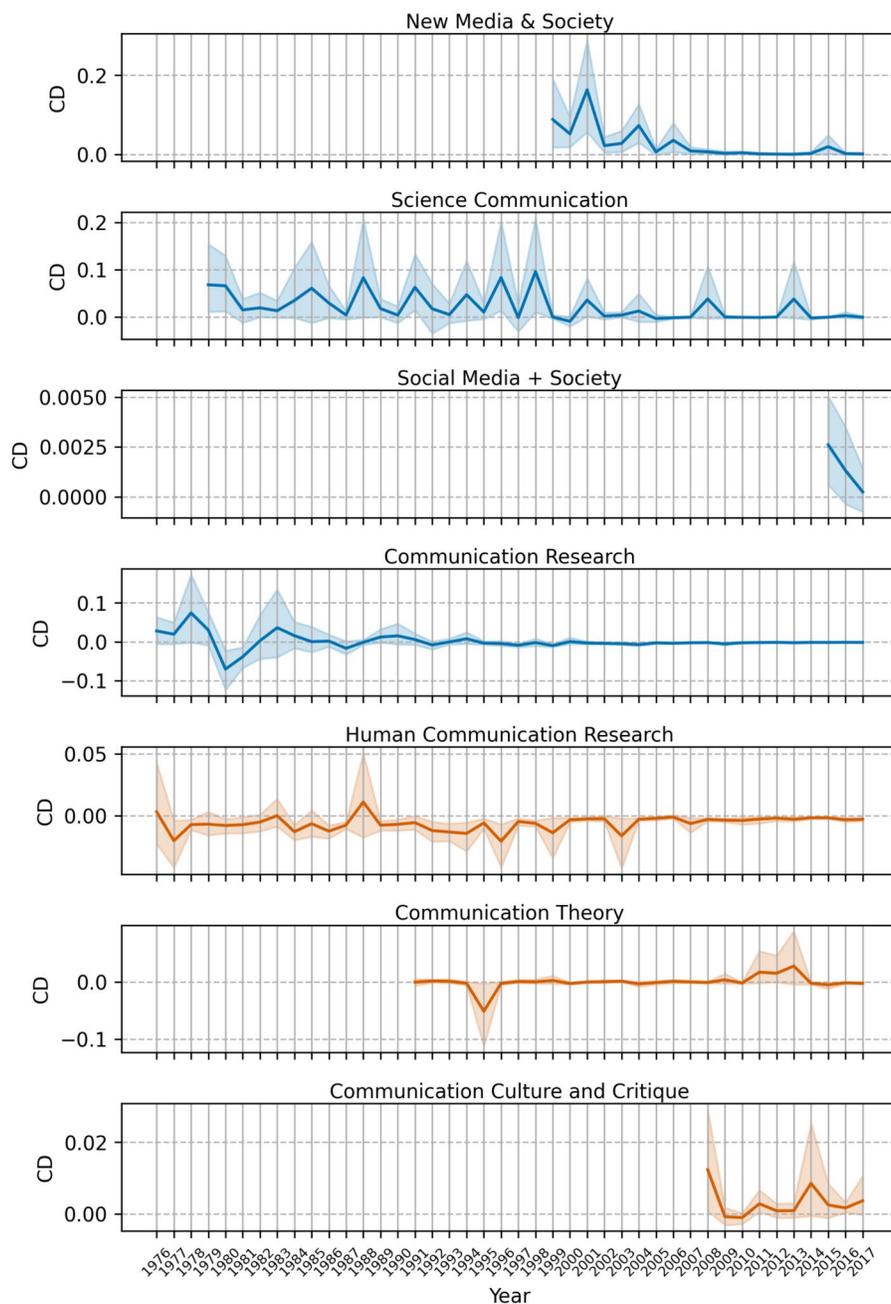


Figure 3. Continued.

such as *Political Communication*, *Journal of Computer-Mediated Communication*, and *Science Communication* have a relatively more defined topic area, which might have driven more consolidative work. By contrast, it may not be surprising to see journals like *Communication Methods and Measures* and *Communication Theory* demonstrate steadying patterns or even more disruptive spikes at times, given that these journals frequently incorporate novel methods and frameworks. For instance, Matthes (2024) in his editorial vision for *Communication Theory* wrote that the journal is “looking for completely novel theoretical developments, that is, new models, concepts, or theories” and “such innovations often suggest an alternative language, describing, and predicting communication phenomena in completely novel ways” (p. 1). Similarly, in the inaugural editorial of *Communication Methods and Measures* (Roskos-Ewoldsen et al., 2007), the

two goals of the journal are “to comment on poor and controversial practices with suggestions for improvement in research design, measurement, and analysis; and to introduce new methods and measures that would be useful to communication researchers” (p. 3).

The development and maturation of academic research itself may provide a few more explanations for the trend of knowledge innovation. For example, access to prior works has expanded exponentially through open-access channels and digital subscriptions, thereby exposing researchers to a much broader range of scholarship than in earlier decades. Meanwhile, researchers today more often rely on various online scholarly platforms, including Google Scholar, to systematically synthesize prior classic studies or studies from other fields. Furthermore, today many high-impact journals require extensive literature review and allow longer reference lists. At

Table 2. Descriptive statistics of CD of high-impact and ICA journals.

Journals	M	SD	95% CI	n
<i>Communication Methods and Measures</i>	0.0002	0.016	[-0.002, 0.003]	168
<i>Political Communication</i>	0.014	0.074	[0.008, 0.020]	648
<i>Journal of Computer-Mediated Communication</i>	0.005	0.047	[0.002, 0.009]	744
<i>Journal of Advertising</i>	0.015	0.137	[0.006, 0.024]	973
<i>Communication Monographs</i>	0.001	0.076	[-0.004, 0.006]	974
<i>Journal of Communication</i>	0.031	0.126	[0.025, 0.037]	1,694
<i>Digital Journalism</i>	-0.002	0.022	[-0.005, 0.000]	293
<i>New Media & Society</i>	0.011	0.065	[0.007, 0.014]	1,262
<i>Science Communication</i>	0.017	0.09	[0.011, 0.024]	726
<i>Social Media + Society</i>	0.001	0.008	[0.000, 0.002]	217
<i>Communication Research</i>	0.00003	0.05	[-0.003, 0.003]	1,339
<i>Human Communication Research</i>	-0.006	0.033	[-0.008, -0.004]	1,047
<i>Communication Theory</i>	0.000007	0.047	[-0.004, 0.004]	545
<i>Communication Culture and Critique</i>	0.003	0.024	[0.000, 0.006]	276

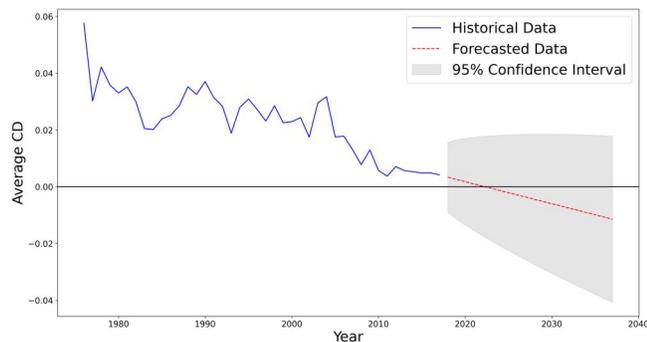


Figure 4. Historical and forecasted CD values. CD = Consolidation-Disruptive Index (see Equation 1). Forecasted values were predicted using a SARIMA model where the number of journals per year was controlled, with the degree of the AutoRegressive component, the degree of differencing, and the degree of the Moving Average component set to one. No seasonal effect was specified, because yearly data were modeled. The blue line represents historical data, whereas the red dashed line represents forecasted CD values. Shaded band represents 95% confidence intervals. In the forecast, it was assumed that by 2037, there would be 30 more journals compared with 2017. That is, during each year from 2018 to 2037, there will be on average 1.5 new Core SSCI journals joining the field of communication. This assumption was based on observing how the number of journals increased in the historical data.

the macro level, factors including the concentrations advanced by federal funding agencies or government-prioritized themes (e.g., misinformation, health communication, AI) may also shape authors' citation practices. What warrants caution here is that these factors might drive knowledge innovation in both directions. More empirical evidence is needed to gauge the actual impact of these factors on field development.

It is also worth noting that the CD index was found empirically robust against various factors related to citation, authorship, and publication practices (Park et al., 2023). Using normalization, regression, and simulation, Park et al. (2023) controlled for factors such as number of citations made by the focal article, average number of citations made by the focal article in a given field and year, number of new articles in a given field and year, mean number of authors per article in a given field and year, and endogenous structural changes in a citation network. They found that the CD index still showed a significant downturn after controlling for these factors. Given that Park et al. (2023) used a much broader and

larger citation dataset, the robustness of the CD index in our analysis should be tenable.

Moving forward, citation practices in communication research may continue to be impacted by researchers' changing habits and the growing influence of technologies. For example, researchers' increasing dependence on large language models (LLMs) may expose them to works that are more likely to be included in these models' training data. Classic, free, and open-access works may have a higher chance to be mentioned or recommended by LLMs, whereas works with strict copyright restrictions or low visibility might have a lower probability to be promoted to researchers. Apart from LLMs, research on emerging technologies (e.g., Internet of Things, smart glasses) may have to rely more on recent works if classic works do not offer proper theories or frameworks for further development. Thus, despite the general trends, researchers' citation practices could be vulnerable to the ongoing disciplinary and technological transformation.

Although the percent decrease was similar, the average CD index per year found in our analysis was in general lower than that reported in Park et al. (2023). In other words, communication is much less disruptive than social sciences considered as a whole. This complements Hu et al.'s (2024) finding that communication ranked eighth in within-discipline-citation ratio among 46 social science disciplines in 2020. Although the CD index itself does not contain information about within-discipline or cross-discipline citations, a more consolidative body of scholarly work may be associated with a high number of within-discipline citations, considering that scholars are more likely to be exposed to and build upon the same knowledge base within their own disciplines. The finding that communication is much less disruptive than general social sciences does not necessarily mean that communication is becoming less innovative. Rather, it implies that a common thread of intellectual heritage is taking shape at a faster rate than the social sciences as a whole. This is also in line with the argument that scholars need to make contributions by standing on the shoulders of giants (Katz et al., 2003). Compared to its early time when the field of communication was highly disruptive, communication has gradually begun to serve as a stabilizing and consolidative force in academia in recent years.

We further conducted post hoc analyses to identify specific patterns or relationships that our research questions did not address. Given that journal features are among the core elements in the citation practices (Tahamtan & Bornmann,

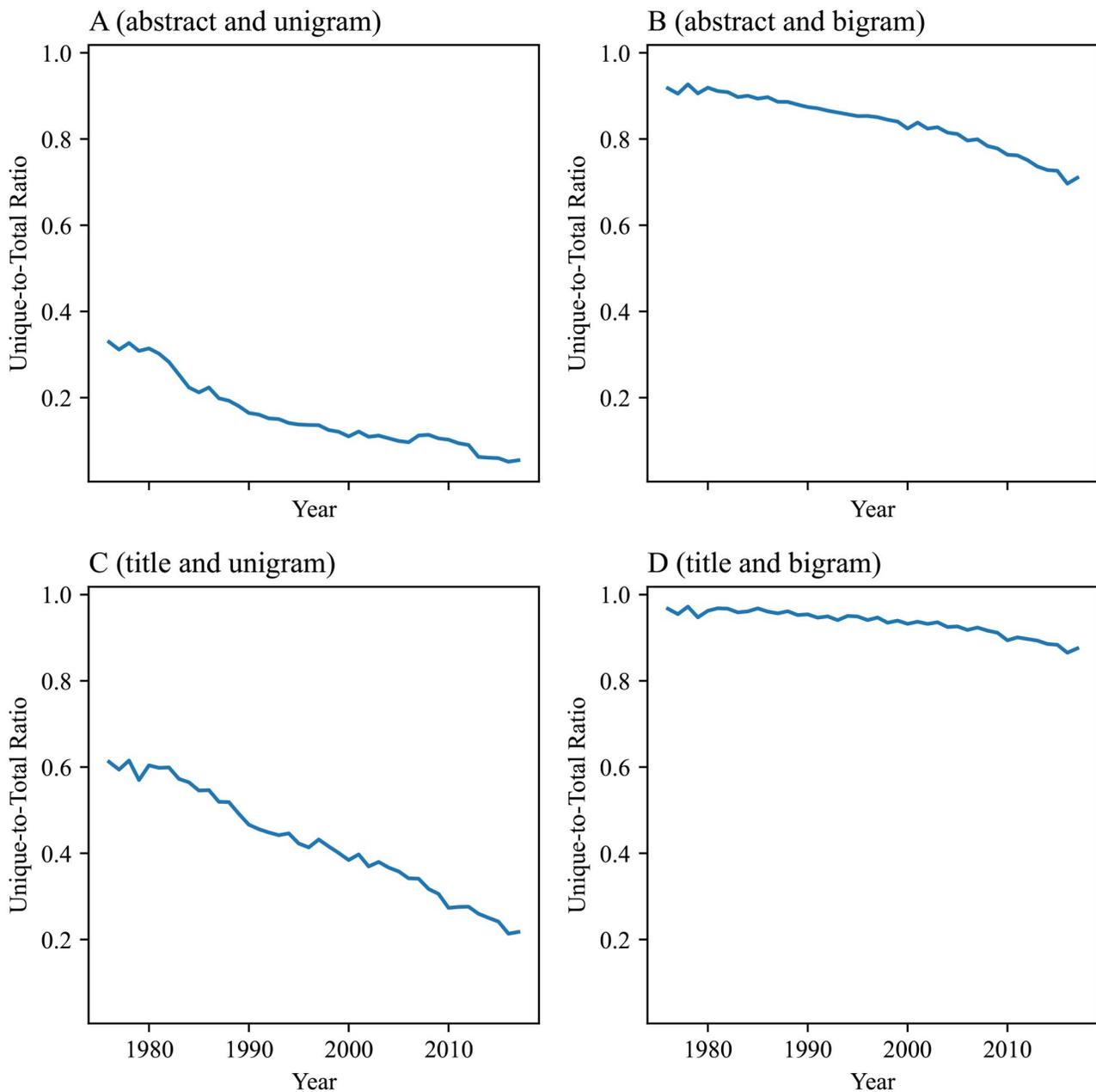


Figure 5. Diversity of words used in titles and abstracts (1976–2017). The unique-to-total ratio is calculated as the number of unique words divided by the total number of words in a given year. Panels A and B are based on the abstracts, whereas Panels C and D are based on the titles; Panels A and C are based on the unigram analysis, whereas Panels B and D are based on the bigram analysis. Years are from 1976 to 2017.

2018), we further disaggregated the data based on two journal features: (1) whether a journal is a core communication journal or an interdisciplinary journal and (2) impact factor (high vs. low; see Appendix B for details). After we distinguished core-communication journals from interdisciplinary journals and plotted the CD distributions by decade, we found that from the 1970s to the 1990s (especially in the 1970s), the articles from an interdisciplinary journal were more disruptive than those from a core-communication journal (Figure 6). In other words, the downward trend of the CD index (Figure 2) can be partially attributed to those interdisciplinary journals being more disruptive in the 1970s but less so afterwards, whereas the core-communication journals remained relatively stable over time. This finding suggests that the decreasing disruption in research published in

interdisciplinary journals was the driving force behind the downward trend in the CD index for the field of communication. They were more disruptive because their interdisciplinary nature initially brought a diverse stream of research paradigms into communication, but later the diverse stream became absorbed into a more consolidative communication scholarship. On the other hand, we did not find major differences in CD value distributions between high-impact journals and low-impact journals (Figure 7), except that in the 1970s, the low-impact-journal articles were slightly more disruptive than the high-impact-journal articles.

Another post hoc analysis we did was to examine whether a curvilinear effect was present in the downward trend of CD. After adding a squared term of time, the downward trend was still supported (Table 4), although Adj. R^2 (0.012)

Table 3. Top 20 verbs used in abstracts (1976 vs. 2017).

1976		2017	
Verbs	Frequency (per 100 verbs used)	Verbs	Frequency (per 100 verbs used)
indicate	2.54	Examine	2.18
rate	2.45	Base	1.50
suggest	1.98	Provide	1.25
find	1.88	Find	1.22
examine	1.69	Explore	1.22
discuss	1.41	Suggest	1.21
relate	1.41	Discuss	1.08
show	1.22	Relate	1.06
conduct	1.13	Argue	1.02
provide	1.13	Focus	0.98
support	1.13	Identify	0.90
perceive	1.13	Show	0.89
report	1.03	Perceive	0.89
predict	1.03	Include	0.87
identify	0.94	investigate	0.87
give	0.94	Reveal	0.87
concern	0.85	Use	0.84
determine	0.85	Draw	0.82
develop	0.85	Understand	0.81
test	0.85	Increase	0.79

Note. The frequency was normalized by the total number of verbs in a given year, which was then multiplied by 100. Verbs in bold appeared exclusively in the top 20 list for their respective year.

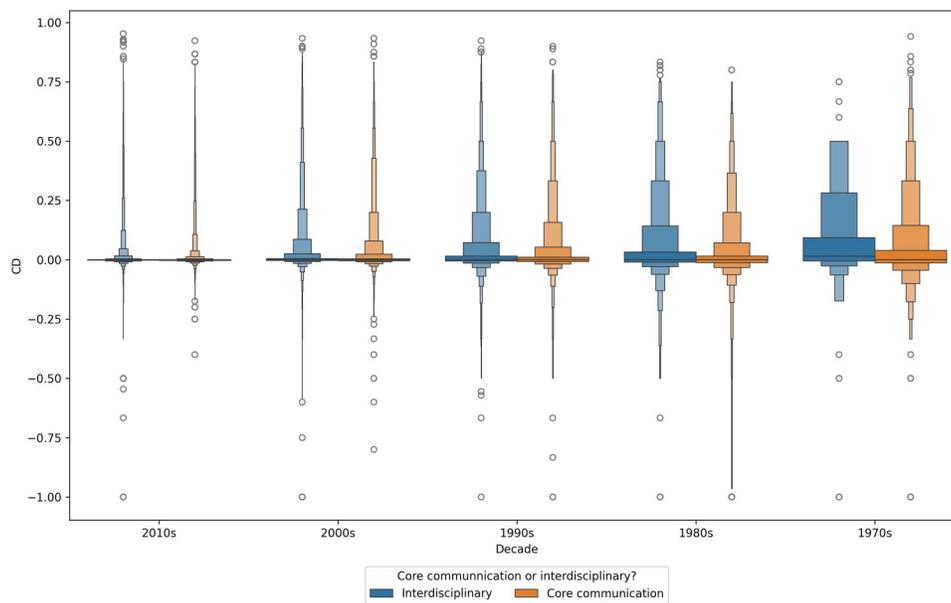


Figure 6. CD value distributions by core communication vs. interdisciplinary journal and by decade. CD = Consolidation-Disruptive Index (see Equation 1). $N = 52,294$.

did not increase from the linear-effect-only model. In the quadratic model, the rate of decrease accelerated (Figure 8), which means that the rate of decrease in disruption increased over the years.

Regarding the future trend, our results suggest that in the next two decades, assuming a similar rate of increase in communication journals as in the past, the CD index will continue to decrease, and we will see the first negative average CD value for articles published in 2023 based on the citation data from 2024 to 2028. This means communication research will continue to consolidate prior field knowledge and

become a stable and independent field. Meanwhile, communication research will likely have fewer connections to different knowledge areas than it did in the past, which, according to Park et al. (2023), is considered a precursor to slower innovation. Because there is a qualitative distinction between positive CD (disruptive) and negative CD (consolidative), the zero-crossing point represents a systemic phase transition. Our analysis predicts that the field of communication is rapidly approaching this tipping point. Identifying this tipping point allows the community to distinguish between temporary fluctuations and a permanent structural change in how

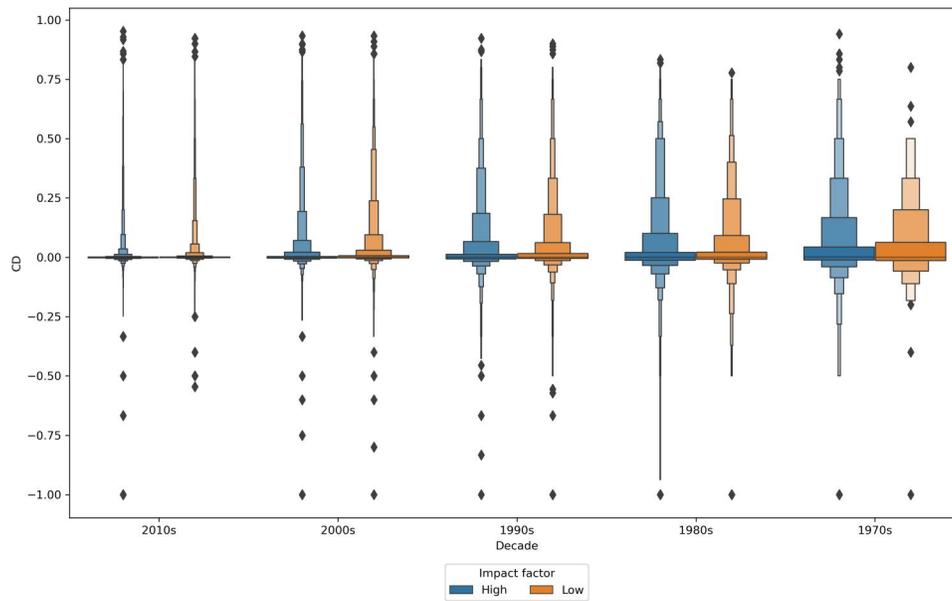


Figure 7. CD value distributions by impact factor (high vs. low). CD = Consolidation-Disruptive Index (see Equation 1). Impact factor is the 2-year version measured in July 2023. The cutoff value for high vs. low impact factor is 2.86 (median). $N = 52,294$.

Table 4. Post hoc regression analysis: curvilinear effect of year on CD.

	Estimate	SE	95% CI	<i>p</i>
Intercept	-63.85	14.52	[-92.31, -35.39]	<.001
Year	0.06	0.02	[0.04, 0.09]	<.001
Year ²	-1.64×10^{-5}	3.63×10^{-6}	$[-2.35 \times 10^{-5}, -9.33 \times 10^{-6}]$	<.001

Note. $R^2 = .012$; Adj. $R^2 = .012$; $N = 52,294$.

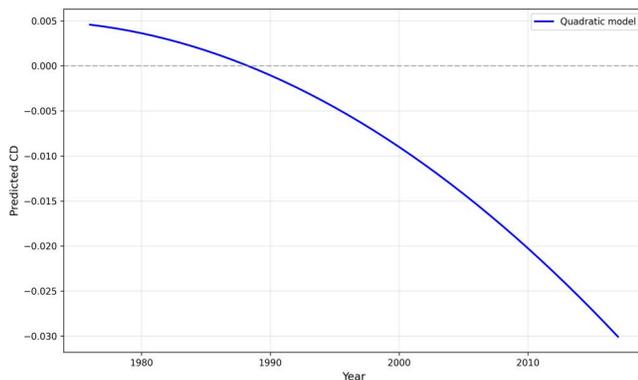


Figure 8. Predicted CD values from the quadratic model.

knowledge is generated. This prediction also reflects the transition of the academic conversation from retrospective analysis to proactive disciplinary self-reflection.

In addition to the CD index, we examined the consolidation-disruption pattern by looking at the linguistic features of the publications in the data. The findings about the linguistic features supported the trend of the CD patterns. First, the diversity of words used in the titles and abstracts decreased from 1976 to 2017; second, the top verbs used in the abstracts were less related to discovery and creation in 2017 than the top verbs used in 1976, which provided additional evidence to validate our main findings based on the CD index. These findings are also consistent with the trend found in the broader academic fields (Park et al., 2023), which present a

decline in building new theories (Kuhn, 1987/2000a, 1991/2000b; Wray, 2011). As both the communication field and the subdisciplines within communication become more established, communication scholarship presents a tendency of exchanging ideas primarily inside their silos, which could hinder the penetration of knowledge boundaries and limit the integration of insights from outside the communication field. Although communication scholars have raised concerns about the fragmentation in the field (e.g., Craig, 1999; Waisbord, 2019), at least based on the diversity of words used in titles and abstracts, the fragmentation might be gradually fading away and communication scholars are gradually forming its own criteria and frameworks when publishing papers.

The findings of this study may partially challenge the fragmentation perspective of communication. Although Craig (1999) and So (1988) observed that communication thrived through importing fragments from other fields, more recent literature has laid out an encouraging landscape of the field development. For example, Tenenboim-Weinblatt and Lee (2020) pointed out that the field of communication has been known for its plurality; bringing different communication subfields can further create new spaces for innovation that moves the field forward. This study has, to some extent, corroborated that while communication is still a rapidly developing discipline (Hu et al., 2023), the decline in its disruption implies that communication scholars are increasingly relying on prior knowledge to foster within-discipline conversations and to form a common intellectual identity. This trend might be meaningful as communication is gradually consolidating

its existing knowledge and developing into a stabilizing force, through which a more coherent academic identity can be built and ample recognition from other disciplines may arise.

Against this backdrop, it should still be acknowledged that fostering cross-subfield and cross-disciplinary conversations and collaboration remains important (Tenenboim-Weinblatt & Lee, 2020; Vorderer & Weinmann, 2016). Such conversations can not only enrich theoretical construction but also enable communication scholars to stay sensitive to knowledge from various disciplines. Practically, communication scholars and practitioners can work together on issues that matter to the public such that meaningful exchange of ideas across disciplines can be enacted. Continued collaboration in practice-oriented areas like healthcare (e.g., Ruben, 2016), misinformation (e.g., Graham & Porter, 2025), generative AI in the newsroom (e.g., Becker et al., 2025), human-bot interaction (e.g., Wischniewski et al., 2024; Xu et al., 2025), advocacy (e.g., Carragee & Frey, 2016; Rodino-Colocino, 2011; Wilkins, 2014), and public policy (e.g., Fischhoff & Scheufele, 2013; Morgan, 2002; Wang et al., 2024) can also bring novel perspectives and angles to the communication scholarship.

Conclusions and limitations

Consolidation and disruption are two forms of innovation, with the former implying a slower innovation. The current study finds that innovation has been slowing down in the field of communication. More than a decade ago, Herbst (2008) posed the question: “How might we build our field in ways that make it a model of openness and courage while protecting the notion that there is still a place for a distinctive field of inquiry called communication?” (p. 612). The current study has offered some empirical evidence that addresses the latter part of this question. That is, although the innovation speed in communication has slowed over time, the field has gradually solidified its identity with a coherent body of intellectual legacy.

This study has several limitations. First, we have approached the research questions from a bird’s-eye view, focusing on large-scale citation practices. Although this approach enables us to analyze articles spanning over four decades, the quantified measure of CD does not illuminate why an author cites a specific piece. Using methods like in-depth interviews or textual analyses that focus on the context of in-text citations will be helpful in providing more insights at the micro level.

Second, although this study included 92 SSCI journals from Web of Science, it should be acknowledged that these journals mostly represent Western-centric perspectives and hence may not fully capture the citation practices and innovation patterns across the entire communication field. Many non-SSCI journals and those that are published in other languages or launched in various regions have also advanced knowledge innovation. For example, the newly launched ICA journal, *Global Perspectives in Communication*, seeks to “foster diverse perspectives, fresh insights, and open-ended inquiries that drive communication research forward.” The journal, *Human-Machine Communication*, has published many highly cited articles that focus on embodied intelligence, augmented characters, and theory innovation. Other recently established journals (e.g., *Asian Communication Research*, *Communication and Change*, *Emerging Media*,

Global Media and China) are also dedicated to theoretical and methodological contribution and warrant further investigation in future research.

Third, the citation records are not exhaustive in Dimensions, which is a shared phenomenon found in similar databases like Web of Science and Scopus (Martín-Martín et al., 2021). Future studies may find it fruitful to compare findings across different scholarly databases.

Fourth, our analyses did not consider whether or when an article was published online first. The advanced online publication may impact our results because the actual time analysis window for those online-first articles could be longer than 5 years. In theory, the inclusion of online-first articles could inflate the decline in the CD index due to the actual longer time window for those articles, which may offset the overall conservative estimation of the CD index due to the use of the 5-year window.

Finally, as mentioned in the methods section, the CD index does not provide any information about the disciplinarity of the backward citation traffic. Although such disciplinarity is not the focus of the current study, a future study might examine it with a variant of the CD index. Notwithstanding the limitations, the current study introduces the CD index to our field, which enhances our understanding of the status quo of the communication scholarship based on empirical evidence. Future communication research can continue to use this index to monitor and evaluate the status of innovation in our field.

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Conflicts of interest

None declared.

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Appendix A

Appendix Table A1. Descriptive statistics of publications under analysis by year.

Year	Number of publications	Missing abstract percentage (%)
1976	201	48
1977	217	49
1978	196	16
1979	247	34
1980	236	44
1981	254	41
1982	269	38
1983	274	30
1984	333	23
1985	360	20
1986	375	25
1987	419	24
1988	461	18
1989	498	16
1990	588	23
1991	633	23
1992	683	23
1993	710	24
1994	737	18
1995	785	18
1996	846	20
1997	832	15
1998	885	11
1999	943	12
2000	1044	10
2001	1072	13
2002	1196	10
2003	1153	10
2004	1294	11
2005	1480	11
2006	1631	9
2007	1769	10
2008	2036	13
2009	2180	11
2010	2448	10
2011	2570	8
2012	2780	7
2013	3029	8
2014	3321	7
2015	3320	7
2016	4146	6
2017	3843	7

Appendix B. Post Hoc Analysis

To categorize whether a journal was core communication or interdisciplinary, we rely upon the website of Journal Citation Reports (Clarivate, 2025). If a journal is placed under only the communication category, it is considered a core communication journal (e.g., *Journal of Communication*). If a journal is placed under two or more categories, it is considered an interdisciplinary journal (e.g., *Journal of Advertising Research* is under communication and business; *Political Communication* is under communication and political science).

Regarding journal impact factor, we relied on the Observatory of International Research website (Pacher, 2023) and used its 2-year journal impact factor. This metric is calculated as the number of citations divided by the number of published articles in a 2-year window. Because we collected the data for the main analysis starting in July 2023, we used the data as of this month. The cutoff value for high vs. low impact factor was 2.86 (median).