

SOC6108: Networks II: Technologically-Mediated Information Diffusion, Winter 2023

Bree McEwan

bree.mcewan@utoronto.ca

Office hours: Tuesday: 10-12 on Zoom

Monday, 9am -11am, Room 240, 725 Spadina

Course Website: <https://q.utoronto.ca/courses/299418>

Course Description

This course is intended to provide an overview of both classic information diffusion theories and research and how mediated networked communication transforms the way the way that information diffuses through networks. Topics will include classic information diffusion and network research, conceptualizations of networked communication channels, types of (mis)information, societal effects, and appropriate for information diffusion research. Successful students will achieve the following objectives:

- Articulate classic information diffusion research.
- Apply understanding of networked communication to modern information diffusion problems
- Consider the effects information diffusion of networked social channels on society
- Propose novel research questions for future information diffusion research
- Prepare for the information diffusion question on the networks comprehensive exam.

Session Topics & Readings

The readings for this course are primarily journal articles that will be posted to Quercus.

January 9, Recap of Network Thinking

Burt, R. S. (2004). Structural holes and good ideas. *American Journal of Sociology*, 110, 349-399.

Marsden, P. V., & Friedkin, N. H. (1993). Network studies of social influence, *Sociological Methods & Research*, 22(1), 127-151.

Milgram, S. (1967). The small-world problem. *Psychology Today*, 1, 62-67.

Watts, D. J. (1999). Network dynamics and the small world phenomenon. *American Journal of Sociology*, 105, 493-527.

Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360-1380.

January 16, Classics of Information Diffusion

- Rogers, E. M. (2003). *Diffusion of innovations, 5th Ed.* Free Press. Chapters 1, 2, 7, & 8
- Coleman, J., Katz, E., & Menzel H. (1957). The diffusion of innovation among physicians. *Sociometry, 4*, 253-270. *
- Katz, E. (1992). On parenting a paradigm: Gabriel Tarde's agenda for opinion and communication research. *International Journal of Public Opinion Research, 4*, 80-86.
- Bowers, R. V. (1937). The direction of intra-societal diffusion. *American Sociological Review, 2*, 826-836.
- Bowers, R. V. (1938). Differential intensity of intra-societal diffusion. *American Sociological Review, 3*, 21-31.

January 23, Networks and Diffusion

- Centola, D., & Michael, M. (2007). Complex contagion and the weakness of long ties. *American Journal of Sociology, 113*, 702-734. *
- Erickson, B. H. (2006). Persuasion and perception: new models of network effects on gendered issues. In B. O'Neill & E. Gildengil (Eds.), *Gender and Social Capital*, pp. 293-322. Routledge.
- Lai, G., & Wong, O. (2002). The tie effect on information dissemination: The spread of a commercial rumor in Hong Kong. *Social Networks, 24*, 49-75. *
- Lewis, K., & Kaufman, J. (2018). The conversion of cultural tastes into social network ties. *American Journal of Sociology, 123*, 1684-1742. *

January 30, Mediated Communication and Networked Spaces

- Carr, C. T., & Hayes, R. A. (2015). Social media: defining, developing, and divining. *Atlantic Journal of Communication, 23*(1), 46-56.
- O'Sullivan, P., & Carr, C. T. (2018). Masspersonal communication: A model bridging the mass-interpersonal divide. *New Media & Society, 20*(3), 1161-1180.
- Weimann, G. (1982). The two-step flow of communication. *American Sociological Review, 47*, 764-773.
- Katz, E. (1957). The two-step flow of communication: An up-to-date report on a hypothesis. *Public Opinion Quarterly, 21*, 61-78.
- Carr, C. T., & Hayes, R. A. (2014). The effect of disclosure and third-party influence on an opinion leader's credibility and electronic word of mouth in two-step flow. *Journal of Interactive Advertising, 14*, 38-50. *

Bakshy, E., Roseann, I., Marlow, C., & Adamic, L. (2012). The role of social networks in information diffusion. *Proceedings of the 21st international conference on the World Wide Web*. (pp. 519-528). *

February 6 – Methodological Options

Valente, T. (2005). Network models and methods for studying the diffusion of innovations. In P. J. Carrington, J. Scott, and S. Wasserman (Eds.), *Models and Methods of Social Network Analysis*. (pp. 98-116). Cambridge University Press.

Heckathorn, D. D., & Cameron, C. J. (2017). Network sampling from snowball and multiplicity to respondent-driven sampling. *Annual Review of Sociology*, 43. 101-119.

Smith, R. A., & Fink, E. L. (2010). Compliance dynamics within a simulated friendship network I: The effects of agency, tactic, and node centrality. *Human Communication Research*, 36, 232-260. <https://doi.org/10.1111/j.1468-2958.2010.01375.x> *

Reynolds, R. M. (2021). Diffusion in information-seeking networks: Testing the interaction of network hierarchy and fluidity with agent-based modeling. *Communication Methods and Measures*, 15(4), 292-311. <https://doi.org/10.1080/19312458.2020.1784401> *

Li, H. Xia, C., Wang, T., Wen, S., Chen C., & Xiang, Y. (2023). Capturing dynamics of information diffusion in SNS: A survey of methodology and techniques. *ACM Computing Surveys*, 55, 1-51. <https://doi.org/10.1145/3485273>

February 13 – Information Types

Jack, C. (2019). Wicked content. *Communication, Culture, & Critique*, 12, (4) 435-454.

Marwick, A., & Lewis, R. (2017). Media manipulation and disinformation online. *Data & Society*. datasociety.net/library/media-manipulation-and-disinfo-online.

Wilson, T., & Starbird, K. (2020). Cross-platform disinformation campaigns: Lessons learned and next steps. *Mis/information review: Harvard Kennedy School*. <https://misinforeview.hks.harvard.edu/article/cross-platform-disinformation-campaigns/>

Allcott, H., Gentzkow, M., Yu, C. (2019). Trends in the diffusion of misinformation on social media. *Research & Politics*, <https://doi.org/10.1177/2053168019848554> *

Shao, C., Hui, P.-M., Wang, L., Jiang, X., Flammini, A., Menczer, F., Ciampaglia, G. L. (2018). Anatomy of an online misinformation network. *PLOS One*. <https://doi.org/10.1371/journal.pone.0196087> *

February 20 – READING WEEK

February 27 – Diffusion and Online spaces

McEwan, B., Carpenter, C. J., & Hopke, J. (2018). Mediated skewed diffusion of issues information: A theory. *Social Media + Society*, 4(3), <https://doi.org/10.1177/2056305118800319>

Kee, K. F., Sparks, L., Struppa, D. C., Mannucci, M. A., & Damiano, A. (2015). Information diffusion, Facebook clusters, and the simplicial model of social aggregation: A computational simulation of simplicial diffusers for community health interventions. *Health Communication, 31*(4), <https://doi.org.10.1080/10410236.2014.960061> *

Spitzberg, B. H., (2014). Toward a model of meme diffusion (M3D). *Communication Theory, 24*, 311-339.

Kim, Y. J., & Hollingshead, A. B. (2015). Online social influence: Past, present, and future. *Annals of the International Communication Association, 39*(1), 163-192.

Gupta, M., Sharma, T. G., & Thomas, V. C. (2021). Network's reciprocity: A key determinant of information diffusion over Twitter. *Behaviour and Information Technology, https://doi.org/10.1080/0144929X.2021.1927187* *

March 6 - Message Sources: Social Relationships/Media

Morton, T. A., & Duck, J. M. (2001). Communication and health beliefs: Mass and interpersonal influence on perceptions of risk to self and others. *Communication Research, 28*(5), 602-626. *

Valente, T. W., & Saba, W. P. (1998). Mass media and interpersonal influence in a reproductive health communication campaign in Bolivia. *Communication Research, 25*(1), 96-124. *

Childress, C., & Friedkin, N. (2012). Cultural reception and production: The social construction of meaning in book clubs. *American Sociological Review, 77*, 45-68. *

Ognyanova, K., & Monge, P. (2013). A multitheoretical, multilevel, multidimensional network model of the media system: Production, content, and audiences. *Annals of the International Communication Association, 37*, 67-93. <https://doi.org/10.1080/23808985.2013.11679146> *

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual review of sociology, 415-444*. *

March 13 - Opinion Leaders, Superdiffusers, and "Influencers"

Boster, F. J., Kotowski, M. R., Andrews, K. R., & Serasota, K. (2011). Identifying influence: Development and validation of the connectivity, persuasiveness, and maven scales. *Journal of Communication, 61*, 178-196. <https://doi.org/10.1111/j.1460-2466.2010.01531.x>

Hwang, K., & Zhang, Q. (2018). Influence of parasocial relationship between digital celebrities and their followers on followers' purchase and electronic word-of-mouth intentions, and persuasion knowledge. *Computers in Human Behavior, 87*, 155-173. <https://doi.org/10.1016/j.chb.2018.05.029> *

Carpenter, C. J., & Averbek, J. M. (2020). What do superdiffusers do when they want to persuade someone about politics on Facebook? *Communication Quarterly, 68*(1), 54-72.*

Galeotti, A., & Goyal, S. (2009). Influencing the influencers: A theory of strategic diffusion. *The RAND Journal of Economics*, 40(3), 509-532. <https://doi.org/10.1111/j.1756-2171.2009.00075.x>

Yang, Y., & Ha, L. (2021). Why people use TikTok (Douyin) and how their purchase intentions are affected by social media influencers in China: A uses and gratifications and parasocial relationship perspective. *Journal of Interactive Advertising*, 21(3), 297-305. <https://doi.org/10.1080/15252019.2021.199554>*

March 20 – Polarization

Bail, C. A., Argyle, L., Brown, T. W., Bumpus, J. P., Chen, H., Hunzaker, M. B. F., Lee, J., et al., (2018). Exposure to opposing views on social media can increase political polarization. *PNAS*, 115(37), 9216-9221. <https://doi.org/10.1073/pnas/1804840115>*

Gruzd, A., & Roy, J. (2014). Investigating political polarization on Twitter: A Canadian perspective. *Policy & Internet*, 6(1), 28-45. <https://doi.org/10.1002/1944-2866.POI354>*

Esteve-Del-Valle, M. (2022). Homophily and polarization in Twitter political networks: A cross-country analysis. *Media and Communication*, 10(2), <https://doi.org/10.17645/mac.v10i2.4948>*

Baldassarri, D., & Bearman, P. (2007). Dynamics of political polarization. *American Sociological Review*, 72(5), 784-811. <https://doi.org/10.1177/0003212240707200507>*

Bright, J. (2018). Explaining the emergence of political fragmentation on social media: The role of ideology and extremism. *Journal of Computer-Mediated Communication*, 23(1), 17-33. <https://doi.org/10.1093/jcmc/zmx002>*

March 27 – Social Effects

Rogers, E. M. (2003). *Diffusion of innovations*, 5th Ed. Free Press. Chapter 11.

Lazer, D. (2020). Networks and information flow: The second golden age. In Foucault Welles, B., & Gonzalez-Bailon, S. (Eds.). *The Oxford Handbook of Networked Communication*. Oxford

Borge-Holthoefer, J., Hussain, M. M., & Weber, I. (2020). Studying networked communication in the middle east: Social disrupter and social observatory. In Foucault Welles, B., & Gonzalez-Bailon, S. (Eds.). *The Oxford Handbook of Networked Communication*. Oxford

Kruse, L. M., Norris, D., & Flinchum, J. R. (2018). Social media as public sphere? Politics on social media. *The sociological quarterly*, 59(1), 62-84. <https://doi.org/10.1080/00380253.2017.1383143>

Course Requirements

Article Outline (5% per outline, 10% total grade)

Students will prepare a 1-2 page outline of an empirical course reading. (Eligible articles are marked with a * on the reading list). A worksheet for preparing outlines will be provided. These outlines should be turned into Quercus for grading, but we will also develop a shared space (dropbox or Google doc) for the purposes of developing a class repository. Students are expected to complete this assignment twice during the semester. Sign-ups will occur the first day of class.

Discussion Leading (5% per discussion leading, 10% total grade)

Students will lead a 20 minute discussion of an article (matching the article outline experiment). Students will post 10 prewritten discussion questions to the Quercus discussion board prior to class. These questions are intended to provide a starting point to the discussion, but discussion leaders should follow and shape the discussion organically during class.

Research Proposal (30%, February 27)

Students will develop a proposal for a feasible empirical project to study information diffusion through mediated interpersonal networks. Further information regarding the proposal will be provided on Quercus, but students will be evaluated on their ability to formulate a clear and researchable research question(s) and/or hypothesis, how well they have grounded their proposal in a synthesis previous work on the topic, developed a warrant for the need for this research, proposed a topic that has a clear connection to both networks and mediation, and provided a thorough articulation of the study design. Paper should be formatted in formal style (including references, cover page) and be approximately six to ten pages (not including cover page or references).

Ethics Evaluation (20%, March 6)

Based on the research proposal students will either complete an REB worksheet (JUST the worksheet – do NOT submit an REB proposal) for the proposed research OR provide a detailed explanation for why the proposed research does not require REB approval. Non-REB assignments should include a consideration of additional ethical considerations.

Final Essay (30%, April 3)

The final essay will be a 10 page essay answering a comps-style question on information diffusion in mediated networks. The provided question will not be the same as the Part C comps question but should provide practice in comps-style writing that can inform the comprehensive exam.

Evaluation (including Penalty for Lateness Clause)

Dates may be swapped for the Article Outline/Discussion section, but swaps must be requested at least one week prior to original date selected. Otherwise, no late work for article outline/discussions will be accepted.

For all other assignments, extensions may be granted with *prior approval* of the instructor. In case of the emergency, please contact me as soon as possible. If necessary, revisions can be made to the research proposal and ethics evaluation assignment. Extension requests for the final essay are limited by the University grading deadlines. No work may be turned in for credit after 48 hours prior to the semester grade submission deadline.

Academic Integrity Clause

Copying, plagiarizing, falsifying medical certificates, or other forms of academic misconduct will not be tolerated. Any student caught engaging in such activities will be referred to the Dean's office for adjudication. Any student abetting or otherwise assisting in such misconduct will also be subject to academic penalties. Students are expected to cite sources in all written work and presentations. See this link for tips for how to use sources well:

(<http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>).

According to Section B.I.1.(e) of the Code of Behaviour on Academic Matters it is an offence "*to submit, without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course or program of study in the University or elsewhere.*"

By enrolling in this course, you agree to abide by the university's rules regarding academic conduct, as outlined in the Calendar. You are expected to be familiar with the *Code of Behaviour on Academic Matters* ([Code of Behaviour on Academic Matters \[July 1, 2019\] | The Office of the Governing Council, Secretariat \(utoronto.ca\)](#)) and *Code of Student Conduct* (<http://www.viceprovoststudents.utoronto.ca/publicationsandpolicies/codeofstudentconduct.htm>) which spell out your rights, your duties and provide all the details on grading regulations and academic offences at the University of Toronto.

Normally, students will be required to submit their course essays to Ouriginal for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Ouriginal reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Ouriginal service are described on the <https://act.utoronto.ca/pdt-change/> web site.

Accessibility Services

It is the University of Toronto's goal to create a community that is inclusive of all persons and treats all members of the community in an equitable manner. In creating such a community, the

University aims to foster a climate of understanding and mutual respect for the dignity and worth of all persons. Please see the University of Toronto Governing Council “Statement of Commitment Regarding Persons with Disabilities” at

<http://www.governingcouncil.utoronto.ca/Assets/Governing+Council+Digital+Assets/Policies/PDF/ppnov012004.pdf>.

In working toward this goal, the University will strive to provide support for, and facilitate the accommodation of individuals with disabilities so that all may share the same level of access to opportunities, participate in the full range of activities that the University offers, and achieve their full potential as members of the University community. We take seriously our obligation to make this course as welcoming and accessible as feasible for students with diverse needs. We also understand that disabilities can change over time and will do our best to accommodate you.

Students seeking support must have an intake interview with a disability advisor to discuss their individual needs. In many instances it is easier to arrange certain accommodations with more advance notice, so we strongly encourage you to act as quickly as possible. To schedule a registration appointment with a disability advisor, please visit Accessibility Services at <http://www.studentlife.utoronto.ca/as>, call at 416-978-8060, or email at: accessibility.services@utoronto.ca. The office is located at 455 Spadina Avenue, 4th Floor, Suite 400.

Additional student resources for distressed or emergency situations can be located at distressedstudent.utoronto.ca; Health & Wellness Centre, 416-978-8030, <http://www.studentlife.utoronto.ca/hwc>, or Student Crisis Response, 416-946-7111.

Equity and Diversity Statement

Equity and Diversity

The University of Toronto is committed to equity and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect. As a course instructor, I will neither condone nor tolerate behaviour that undermines the dignity or self-esteem of any individual in this course and wish to be alerted to any attempt to create an intimidating or hostile environment. It is our collective responsibility to create a space that is inclusive and welcomes discussion. Discrimination, harassment and hate speech will not be tolerated. Additional information and reports on Equity and Diversity at the University of Toronto is available at <http://equity.hrandequity.utoronto.ca>.

Course Schedule

Date	Topic	Assignment Due
January 9	Welcome & Recap of Network Thinking	Sign-ups for Article Outline
January 16	Classics of Information Diffusion	
January 23	Networks and Diffusion	
January 30	Mediated Communication & Networked Spaces	
February 6	Methodological Options	
February 13	Information Types	
February 20	FAMILY DAY – NO CLASS	
February 27	Diffusion and Online Spaces	Research Proposal
March 6	Message Sources: Social Relationships/Media	Ethics Evaluation
March 13	Opinion Leaders, Superdiffusers, & “Influencers”	
March 20	Polarization	
March 27	Social Effects	
April 3		Final Essay