GNOVIS

20TH ANNIVERSARY

GNOVIS STAFF

Contents

Letter from the Editor

Sometimes I think back to spring 2019, when I learned that I had been accepted into Georgetown University's Communication, Culture & Technology MA program. After working from home for over two years, I couldn't wait to get back in the classroom. I was looking forward to studying at Joseph Mark Lauinger Memorial Library. After having the pleasure of meeting several CCT students at the spring open house, I was looking forward to getting to know my future classmates over coffee. I imagined myself walking through campus during fall, as the leaves start to change. Mostly, I was excited to finally get out of my house and have the opportunity to not wear leggings every day.

While the past year and-a-month-or-so was certainly not what I expected, I am immensely grateful for the Georgetown Community; for the perseverance of students who had to stay up well past midnight to attend classes; for the faculty and staff who worked so hard to provide some semblance of community for us all; and for the effort everyone at CCT put into the pursuit of cura personalis.

The GNOVIS team, a group smaller than the previous year by six members, banded together to make sure we successfully executed our 2020 priorities. We designed a brand new website that aligned the GNOVIS brand with the Georgetown University aesthetic. The second season of About Me explored the 2020 Election, how dating apps have helped people find love during the pandemic, and the future of work (from home). We have expanded our multimedia presence and streamlined the blog submission process. We also successfully hosted events and led workshops, from an election 2020 debrief to a screening of The Social Network.

And of course, we have produced this journal. We are so excited to publish the works of Abigail Major, Grant Lattanzi, Fan Wang, Michael Wilson, and Ya Zhang, and want to thank each of them for their hard work and patience during this process. Our Spring 2021 Journal covers a wide range of topics, from media criticism of Netflix's Big Mouth, to public perception of the impeachment of Donald Trump. Each author has contributed exciting new research to their respective fields, and to the world of communication, culture and technology.

I would like to thank the GNOVIS staff for their hard work and dedication this year. Thank you to Andreas Beissel for their creativity and drive; from creating visually-engaging graphics for our blogs to crafting the layout for this very journal to producing your own video, your passion for visual media and your dedication was an invaluable resource for the team. To Anna Hoffman, thank you for your work as Managing Editor; your operational guidance, keen eye for detail, and hard work kept us all on track. To Eish Sumra, thank you for all the work you put into designing and executing a new website for the fellowship and for always being a shining light during our team meetings. To Rohan Somji, our first-year staff member, thank you for your willingness to dive right in; we asked a lot of you this semester and you tackled each task with professionalism and cheer.

We would also like to thank the CCT faculty and staff for their support this past year. In particular, we would like to thank Dr. Leticia Bode, Gnovis' faculty advisor, Ai-Hui Tan Director of Academic Programs, Tonya Puffett, CCT Business Manager, and Dr. Matthew Tinkcom, Director of CCT. And of course, we would like to thank you, our readers. We hope you enjoy the 2021 GNOVIS journal.

Sincerely,

Chelsea Sanchez

Editor-in-Chief, GNOVIS

Digital Calendars and Symbolic Representations of Time

Grant Lattanzi

Abstract

This study revisits Zerubavel's (1981) discussion of calendars as they relate to the temporal structure of social life in order to account for new digital calendar technologies. It considers calendars as the primary means by which people engage with symbolic representations of time and through textual analysis explores how the rise of digital calendars impacts time ideologies. This study re-conceptualizes calendars as malleable and highly consequential cultural artifacts as well as a communication technology that impacts time ideologies.

Keywords: *digital media; calendars; symbols; time ideology*

Grant Lattanzi is a graduate student at Georgetown University pursuing an MA in Communication, Culture, and Technology. He holds degrees in theatre and sociology from Texas Christian University. Grant's research explores social behavior in the ever-changing media ecosystem in which we all live. He employs sociological perspectives to examine how people co-construct meaning, identity, and culture within emerging technological and mediated environments. For more information on his research and background, visit https://www.grantlattanzi.com/."

INTRODUCTION

The first major institution that man invented in order to establish and maintain temporal regularity was the calendar. The calendar is primarily responsible for the creation of most of the temporally regular patterns through which nearly all societies, social institutions, and social groups manage to introduce some orderliness into their lives. (Zerubavel 1981, 31).

The initial propagation of calendars (and their more detailed counterpart, schedules) imposed socially constructed order on time: an entity previously dependent on physical and biological rhythms and devoid of quantitative qualities. According to Zerubavel (1981), this imposition instated the "sociotemporal order" which now "regulates the structure and dynamics of social life" (2). The sociotemporal order governs life as we know it. It relates to everything from the hands on the clock to the five-on/two-off workweek cycle. It is hard to imagine a world where events are not measured in hours or minutes. The sociotemporal order is a subtle yet powerful (and indeed inescapable) factor of everyday life that relies on the widespread use of calendars and schedules.

This study considers calendars as the primary means by which people engage with time and time related symbols. But calendars today are strikingly different than any other time in history. The Encyclopædia Britannica (2013) states that calendars began the monumental shift from print media to digital media in the early 1990s with the invention of personal digital assistants (PDAs). Since then, digital calendars have become the default for industries, used for a range of activities from scheduling doctors' appointments to making dinner plans. As the primary means of engagement with symbols associated with time, and the entity responsible for initiating and perpetuating the sociotemporal order, digital calendars must be examined for possible shifts in how they structure and permit engagement with time-symbols relative to paper calendars. The phrase, "time-symbol" refers to anything typically found on a calendar such as days of the week or month, months of the year, or times of day; visual representations of time such as grids or lists; and physical components of calendars, like boxes, grids, and lines. Also included in time-symbols are abstractions associated with the flow of time one may consider while using a calendar such as late/early, long/short, busy/free, obligation/recreation, future/past/present, family/work, and so on.

Time-symbols are "significant symbols" (Mead 1934), meaning they are objects/artifacts to which a community/collective share the same response. For example, "late" as a significant symbol is commonly understood as unfavorable in the professional world, but acceptable under certain circumstances for informal social gatherings. Similarly, "6:00 PM on Friday" likely has significant meaning to many students and professionals that differs from "8:00 AM on Monday."

The rise of digital calendars has impacted how people engage with time-symbols which when analyzed

illuminates the ways people think about time which I call time ideologies. To understand the process this study first asks how various digital calendars and scheduling services structure time-symbols, and then addresses what time ideologies these structures suggest.

METHODOLOGY

CASE SELECTION

This study examines the top ten search results for the keyword "Calendar" on the Apple "App Store" on November 28th, 2020. Digital calendars from the search fall into two tiers. Tier one (T1) calendars are those associated with major technology corporations, namely: Apple, Microsoft, and Google. These companies do not publish the daily active users of their respective platforms but there is some data that suggests substantial user bases for the T1 apps. The business data platform Statista estimates that over 100 million Americans have iPhones (O'Dea 2020), all of which are sold with the Apple Calendar pre-installed, setting the stage for widespread use. Microsoft Outlook (a program that bundles a digital calendar with email services) has over two million reviews on the App Store, suggesting high user activity. Google Calendar is provided to anyone with a Google account and tech blogs speculate over 1.5 billion people ("50 Gmail Statistics That Show How Big It Actually Is In 2020," 2019; Petrova, 2019) have one, making widespread use likely. The T1 calendars were not the top three search results, but from

the available data they host more users than the other apps.

The widespread use of the T1s is further suggested by the Tier 2 (T2) digital calendars which can be identified by their reliance on users' accounts affiliated with T1 companies. For example, a T2 may flaunt its ability to sync "events" from both Apple and Google calendars, and compile them in one place. T2s for the most part mirror the interfaces and features of T1s. Their label as secondary does not diminish the prevalence of T2s. Two of the T2s, "Calendars: Planner and Reminders" and "Any.Do," broadcast their user stats on the App Store that combine to 45 million users.

Data collected by the ECAL corporation found that 70% of surveyed adults relied primarily on digital calendars to organize their lives. Still, it is unclear what portion of that population engages with T1s or T2s so both were included in this study. The available data fails to illuminate the extent of the proliferation of digital calendars, yet one can safely infer that digital calendars are an important tool used by millions of people and therefore any consequences they may have on time-symbols are likely widespread.

SITES OF OBSERVATION

To address how digital calendars structure time-symbols, I observed: (1) advertisements, that is, how the apps present themselves on their download pages in the App Store; and (2) user experience, or how the apps function once downloaded. In the user

experience portion, each app was downloaded and used to organize a sample weekly schedule, providing a clear understanding of layout and available features. The two research sites are analyzed in different contexts and thus require two separate methodological discussions. This led to two inductive coding processes that together position digital calendars as consequential on time ideologies.

Site 1: Advertisements

Advertisements in this study are treated as texts, that is, as "non-transitory cultural product[s] which offer [themselves] to an audience of consumers," (Cormack 1992, 18).

Textual analysis of these ads promises insight into the ways that they "package" time in the context of their products. The way a given digital calendar ad packages time has implications on what calendars are, and what calendars "do" to time, thus setting particular stages for users to engage with time-symbols.

In the same way that Gottschalk (1999) examined television commercials as texts to understand how speed is "represented in mass media texts," (315), I examine the advertisements of digital calendars as texts to understand how time is represented in digital media. The relevance of concepts such as meaning, representation, and mass media to this discussion position this study as an ideological exploration. Theoretical approaches to ideology take on many diverse forms (Cormack

1992; Eagleton 2014), but some unity across conceptions can be found in the idea that, in general,

"Theories of ideology are, among other things, attempts to explain why it is that men and women come to hold certain views; and to this extent they examine the relations between thought and social reality." (Eagleton 2014, 15)

I assume that the ways in which people "come to hold certain views" about time are at least partly informed by their engagement with time-symbols through digital calendars. In harmony with Cormack's (1992) remarks on ideology, this is a study of "cultural products in order to trace their ideological determinations," rather than a shot at "identifying ideological effects" of some event, text, or phenomenon (25). Digital calendar advertisements, textually analyzed as cultural products, permit an exploration of time-symbols that escalates into an exploration of time ideologies.

Site 2: User Experience

The user experience of digital calendars moves beyond how time-symbols are understood and into how they are used. Taken together, one can infer various ideological meanings of time. Unlike advertisements, user experience is not analyzed as text but as communication technology. Innovations in calendar technology are simultaneously innovations in communication technology.

The impacts of communication technologies on ways of thinking

(ideologies) have been widely discussed. As McLuhan asserted, changes to communication technology:

"... introduce new contexts for interaction and adapting to these contexts transforms how [people] feel, process information, remember, experience everyday life, understand themselves, and interact." (Gottschalk and Whitmer 2016, 309)

In his seminal text, Understanding Media (1964), McLuhan presents technology as an extension of the self (see 21). In the same way that telephone technology extends one's voice and ears across distance, calendars as communication technologies extend the self in time. The self can interact with the past, present, and future in a single instance when engaging with calendars as communication technologies.

Digital calendars extend the self in time in two ways. The first is through features such as "sharing" events or "inviting" participants (present in all ten calendars), which allow users to share their calendar with others or even manipulate time-symbols in calendars as a group. Secondly, because one can scroll/click backwards and forwards to any date, digital calendars serve as archives of the past and roadmaps to the future which permit communication between one's past, present, and future selves.

Carey (2009) attested that "changes in communication technology... chang[e] the character of symbols," (160), which suggests that meanings

of the inherently symbolic entity of time are subject to change with relevant communication technologies. Calendars in particular, as the primary embodiment of time-symbols and facilitators of interactions with time, are positioned to drastically impact the character of time-symbols as they advance technologically. Thus, the shift from paper to digital calendars that began in the 1990s is of monumental consequences for time ideologies. Indeed, the shift to digital calendars has already been correlated with new patterns of working "summed up by words like 'mobile', 'virtual', 'flexible', etc" (Lee 2003, 163). It is safe to assume that since the 2003 study, digital calendars have moved beyond work patterns into most all realms of social life.

KEY CONCEPTS

THE SOCIOTEMPORAL ORDER

Calendars play a vital role in Zerubavel's conception of the sociotemporal order. The sociotemporal order regulates social life through "sociotemporal patterns, which essentially involve the temporal rigidification of social situations, activities, and events" (Zerubavel 1981, 2). That is, by regulating the temporal characteristics of a given situation: (1) sequential structure, the order of events; (2) duration, the length of an event; (3) temporal location, the time and date of an event; and (4) rate of recurrence, how often events occur (see 1).

The sociotemporal order instates norms on different events and encounters through the rigidification of these four temporal qualities. For example, when attending a Broadway musical, one can expect a certain sequential structure (purchasing tickets, dining before the show, intermission following act one, and so on); a duration of two hours and thirty minutes or so; a temporal location at either 2:30 or 8:00 PM; and recurrence six times per week. Any deviation from this structure would be surprising. Imagine attending a show at 11:00 AM on a Monday where the intermission occurs before the opening number.

The sociotemporal order is manifested visually through calendars which involve working interpretations of symbols associated with time to organize the social world and endow time with structure. These interpretations are conducted within certain time ideologies. Calendars structure time-symbols which embody and perpetuate time ideologies

Calendars & Schedules

Calendars are the primary means by which people engage with time-symbols. Engagement may include manipulation, interpretation, or creation of said symbols as well as simply thinking about or looking at them. This interpretation of calendars is rooted in Zerubavel's conception of them and their vital functions in social organization. Calendars house daily itineraries known as "schedules." The act of maintaining one's schedule(s) in a calendar is called "scheduling," defined as

"... the modern art of effective time management [that] helps us to function more efficiently by encouraging the development of a certain sense of priority as well as allowing the systematic, routine elimination of all involvements that just 'stand in the way.'" (Zerubavel 1981, 52)

Calendars house the schedules that inform what events occur and when.

Calendars move beyond daily life and are also "responsible for the creation of social periodicities by assuring the regular recurrence of socially significant periodical events such as feasts, ceremonies, holidays, and religious services" (Zerubavel 1981, 45). Triin and Harro-Loit's (2019) study on the importance of holidays on the 'temporal synchronization of society' suggests that indeed such (typically annual) occurrences have some kind of impact on general social cohesion thus further establishing the importance of calendars and scheduling to society.

The schedules that comprise calendars are "mere artifacts" (Zerubavel 1981, 42) insofar as they rely on arbitrary weekly cycles and divide time in accordance to socially constructed norms (e.g., an hour for lunch). Previous studies have relied on schedules as artifacts in various ways. Mughal (2014) studied calendars in Pakistan to find that "the changing use of calendars tells the story of change and continuity in culture and people's attitude towards modern technology and social change" (592). In another example, Zerubavel (1981) analyzed the French Republican calendar and

identified "four themes which embody the spirit of the French Revolution... that underlie most of the symbolism associated with the French Republican calendar" (84). These studies reaffirm the symbolic significance of calendars with the former emphasizing calendars as technologies and the latter focusing on calendrical embodiments of values associated with abstract concepts.

Further affirming the high symbolic significance of calendars, Geertz (1973), cited by Zerubavel (1981), noted that the calendar

"... cuts time up into bounded units not in order to count and total them but to describe and characterize them, to formulate their differential social, intellectual, and religious significance." (391)

This points to Zerubavel's notion that calendars embody a quantitative conception of time. In doing so, they divide the "flow" of time into something that can be counted, measured, and budgeted. Though Zerubavel notes that calendars embody qualitative notions of time to a degree, the quantitative conception is most relevant to this study because it appears to have been more impacted than its qualitative counterpart by the digital shift.

The quantitative conception of time embodied by calendars paired with the fact that these digital calendars are products intended for consumers subjects time-symbols to the will of industry. The primary means to engage with time-symbols in 2020

are within the hands of a select few corporations. Guy Debord, in The Society of the Spectacle (1995), believed the vulnerability of time-symbols had already been exploited. "The social appropriation of time and the production of man by means of human labor were developments that awaited the advent of a society divided into classes" (93). Debord continues that this appropriation then permitted the development of a "pseudo-cyclical time" which is "itself a consumable commodity" (111). Time as a commodity and time's inseparable association with labor are major themes in the findings of this study.

FINDINGS

How Do Digital Calendars Structure Time-Symbols?

To answer this question, I first analyzed the advertisements at the linguistic level which revealed four "frames" that establish the contexts in which time-symbols are manipulated by the user. The frames define what "time" is, what a "calendar" (the product) is, and what a calendar "does" to time.

Advertisements: Four Frames for Engaging with Time-Symbols

TIME AS CAPITAL

The is the most pervasive frame throughout the linguistic components of digital calendar ads. Time is money and calendars are a budgeting tool. The idea of time as capital is apparent in sentiments like "Save time and make the most of everyday"; "Save your time when creating events"; "Crush your daily goals with smart tasks"; "Join over 30 million people who rely on Any.Do to organize their life and get more done"; "The IRL helps you decide what to do and when." Calendars are a tool to maximize productivity. Time is divided in the same way that money is budgeted.

TIME AS AN AFFILIATE OF ROLE-FULFILLMENT

Instead of dividing time as a budget, this frame divides time in accordance with the various roles one fulfills throughout the day such as parent, friend, or employee. "Keep separate calendars for home, school, work, and more!" One app divided calendars into "friends, hobbies, work, and travel." Most apps boast a unified view of one's calendars ("Connect all your calendars") but also promote functions that "filter" certain calendars in or out of view. By dividing time, calendars divide the self. They create barriers between contextually emergent aspects of the self. In this frame, calendars are "life organizers" (a phrase used verbatim in one app but applicable to many). Perhaps "self-organizers" would be more appropriate, as calendars visually embody changing versions of oneself put forth across different social contexts.

TIME AS A PLAYGROUND

This frame was apparent less in the language and more in the "screenshots" that provide samples of an app's interface and features accompanying each advertisement. These screenshots portray example schedules loaded with events that hardly reflect reality. The sample Apple Calendar demonstrates a Tuesday (typically a workday) in February (of all months) loaded with the following events: "Coffee with Ravi," "Wash dog," "Meet CC for Lunch," "Call Sandoval," and "Pick up Eva from Hotel." The calendar is a means of structuring fun and social appointments. It isn't a tool for work but for play.

This frame is further exemplified by the shockingly widespread presence of scheduled "coffee" meetings. Over half of the calendar apps included coffee meetings (typically considered a social activity rather than a work obligation) as examples of events in a calendar. The myth of midday coffee isn't the only example of glorified leisure in calendars. Getaways to San Francisco, dinner dates, museum openings, "Plan trip to Paris," and more events populate the days of these mock calendars, positioning time

as a vessel that calendars endow with enjoyable social activities. It is almost as if the calendars are presented as ways of taking full advantage of the wonderful things the world has to offer. This is a strange contradiction with the pervasive emphasis on productivity across all ten calendars.

TIME AS A RESPONSIBILITY

Here, time is something that must be constantly attended to, groomed, and molded to maintain control over one's life. This is demonstrated through the emphasis on accessibility of the calendar apps. "Welcome to the good life of easily chatting and making plans from your calendar invites on the go"; "Calendar allows you to manage events both online and offline"; "Organize your life anytime, anywhere." Calendars are a way for the user to access time, but also a way for time to access the user. Time is divided in any of the ways outlined above but only tentatively, as the ever-presence of calendars establishes appointments as readily editable at a moment's notice. Scheduling is an ongoing activity that requires a constant balance between fore-planning and flexibility. In the same way the farmer must constantly attend to crops, the contemporary professional must constantly attend to time.

In sum, the advertisements frame time as: (1) capital, which positions calendars as budgeting tools that divide time as if it were money; (2) an affiliate of role-fulfillment, positioning calendars as life organizers that divide time according to what roles one fulfills; (3) a playground,

rendering calendars as conduits to fun, active events and relationships that divide time by the exciting events; and (4) as a responsibility for which calendars serve as an ever-present tool to address.

USER EXPERIENCE: THE COLOR BLOCK SYSTEM

Placing these four frames aside for a moment, I explore the arrangement of time-symbols within the apps and the ways they can be manipulated. The symbolic structure of the calendar apps is revealed through what they look like and what features they provide. While conducting analysis, it quickly grew apparent that all ten calendar apps have virtually the same features and layouts. They all employ some variation of what I call "the colorful block system."

Colorful blocks used to signify events and interactions serve as the cornerstones of every single calendar app in this study. Users can view their calendars at daily, weekly, monthly, and yearly levels or as lists. In any case, events are color coded and marked at certain points in time by blocks. Rectangles, lines, or in one case, circles butcher time into hours, days, weeks, and years. The colorful block system ensures time is kept tidy, angular, and aesthetically pleasing.

One colorful block always equates to one event, task, or interaction. For example, if at 12:00, one schedules lunch with a friend, and has a workplace presentation at 1:30, these two events would be represented by two separate blocks of different

colors. The first would span from 12:00-1:00 and be labeled "Lunch with Jerry." The second block, from 1:30-2:30 (the empty half hour being travel time), would say "Weekly report." It would be unusual for these events to be represented by one big block from 12:00-2:30 labeled "Lunch with Jerry, drive to work, and weekly report."

Tapping/clicking on a colorful block "opens" the event to reveal extensive details such as: who else is attending (and their contact information), location, travel time, links to relevant documents, weather, reservation information, means of rescheduling, and more. The colorful block system is itself a time-symbol but also an organizing vessel for other time-symbols. Each symbolic embodiment of an event becomes a world of its own, isolated from the rest of time. Even more interesting is that an entire colorful block, with all the included information, can be relocated in seconds through "drag and drop" features. Lunch Friday shifts to Sunday and all the details fix themselves. The color block system is the primary structure of time-symbols in digital calendars, but what can be done with or to the blocks is even more informative of the structure of time-symbols.

Because this study is concerned with the shift from paper to digital calendars, special attention was paid to what functions digital calendars offer that their paper predecessors do not. The color block system permits three general actions on time-symbols that were previously impossible:

collaboration, universal access, and perpetual editing.

COLLABORATION

First, digital calendars encourage collaboration. By clicking on a colorful block, one can "share" the event via email, text, or direct message. Furthermore, most digital calendars permit real-time collaboration by groups, enabling all members to know each other's whereabouts and availability. For example, if a team decides to cancel a meeting, only one team member would need to delete the colorful block designating the event from the calendar and it would disappear from all the others. Calendars and the "art of scheduling" are easily made public and collaborative.

Calendars are made collaborative through the options to share individual events or entire calendars. Most digital calendars allow the user to distinguish between "public" events (seen by others) and "private" events (only displayed on one's own calendar). Thus, the calendar converges what Goffman (1959) famously dubbed "front stage" (public) and "backstage" (private) regions of social life. How one divides their time becomes a matter of both public and private concern. Interestingly, scheduling as a social act may strengthen how groups develop "temporal symmetry" that is, the "synchronizing the activities of different individuals" that acts as "one of the fundamental principles of social organization" (Zerubavel 1981, 65). Shared schedules "help to solidify in-group sentiments" (67) so

that association with a calendar plays a part in determining who within a society or organization is "in" or "out" of the group.

Universal access

Digital calendars are universally accessible. All T1 calendars rely on cloud computing techniques that grant users access to their colorful blocks from any device, anywhere. One can regularly interact with their calendar throughout the day. It is a living artifact in constant use. Both the future and past are universally accessible. Digital calendars permit users to see exactly what they were doing, where, and with whom, at any past time since they began using the digital calendar. They also permit one to see what they will most likely be doing a week from now.

Perpetual editing

Digital calendars can be edited ad infinitum. Their universal accessibility and easy drag and drop systems, as well as "natural language processing" that speeds up the initial act of scheduling of events, render calendars ever-changing documents that leave no traces or residues of previous states. The future is tentative as a few finger swipes can rearrange the entire week, no scribbles, erase marks, or whiteout necessary. Without these residues of schedule changes, the past is kept orderly. Time is documented only as how it was used, without regard for expectations, unexpected events, or any other messy details that characterize so much of daily life.

Automatic time management

This fourth feature of digital calendars is also not dependent on the color block system. Digital calendars automatically adjust for daylight savings, changing time zones, and remind users of their events to ensure schedules are honored. The reminders feature is heavily emphasized in the advertisements ("You won't miss your important events via SimpleCal's reminder"; "You'll never miss a thing"; "Connect reminders to Facebook!") and it is one of the first things a user is prompted to set up after downloading the app and again with each event scheduled. The Google Calendar app automatically sets up two reminders for every event, one via email and one via push notification. Calendars seek to eliminate the risk of forgetting.

What Ideological Meanings or Understandings of Time and Time Use Do These Structures Suggest?

To review, the language in digital calendar advertisements suggest four frames that inform what time is, what a calendar is, and how calendars divide time. The user experience analysis identified and explained the colorful block system and its association with novel features of digital calendars. Together, these observations account for the symbolic

structure of the calendars. As the next section shows, the four frames from before are more than frames and are indeed four distinct time ideologies. How each frame/ideology interplays with the colorful block symbolic structure permits a rounding out of each ideology because it demonstrates ideology in action rather than just in language.

TIME AS CAPITAL

In this time ideology, the events on a calendar (as colorful blocks) are commodities. In a sense, the blocks are purchased with time. Two hours are exchanged for a blue block that reads "Visit with Grandma." An hour is exchanged for a green block labeled "Investor Video Call." Even if equal in duration, blocks might not be equal in value. The same sentiments that promote time as capital also encourage maximizing the utility of the blocks bought with time. As the ads say: "Get more done"; "Be your most productive, organized, and connected self"; "Save your time when creating events." Blocks need to be purchased with both their duration and content in mind to successfully use a calendar. In my daily life I categorize important career-related meetings as blue blocks and chores as yellow blocks. In my mind, blue blocks are far more valuable than yellow, and a week with a relatively high count of blue blocks becomes one of particular importance.

The colorful block system encourages perpetual re-budgeting of time as well as pooling time funds with others (through collaborative digital calendars) to invest in a given event.

The ever-present colorful blocks make it hard to escape acute awareness of how one spends time, making one's time budgeting potentially a source of guilt ("I wasted three hours today") or pride ("Those three hours were really productive"). Time is imbued with value based on the duration and content of an event.

TIME AS AFFILIATE OF ROLE-FULFILLMENT

The affiliation of certain colorful blocks with certain roles makes calendars road-maps of what identities to enact and when. With this ideology of time, colorful blocks are further imbued with differing meanings despite their durations. Time is ideologically associated with the roles enacted during it. The mere existence of separate calendars for "Family" and "Work" suggests that one's time affiliated with their role of employee should not intermix with their time as a parent and vice versa. Time and role-enactment interplay such that one can know which role they will enact at a future time simply by looking at their calendar. This isn't exactly world shattering. If calendars did not predict role-enactment, how would we know what to wear on a given day? It is essential to know if one is to fulfill the role of workout buddy or job applicant in a given hour block.

Still, this ideology introduces sharp rifts between different facets of professional and personal life. Identity is subject not to the will of the

individual, but to the will of time. Who I am depends on the hands of the clock. Because of the social features of digital calendars, viewing one's calendar is a partly public and partly private activity. At this point in the presentation of time ideologies, it is growing clear that the ways in which time can be understood ideologically through digital calendars is reliant on a multitude of ways to make value judgments on time. Thus far, a given time or colorful block is understood in terms of its monetary value (determined by duration and utility) and its notation of professional or personal.

TIME AS A PLAYGROUND

In this ideology, the primary function of colorful blocks is to structure a fun and thriving social life. Time should be spent together. Alone time is not worthy of a place on the calendar. There is an assumption that alone time is indicated by the default whitespace on the applications that one must override by populating the calendar with colorful blocks that keep track of all the wonderful things life has to offer. This frame of time dawns rose colored glasses. For most, time is not a playground to engage in one exciting activity after another. There is work to be done, mouths to feed, emails to write. This doubles down on the professional/personal time divide and introduces the association of time with labor or leisure. This ideology of time encompasses how people think their time should look. This ideology of time promotes busy social lives as well as professional lives. The wide array of exciting events on the calendar screenshots

are a fantasy but encourage real life action to schedule one's social life in such a way that limits spontaneous interaction in favor of "coffee," "jog with friend," and so on.

TIME AS A RESPONSIBILITY

"Mak[e] plans from your calendar invites on the go"; "Manage events both online and offline"; and some sort of emphasis on access from multiple devices boasted by over half of the top 10 apps frame time as an entity that must never be neglected. Digital calendars do more than provide constant access to one's schedule. They make time-symbols hyper-visible. Through reminders and notifications, the schedule inserts itself into daily life over and over. Unlike the other ideologies, here time moves beyond something within the individual's control and into the position of demanding master. Time is endowed with power to interrupt at any moment it so chooses and must be managed, recalled, or adjusted.

CONCLUSION

These four time ideologies interplay with the colorful block system to introduce the following value assessments of time: monetary value (determined by duration and utility), designation as professional or personal, how "busy" or "exciting" time is, and how much focus it demands. It is through these value assessments of time that the pervasive colorful block system in digital calendars makes the act of reading

time-symbols on one's calendar an intimate and quite possibly emotional activity. If red blocks signal work obligations, and Friday from 2:00 PM-8:00 PM is all red, how might that affect a person currently sitting within a blue leisure block on Thursday evening?

The colorful blocks are endowed with values, meanings, and emotions associated with the rigidified rhythms of the socio-temporal order. With the same color-coding system as before, if a week is entirely blue, one's feelings associated with the relevant time-symbols would drastically differ from looking at an entire week of red. Digital calendars, ever-present and inescapable, promote constant reading of time-symbols that influence how an individual interprets patterns in the socio-temporal order which may impact present feelings and future actions.

Here I have attempted to adjust perceptions of calendars and schedules as they inform time ideologies in order to account for new technology. It is important to remember that this is not the terminal stage of calendar technology. This analysis does not even consider that digital calendars also appear on smart watches, TVs, and even smart fridges. When, where, and how people engage with calendars is consequential to time ideologies and time-symbols. More change is coming and calendars must be understood as dynamic and malleable cultural artifacts of high significance. This paper does not directly address the ways in which digital calendars influence action in the present (instead focusing on how they relate to the past and future). Further inquiry might explore how push notification features structure users' attention throughout their daily lives.

Additionally, a more general assessment of user activity of digital calendars would benefit this new perspective on calendars by examining user experience on a larger scale to account for individual differences in digital calendar use habits. Calendars are important symbolic entities that facilitate engagement with time-symbols. Careful assessments of the calendars that structure daily life are critical to assess how people understand time which relates to myriad issues like time poverty, temporal ghettos (see Rifkin 1987), and speed culture. In other words, conceptions of calendars need to be updated to "keep with the times."

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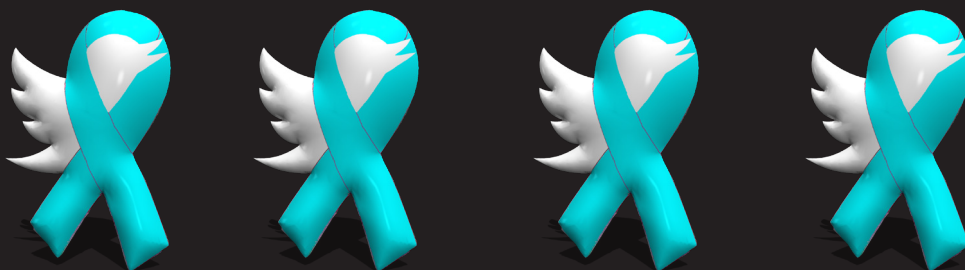
Celebrities With Cancer on Twitter: A Social Network Analysis on the Openness of Privacy

Fan Wang

Abstract

This study explores how celebrities' social networks have changed on Twitter after they are diagnosed with cancer. Setting Communication Privacy Management as the theoretical lens, the researcher applied Twitter API and R to collect 7,521 tweets and conduct a Social Network Analysis (SNA) for two celebrities with cancer, Ben Stiller and Julia Louis-Dreyfus. The study observed network changes on their Twitter accounts one week after their cancer announcement. Statistics supported the hypothesis that celebrities with cancer get more mentions on Twitter in the week after opening up about their disease than in the week before they opened up about their illness. The findings show opportunities to investigate the effect and strategies of celebrity-involved health information release on social media.

Keywords: *celebrity, social media analysis, cancer, communication privacy management*

I'm Fan Wang. Currently, I am a second-year graduate student in the Communication, Culture and Technology program at Georgetown University. Healthcare communication, social media data analytics, and emergent communication technologies make up the three research areas I have focused on during my academic career.

INTRODUCTION

News of celebrities with cancer can draw public's attention to the disease on social media (Corbett and Mori 1999), even though not all celebrities are willing to disclose medical treatment details because they fear the cancer stigma related to their behavior. Researchers found that celebrities struggled with keeping privacy from the public due to the fact that media mix up boundaries of private life and the public sphere (Gorman 2004; Marwick 2017).

Based on Petronio's Communication Privacy Management Theory (2000; 2007) with the stochastic actor-oriented model, the researcher collected 7,521 tweets and created retweet network graphs for two celebrities with cancer, Ben Stiller and Julia Louis-Dreyfus. Previous research showed that news events could have a spike of attention shortly after the reporting (Southwell et al. 2016; Vos et al. 2018). The study compares the changing of social networks on Twitter one week before and one week after these celebrities announced their cancer diagnoses. By applying a social network analysis, the researcher hopes to explore messaging strategies and communication skills that can help celebrities promote cancer-related information on personal social media accounts.

LITERATURE REVIEW

CANCER AND CELEBRITY

The Desperate Housewives star, Marcia Cross, wanted to educate people on the risks and prevention of the HPV virus. After her diagnosis with anal cancer in 2017, the actress kept her treatment private until September 2018. Later, she decided to public her cancer story on Instagram. She mentioned that if she had breast cancer, she would never open it to the public because plenty of people had already talked about it. However, anal cancer is stigmatized. "Nobody wants to come forward," Cross said, "I knew that people were suffering, and people were ashamed" (Widjojo 2019).

Similar to Cross's view about breast cancer, researchers found that patients with breast cancer could earn more sympathy and encouragement from the public than other diseases (Bloom and Kessler 1994). Receiving more funds than lung cancer related to the victim's tobacco use, breast cancer studies also link to the people's willingness to give financial support (Knapp-Oliver and Moyer 2012). However, as for the HPV-related cancer, people considered the patients were dissolute and irresponsible for sex activities, which are sexuality taboos that people are unwilling to talk about (Morales-Campos et al. 2018).

Cross is not the only celebrity who got anal cancer and broke the silence. As early as 2006, actress Farrah Fawcett decided to make a documentary about her healing journey with anal cancer. It was not easy for her to disclose the disease to the public. She said, "I always thought I might get breast cancer or heart disease, but never this" (Pawlowski 2019). Even though Fawcett was not willing to relate her name with anal cancer, her oncologist, Dr. Laurence, said Fawcett wanted

everyone to know her cancer diagnosis. Therefore, "people could be motivated to put money towards research, to get the word out about early detection and prevention," (Pawlowski 2019).

Many celebrities in western countries came forward with different ways to spread awareness around cancer. For example, Jade Goody filmed a reality TV documentary to record her life with cervical cancer before dying (Ransom 2019). Katie Couric promoted colon cancer campaigns after her husband died from the disease (Cram et al. 2003). After Angelina Jolie stated that she had breast cancer, people searched online for information on the illness (Dean 2016). After Hugh Jackman posted his skin cancer announcement, female users on Facebook mentioned more about skin cancer detection measures than male users (Pavelko et al. 2017). News of celebrity cancer diagnoses can educate the public and inspire them to search for disease-related information online (Beck et al. 2014).

Scholars used Google Trends to predict whether celebrity-related cancer in the media could trigger an influx of cancer-related keyword searches (Kaleem et al. 2019). They found that when some celebrities announced that they had lung cancer, pancreatic cancer, or brain cancer, searches for related diseases would rise accordingly (Kaleem et al. 2019). If celebrities with cancer disclosed their conditions to the public, people would be more likely to participate in cancer screenings and other preventative approaches (Ayers et al. 2014). According to Else-Quest and Jackson (2014), researchers

should conduct more studies to influence certain cancers' attitudes.

Social media platforms provide a venue for cancer communicators to share and search for support (Sutton et al. 2018; Vraga et al. 2018). For example, Park et al. (2016) found that health organizations tended to apply Twitter as a communication platform and their followers were likely to retweet messages related to personal health behaviors. Ben Stiller opened up about his prostate cancer on Twitter two years after his diagnosis (Ehrbar 2016). He tweeted on October 4th, 2016, "So, I had cancer a couple years ago and I wanted to talk about it. And the test that saved my life" (Stiller 2016). Researchers examined the content of Twitter messages to help cancer communicators reduce the frequency of cancer within the community (Grunfeld et al. 2004; Parkin et al. 2001; Vos et al. 2019). Collecting 3,000 tweets in ten days, another study tried to figure out how communication contents change people's attitudes towards lung cancer (Sutton et al. 2018). Researchers of the study found that most people talked about how to use medicine to cure the disease and how to prevent getting cancer (Sutton et al. 2018).

COMMUNICATION PRIVACY MANAGEMENT THEORY

To figure out how celebrities decided on the rules guiding their disclosure behavior around posting about their cancer on social media, this study applied Petronio's (2000)

Communication Privacy Management Theory. In this theory, Petronio described why and how people protect their privacy (2000). People think that they have a right to their privacies, so they feel responsible to protect their privacy information (Petronio 2013). Additionally, Petronio and Caughlin (2006) stated that people have ownership of their personal information. When they share the information with others, the boundary moves from personal life to public discussion (Petronio & Caughlin 2006).

Communicators set up privacy rules on what to share with the audience (Petronio 2007). When the audience breaks the rules, boundary turbulence may appear (Petronio 2007). For example, Ngwenya et al. (2015) interviewed twenty patients with lung cancer and the people accompanying them, finding that they tended to negotiate what could talk and what could not initially to avoid misunderstandings and violation of privacies.

Communication Privacy Management Theory can explain the fundamental reason why celebrities with cancer tend to promote preventive care and healthy behaviors after the diagnosis from a heuristic perspective. The reason celebrities differ from ordinary people is because the public is interested in both their careers and personal lives (Turner 2004). For example, Patrick Swayze shared his diagnosis of pancreatic cancer with the media in 2008 (Brownstein 2019). He hoped the media could focus more on his career, not the disease (Beck et al. 2014). Therefore, celebrities need a way to control their privacy as well as sharing

details about personal life. As Petronio (2002) noted, people utilized various strategies to manage the boundaries of their personal information to have a feeling of security for their privacy.

According to a study of celebrity health disclosure (Beck et al. 2014), researchers collected data of 157 celebrities who opened up their diseases to the public via media platforms. Using the "narrative" boundaries defined by Communication Privacy Management Theory (Samens 2017; Smith and Brunner 2017), the scholars found that celebrities had fewer choices to secure privacy boundaries associated with their physical conditions. Some stars opted to share the details with the disease because they intended to control the narrative and privacies. By blurring private/public and front/backstage (Goffman 1959) narrative boundaries and disclosing their health conditions to the public, the celebrities made others reimagine a "his/her" narrative into an "our" story. The study also provided evidence that celebrities' disclosure of health information could encourage the general public to start conversations about health, recovery, disease, death, and public policies.

Choi et al. (2016) explored the disclosure decision-making model in people's disclosure on non-visible illness with the theoretical lens of Communication Privacy Management Theory. They surveyed more than 200 people, asking them to point out what kind of health issues they did not want to share with others. Based on Petronio's Communication Privacy Management Theory about the strategic disclosure (Petronio 2002), the study found that people would choose a specific

time when they were comfortable to disclose the disease if they had to do so (Choi et al. 2016).

Studying online celebrity gossip forums by using Communication Privacy Management Theory, McNealy and Mullis (2019) examined Lipstickalley.com, an online platform with 188,000 members, containing gendered and cultural gossip posts. The study applied online ethnographic methods, collecting data in two months as a lurking member of the forum. On this forum, the collective boundary became fuzzy because of the disagreements about the gossip posts' ownership. People were willing to share some personal information to add more credibility to their posts. Many celebrities accused the site of defamation. However, posters still enjoyed the parasocial relationship with stars because they know about the idol, but the idol could not recognize them (McNealy and Mullis 2019).

Even though the Communication Privacy Management Theory is useful to analyze the relationship between privacy and the general public for celebrities, few studies have explored the relationship between social media and privacy boundaries with a social network analysis scope. In this paper, the researcher asks the following research question and has three hypotheses.

Research Question: What's the difference of the celebrities with cancer' account on Twitter between before and after he/she opens up about the disease?

H1: Celebrities with cancer get more mentions on Twitter in the week after they open up about their disease than in the week before they open up about their disease.

H2: Celebrities with cancer get more retweets on Twitter in the week after they open up about their disease than in the week before they open up about their disease.

H3: People from more states in the US mention the celebrity with cancer on Twitter in the week after the celebrity opens up about his/her disease than in the week before the celebrity opens up about his/her disease.

METHOD

STOCHASTIC ACTOR ORIENTED MODELS (SAOMs)

The paper intends to apply the stochastic actor-oriented model, a statistical model for longitudinal network data (Snijders et al. 2010). The SAOM focuses on interpretation at the node level in a structurally detailed way. To investigate how the network changes, the model observes how time-dependent actor influences nodes' behavior (Desmarais and Cranmer 2017).

DATA COLLECTION

In this study, the researcher chose the Twitter accounts of two celebrities with cancer to examine how the disease changed the celebrity's social media

behavior and the number of retweets among his or her followers after the openness (See Table 1).

Ben Stiller (Twitter account: @RedHourBen), the Zoolander star, disclosed his prostate cancer diagnosis in a public interview on October 4, 2016. The researcher used R to collect the number of tweets, replies, and followers from Stiller's Twitter accounts one week before (from September 27, 2016, to October 4, 2016) and after the announcement (from October 4, 2016, to October 18, 2016).

Julia Louis-Dreyfus (Twitter account: @OfficialJLD), the star of Veep and Seinfeld, announced on Twitter that she had been diagnosed with breast cancer on September 28, 2017. The researcher also used R to collect the number of tweets, replies, and followers from Louis-Dreyfus's Twitter account one week before (From September 21, 2017, to September 28, 2017) and after the announcement (From September 28, 2017, to October 5, 2017).

These two celebrities were chosen because they are consistently active in tweeting messages, which provides enough data for the study. The researcher also chose one male celebrity and one female celebrity to investigate whether there would be any differences due to gender.

Based on Rudis' work (2018), the researcher did the SNA analysis with R and Twitter API. The researcher used R packages such as "httpuv," "igraph," "rtweet," "tidyverse," "hrbrthemes," "ggraph," "magrittr" and "dplyr" to generate retweet relationship maps. And she also used other packages such as "broom," "eechidna," "cartogram," "mapproj" and "mapdata" to generate Dorling cartograms for geological visualization.

FINDINGS

HYPOTHESIS #1

H1: Celebrities with cancer get more mentions on Twitter in the week after

TABLE 1. CELEBRITY INFORMATION

VARIABLE	CELEBRITY NO.1	CELEBRITY NO.2
NAME	BEN STILLER	JULIA LOUIS-DREYFUS
GENDER	MALE	FEMALE
TWITTER ACCOUNT	@RedHourBen	@OfficialJLD
CANCER	PROSTATE CANCER	BREAST CANCER
WHEN DISEASE WAS ANNOUNCED	OCTOBER 4, 2016	SEPTEMBER 28, 2017
ONE WEEK BEFORE	SEPT 27 TO OCT 4, 2016	SEPT 21 TO SEPT 28, 2017
ONE WEEK AFTER	OCT 4 TO OCT 18, 2016	SEPT 28 TO OCT 5, 2017

they open up about their disease than in the week before they open up about their disease.

When people mention someone on Twitter, they use the at sign (@) before a Twitter username. If a person gets many @s with their username, it means that people are talking about them all the time. The researcher supposed that after Ben Stiller and Julia Louis-Dreyfus announced their diagnoses of cancers to the public, both celebrities would get more mentions than before. According to Table 2, Ben Stiller got 129 mentions in the week before he announced prostate cancer. He got at least 3,200 mentions in the week after. Julia Louis-Dreyfus got 992 mentions in the week before her announcement of breast cancer. She got at least 3,200 mentions in the week after. Twitter displays 3,200 most recent tweets (Help with missing Tweets n.d.). Stiller's data's independent t value was 16.35, which was greater than 1.65 and was statistically significant (p < .05). The t value of Louis-Dreyfus' data was 31.86, which was also statistically significant (p < .05) . Therefore, the relationship between the number of mentions one week before and the number of mentions one week after was statistically significant. The evidence could support H1. What's more, the trend was the same in regardless of the gender of the celebrity.

TABLE 2. NUMBER OF MENTIONS (@)

NUMBER	BEN STILLER	JULIA LOUIS-DREYFUS
ONE WEEK BEFORE ANNOUNCEMENT	129	992
ONE WEEK AFTER ANNOUNCEMENT	3,200	3,200

HYPOTHESIS #2

According to Rudis' scripts (2018), the researcher created graphs with R to show the retweet relationships between the celebrity with cancer and other netizens. Therefore, the researcher set her second hypothesis.

H2: Celebrities with cancer get more retweets on Twitter in the week after they open up about their disease than in the week before they open up about their disease.

For this hypothesis, the researcher first cleaned data using a series of codes (See Appendix 1) so that the dataset would not be too large (the researcher's computer failed to work due to the massive data).

Table 3 shows key summaries of the before and after networks of the two celebrities. The researcher did a bootstrap-assisted pairwise t-test for the before and after networks of the two superstars. For Ben, the t value was 1.1929. The standard error of the difference was 0.0122. For Julia,

the t value was 1.0376. The standard error of the difference was 0.0188. According to Table 3, Ben's and Julia's retweet network's density became lower after the cancer announcement.

The researcher also did an independent t-test for Ben's before retweet network and Julia's before retweet network. The t value was -0.2038. In another independent t-test for Ben's after retweet network and Julia's after retweet network, the t value was -0.5033.

Therefore, the null hypothesis could not be rejected.

The following steps show how the researcher generated network graphs:

Figure 1 and Figure 2 both showed the retweet relationships between Ben Stiller and other netizens before announcing prostate cancer. In Figure 2, the screen names were the users who retweeted Ben Stiller's tweets the most frequently. The bigger the name was, the more often the person retweeted. The black lines were the edges. The

TABLE 3. SUMMARY OF NETWORKS

	BEN RETWEET BEFORE	BEN RETWEET AFTER	JLD RETWEET BEFORE	JLD RETWEET AFTER
SIZE	40	100	42	76
DENSITY	0.0263	0.0117	0.0354	0.0160
COMPONENTS	1	2	1	1
DIAMETER	INF	INF	INF	INF
TRANSITIVITY	0.5	1	0.5333	1

darker the edge was, the more often the person retweeted.

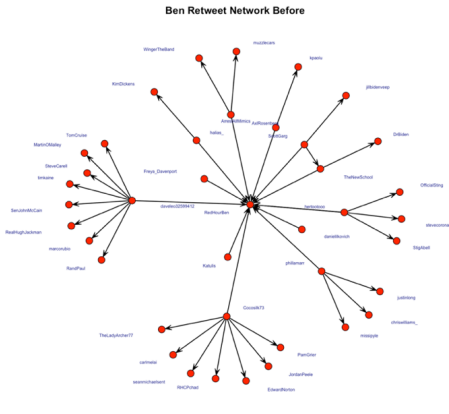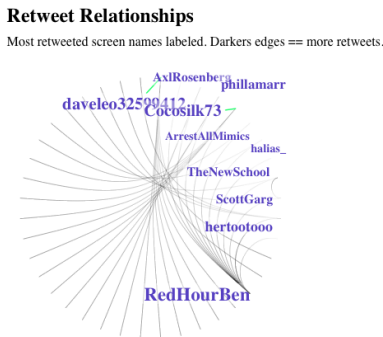**FIGURE 1.** BEN'S RETWEET NETWORK BEFORE

Ben Retweet Network Before

FIGURE 2. BEN'S RETWEET RELATIONSHIPS BEFORE WITH EDGES

Retweet Relationships

Most retweeted screen names labeled. Darkers edges == more retweets.

FIGURE 3. BEN'S RETWEET AFTER
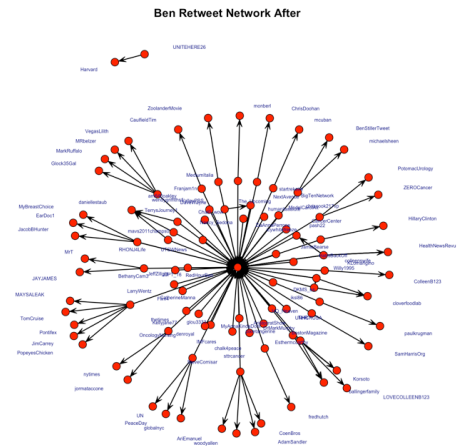

Ben Retweet Network After

FIGURE 4. BEN'S RETWEET RELATIONSHIPS AFTER

Retweet Relationships

Most retweeted screen names labeled. Darkers edges == more retw

Figure 3 and Figure 4 showed the retweet relationships between Ben Stiller and other netizens after announcing cancer. In Figure 4, the researcher observed that the screen names became more, and the darker edges also became more.
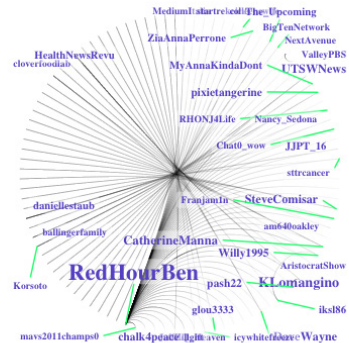
Figure 5 and Figure 6 showed the retweet relationships between Julia Louis-Dreyfus and other netizens before announcing prostate cancer. On this female celebrity, the researcher could observe the same trends from the male celebrity's network. In Figure 6, the screen names were the users who retweeted Julia's tweets the most

frequently. The bigger the name was, the more often the person retweeted. The black lines were the edges. The darker the edge was, the more often the person retweeted.

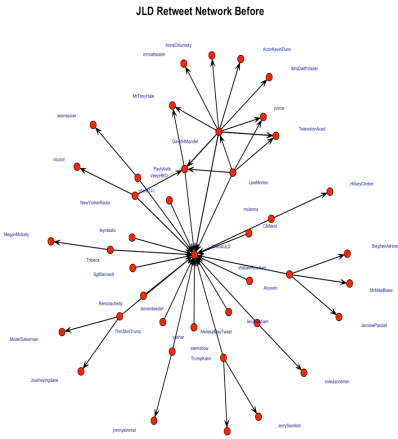**FIGURE 5.** JLD RETWEET NETWORK BEFORE

JLD Retweet Network Before

FIGURE 6. JULIA'S RETWEET RELATIONSHIPS BEFORE

Retweet Relationships
Most retweeted screen names labeled. Darkers edges == more retweets. Node size == larger degree
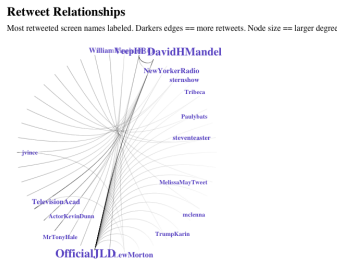
Figure 7 and Figure 8 showed the retweet relationships between Julia and other netizens after she announced cancer. In Figure 8, the researcher observed that the screen names and darker edges became more distinct.
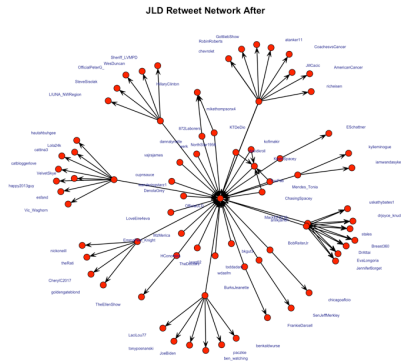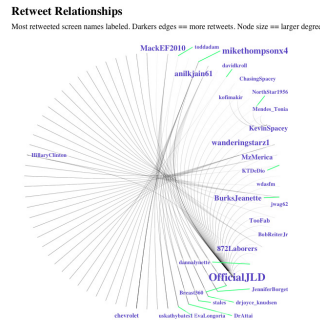
FIGURE 7. JLD RETWEET NETWORK AFTER

JLD Retweet Network After

FIGURE 8. JULIA'S RETWEET RELATIONSHIPS AFTER

Retweet Relationships
Most retweeted screen names labeled. Darkers edges == more retweets. Node size == larger degree

Add in a conclusion sentence about Hypothesis #2 and what it means that the null hypothesis cannot be rejected.

HYPOTHESIS #3

Based on Rudis' scripts (2018), the researcher also made Dorling cartograms for the study. She collected the geology data of the users who mentioned Ben Stiller and Julia Louis-Dreyfus in the US during the settled time frame. Here is the next hypothesis.

H3: People from more states in the US mention the celebrity with cancer on Twitter in the week after the celebrity

opens up about his/her disease than in the week before the celebrity opens up about his/her disease.

Table 4 showed the number of states in each network. In the week before the cancer announcement, users from nine states in the US had mentioned (@) Ben Stiller on Twitter (See Figure 5). In the week after the cancer announcement, users from 45 states had mentioned the celebrity (See Figure 6). In the week before the cancer announcement, users from 37 states in the US had mentioned Louis-Dreyfus (See Figure 7). In the week after the cancer announcement, users from 44 states had mentioned the celebrity (See Figure 8).

Table 4. NUMBER OF STATES

STATES	BEN STILLER	JULIA LOUIS-DREYFUS
ONE WEEK BEFORE ANNOUNCEMENT	9	37
ONE WEEK AFTER ANNOUNCEMENT	45	44

Dorling Cartogram of U.S. BenTweetsafter

FIGURE 2A. BEN'S DORLING CARTOGRAM AFTER

Dorling Cartogram of U.S. JLDTweetsbefore

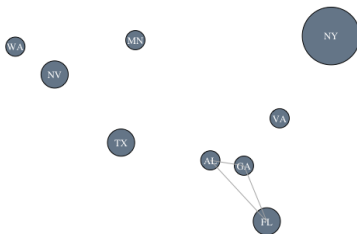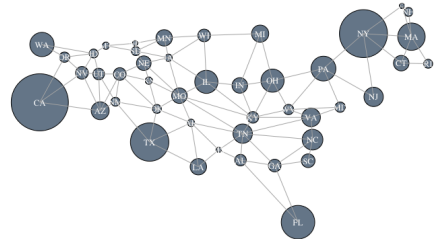**FIGURE 3A.** JULIA'S DORLING CARTOGRAM BEFORE
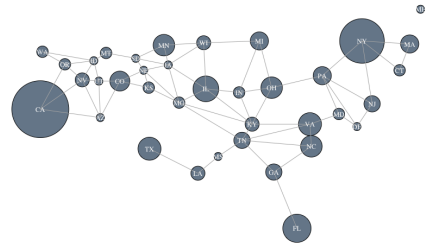

Dorling Cartogram of U.S. BenTweetsbefore

FIGURE 1A. BEN'S DORLING CARTOGRAM BEFORE
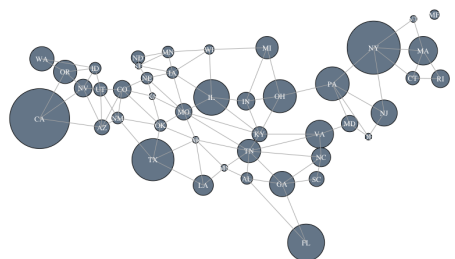

Dorling Cartogram of U.S. JLDTweetsafter

FIGURE 4A. JULIA'S DORLING CARTOGRAM AFTER

The researcher did a pairwise t-test for the number of states before and after. For Ben, the t value was 1.3789. For Julia, the t value was 0.8286. There was no statistical significance. The study could not reject the null hypothesis to support H3 that people from more states in the US mention the celebrity with cancer on Twitter in the week after the celebrity opens up about his/her disease than in the week before the celebrity opens up about his/her disease.

CONCLUSION

Petronio's Communication Privacy Management Theory described why and how people protect their privacy (2000). When they share the information with others, the boundary moves from personal life to public discussion (Petronio & Caughlin, 2006). The above findings that celebrities with cancer received more mentions on Twitter in the week after they opened up about their disease than in the week before they opened up supported the theory.

When eyeballing the network graphs, the researcher guessed that people from more places may retweet the cancer announcement message because news of celebrities with cancer often attracts more attention. However, even though the retweet network of the two celebrities' messages sized up after the cancer announcement, the network's density shrank when more people retweeted the message. There was no statistical significance to support that celebrities with cancer get more retweets on Twitter in the week after opening up about their disease than in the week

before they open up about their illness. It was also unsupported that people from more states in the US mention the celebrity with cancer on Twitter in the week after the celebrity opens up about his/her disease than in the week before the celebrity opens up about his/her disease.

Professor Erica Seng-White at Georgetown University once commented in class, "Images can help drive your point home, but they should not be treated as tests in and of themselves. Humans search for patterns, even if there aren't any to find" (Seng-White 2020). The purpose of this study is to provide some insights for evaluating the messaging effects and strategies of celebrities' cancer information on social media.

Pavelko et al. (2017) found that hope was the primary expression when people replied to celebrities' cancer messages on Facebook. Future research can apply the SNA method to explore whether the messages contain more information about cancer in the repliers' social media accounts after sending replies to celebrities with cancer.

The study has its limitations. First, the celebrities are from western entertainment field and based in the US. Second, the data covers only one week before and after the two celebrities announced the diagnosis of cancer. With a larger dataset with more celebrities and more messages, the results could be different.

What's more, Figure 8 and Figure 9 showed a similar pattern in the distribution of states. Figure 9 was

generated from the database (U.S. Cancer Statistics Working Group n.d.), showing the number of new prostate cancer patients in the U.S. in 2016. Future research could do a QAP test for the two networks when researchers have more evidence and time in the future.

FIGURE 9. NUMBER OF NEW PROSTATE CANCERS IN THE US IN 2016.

APPENDIX

FIGURE 1. BEN'S RETWEET NETWORK BEFORE
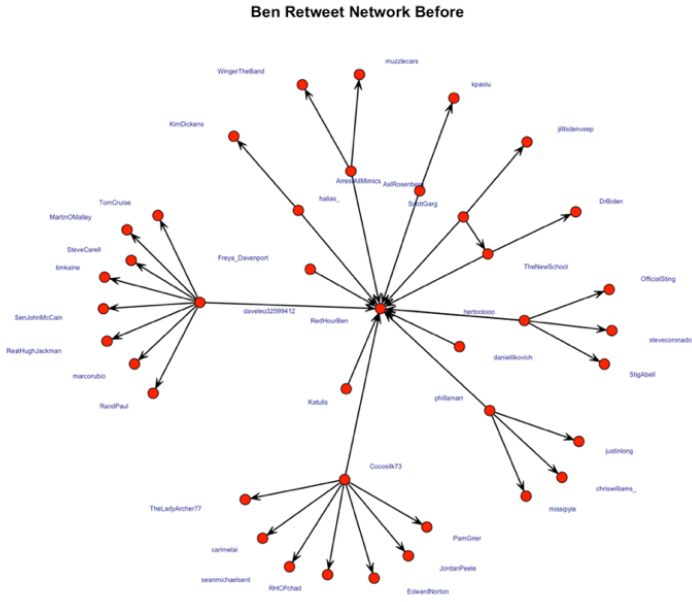
Ben Retweet Network Before

FIGURE 2. BEN'S RETWEET RELATIONSHIPS BEFORE WITH EDGES

Retweet Relationships
Most retweeted screen names labeled. Darkers edges == more retweets.

Figure 3. Ben's Retweet After

Ben Retweet Network After

Figure 4. Ben's Retweet Relationships After

Retweet Relationships

Most retweeted screen names labeled. Darkers edges == more retweets.

FIGURE 5. JLD RETWEET NETWORK BEFORE
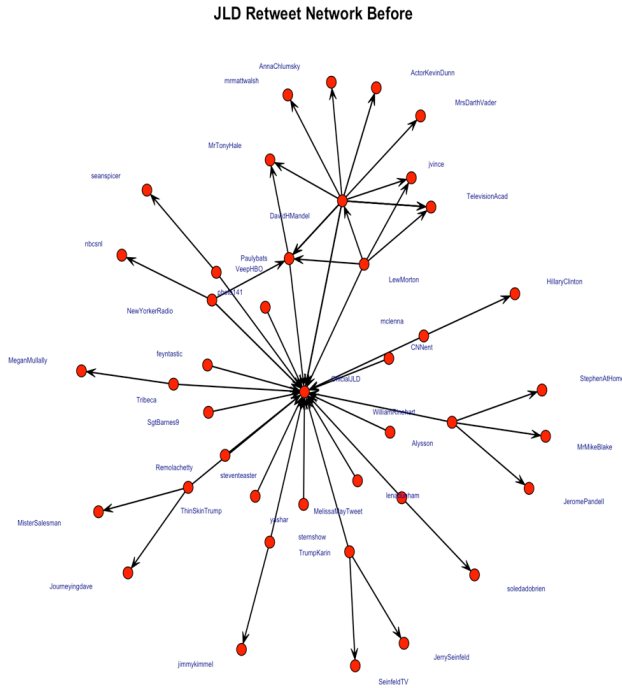
JLD Retweet Network Before

FIGURE 6. JULIA'S RETWEET RELATIONSHIPS BEFORE

Retweet Relationships

Most retweeted screen names labeled. Darkers edges == more retweets. Node size == larger degree

FIGURE 7. JLD RETWEET NETWORK AFTER

FIGURE 8. JULIA'S RETWEET RELATIONSHIPS AFTER
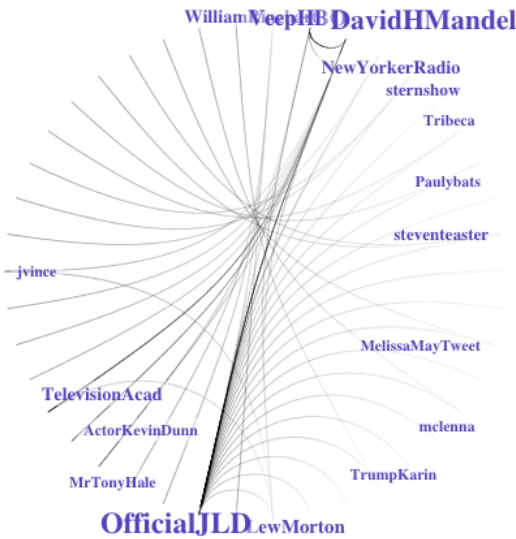
FIGURE 1A. BEN'S DORLING CARTOGRAM OF U.S. BENTWEETSBEFORE

Dorling Cartogram of U.S. BenTweetsbefore
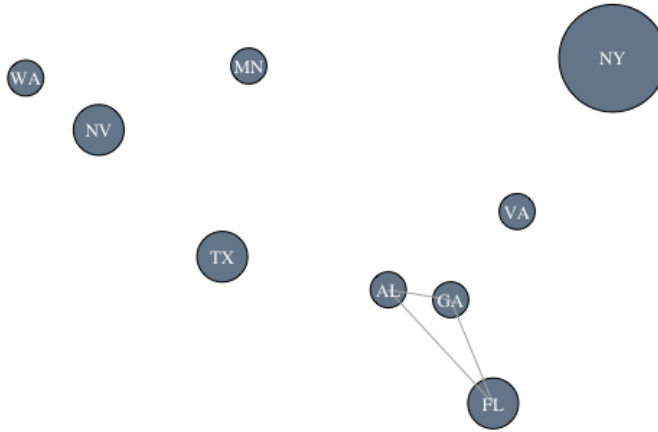
FIGURE 2A. BEN'S DORLING CARTOGRAM AFTER
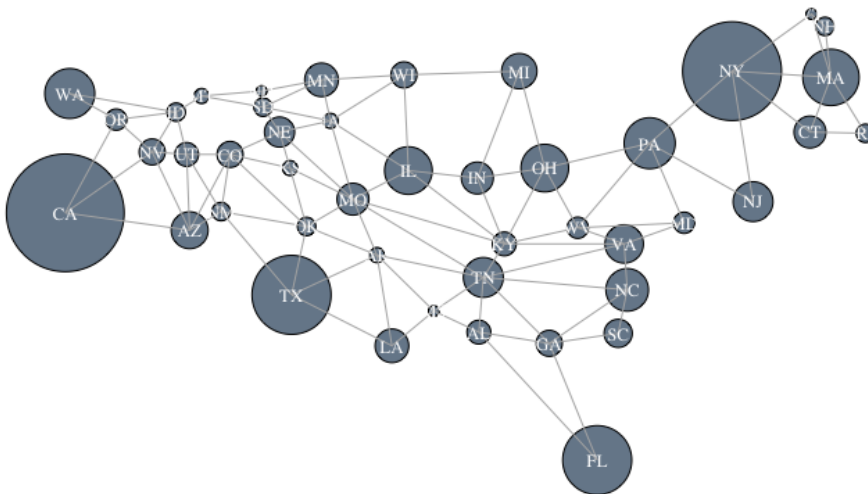
Dorling Cartogram of U.S. BenTweetsafter

FIGURE 3A. JULIA'S DORLING CARTOGRAM BEFORE

Dorling Cartogram of U.S. JLDTweetsbefore
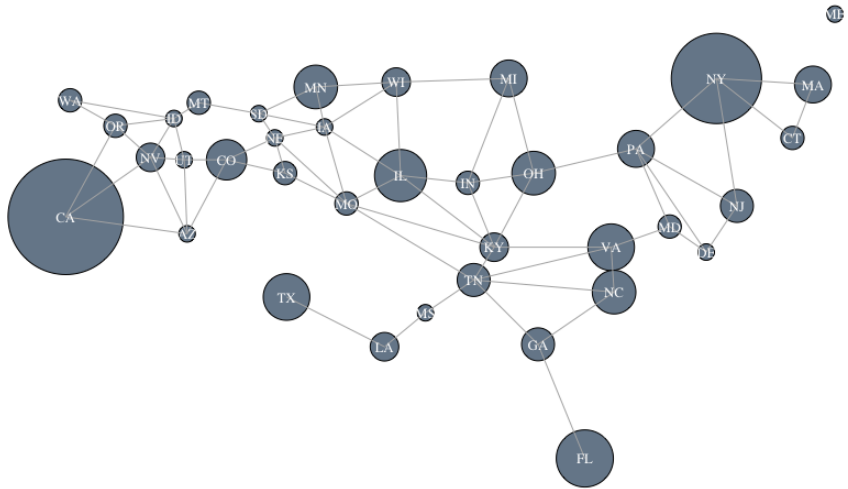
FIGURE 4A. JULIA'S DORLING CARTOGRAM AFTER

Dorling Cartogram of U.S. JLDTweetsafter
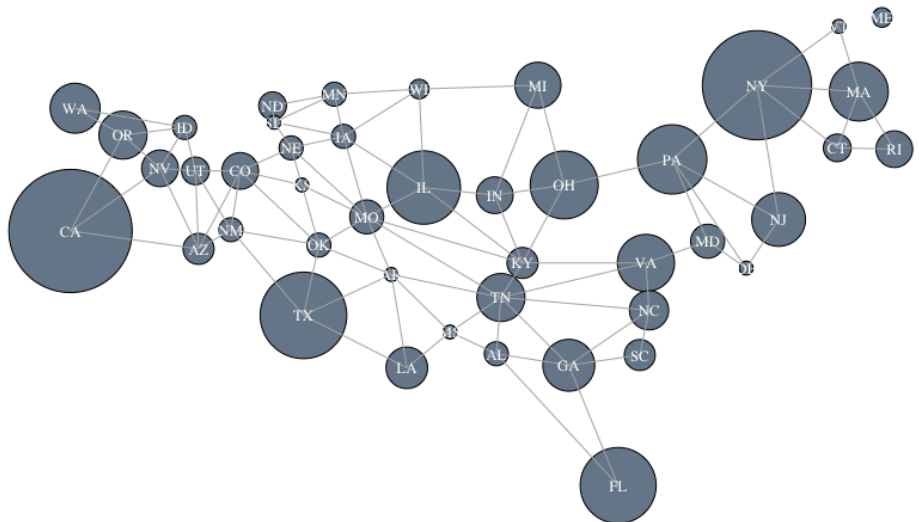
FIGURE 9. NUMBER OF NEW PROSTATE CANCERS IN THE US IN 2016

Number of New Cases
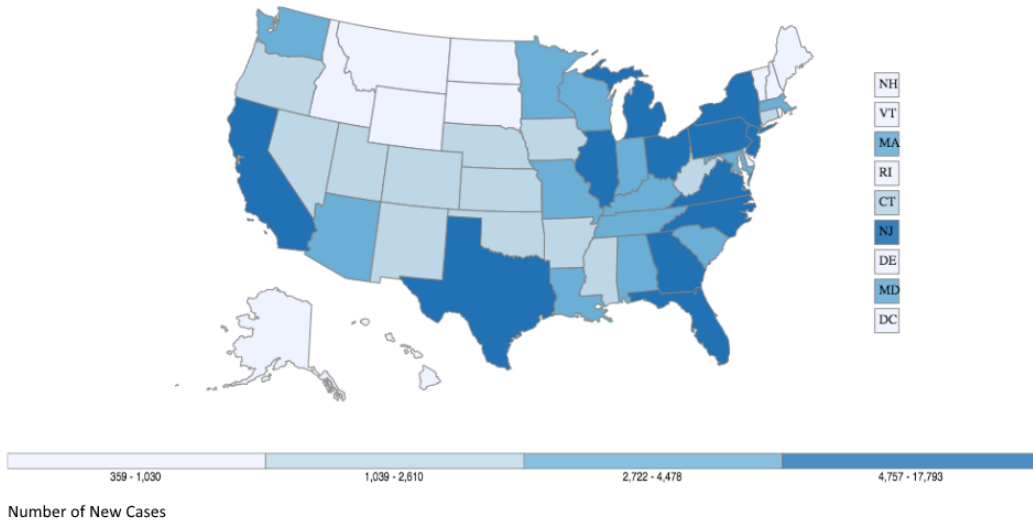
Data source – U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on November 2018 submission data (1999-2016): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; https://www.cdc.gov/cancer/dataviz , June 2019.

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An Examination of the Public's Behavior during the 2020 Impeachment of President Donald Trump

Abigail Major

Abstract:

The United States' House of Representatives impeached President Donald Trump on December 18, 2019. The House adopted two articles of impeachment against President Trump, including abuse of power and obstruction of Congress. The United States Senate absolved Trump of these charges on February 5, 2020. Extensive media coverage began prior to the official start of the impeachment process and included the active and vocal use of Donald Trump's Twitter account (@realdonaldtrump). This paper examines responses regarding the impeachment proceedings from a national survey conducted in Spring 2020. In particular, the questions and data examined in this paper includes survey takers' Twitter usage behaviors, opinions on the fairness of the trial, and political ideology/party identification.

(This paper was written in Spring 2020 and therefore does not account for the political developments that have occurred since then.)

Abigail Major is a graduate student at Georgetown University pursuing an MA in Communication, Culture, and Technology. She holds degrees in history and classics from Gettysburg College. Abigail's research explores media use and behavior during U.S. political elections. While at CCT she has also been able to focus on strategic communications, digital media, and strategy.

LITERATURE REVIEW:

Three presidents have been impeached but not removed from office: Andrew Johnson in 1868, Bill Clinton in 1998 and Donald Trump in 2019. Richard Nixon resigned in 1974 before the House of Representatives could vote on impeachment (McCarthy 2020). The action taken against Johnson, Clinton and (to a certain extent) Nixon demonstrates that there have been prior instances of the application of Article II, Section 4 of the United States Constitution (Kinkopf and Whittington). While Donald Trump became the third President of the United States to be officially impeached, it is unique that this event occurred during his first term of office. While Johnson was also in his first term before being impeached by the House of Representatives and one vote short of being convicted by the Senate, Trump is the first president in recent United States history to be impeached during his first term during a time in which media coverage is constant and immediate through the mediums of traditional and social media.

Because of the somewhat unique factors of Trump's impeachment proceedings–including his first term of the Presidency and his vocal usage of Twitter–previous scholarship regarding impeachment cannot be perfectly fitted to Trump's case. Indeed, the scholarship that seems to somewhat apply to Trump's impeachment proceedings are from the mid to late 1990s, which of course aligns to the impeachment of Bill Clinton. One piece that serves as an introduction to the study of impeachment proceedings is Georgetown Professor of Law Susan Low Bloch's examination of the question "Can we indict a sitting President?" This piece was written in 1997 and serves as evidence of the continued interest and ongoing debate of Article II, Section 4 (Bloch 1997). In Bloch's inquiry, she looks to other scholars' opinions and notes how they differ on the matter of indicting an in-office President.

Previous news survey editor at the New York Times Michael R. Kagay published an article in 1999 which examines public opinion and polling during Presidential scandal and impeachment. This was written in reaction to Bill Clinton's sex scandal and impeachment in the House. In this article, Kagay examines and discusses some of the polling questions that pertained to Bill Clinton and the affairs of the White House. For example, for the question "Do you think Bill Clinton shares the moral values most Americans try to live by, or doesn't he?", the percentage of those who believed he did not share the moral values increased after the sex scandal broke out (Kagay 1999). However, the public approved the way he was performing and fulfilling his presidential duties as indicated in the poll question, "Do you approve or disapprove of the way Bill Clinton is handling his job as president?" Before the sex scandal, Clinton's approval was in the mid- to high 50s, rose up to 72 percent, and then settled in the mid-60s for the rest of the year (Kagay 1999). Kagay argues that public opinion's ability to separate Clinton's private and public life in the polls was "one of the major factors in

Bill Clinton's survival" (Kagay 1999). This piece is particularly interesting because the polling results do not always align with what others may hypothesize. Georgetown University professor Diana Owen's 2000 article "Popular Politics and the Clinton/Lewinsky Affair: The Implications for Leadership" offers insight into how new media played a part in allowing Clinton to be in office: "New media… helped the president by casting the events within an entertainment context, trivializing the scandal and demoting it to the status of a television drama….the scandal's political consequences were mitigated in the eyes of the public" (Owen 2000).

With the constant production of news, numerous articles from reputable newspapers like the New York Times, Washington Post and NPR published pieces on Trump's impeachment proceedings and how it could potentially affect the 2020 election. For example, Philip Elliott argues in his article for Time how an impeachment trial would take attention away from the Democratic Party candidates vying for the Presidential nomination (Elliott 2019). This was indeed the case, as all news media eyes were on the United States Congress' activities regarding impeachment as well as on Trump's very active Twitter account.

News articles have also commented on the aftereffects of Trump's impeachment by the House. John Kruzel believes that Trump's acquittal signifies a lowering of the bar for checks on presidential power–therefore disrupting the system of checks and balances (Kruzel 2020). Will the outcome of Trump's impeachment set a precedent for a

more aggressive use of presidential power? Another surprising reaction to the impeachment proceedings according to NPR is the strengthened support by Trump's voters and defenders. Marc Lotter, the director of strategic communications for the Trump 2020 campaign, states that there has been a rise in donors since the impeachment of President Donald Trump (Shapiro and Lotter, 2019). The influence of post-Trump's impeachment on the public has been reflected in this article's conducted survey and will continue to play out in the 2020 Presidential election.

SURVEY METHODS:

This study employs data from an original cross-sectional survey of adult U. S. citizens online conducted at Georgetown University. The Digital Media and Politics Survey (DMPS) is the fourth in a series of surveys that have been fielded since March of 2016. The survey (n=1,314) was live online from March 20-29, 2019. Respondents were recruited via Mechanical Turk (MTurk) based on their status as eligible United States voters and they accessed the instrument on the SurveyMonkey Pro platform. Participants received a stipend for their participation. The limitations of using MTurk for survey data collection have been documented (Berinsky, Huber and Lenz 2012). Huff and Tingley suggest a method for building a survey pool by recontacting respondents with particular characteristics relevant for the study who have taken part in prior research using MTurk (Scott, Jewell and Waggoner 2015). For this study, participants were recruited

for characteristics, such as political party and ideological identifications, directly through the MTurk platform for an additional fee. Democrats and Republicans were oversampled, and there were fewer self-identified Independents than in the American voting population. This oversampling of partisans was intentional, as the study was designed to examine

Table 1. Demographic Comparison of U.S. Population and Survey Respondents

	% U.S. Population	% Survey Respondents
[1]Race		
White/Caucasian	61%	64%
Latino/Hispanic	18%	16%
Black/African American	13%	10%
Asian American/Pacific Islander	5%	8%
Mixed Race/Other	3%	2%
[2]Gender		
Women	50.5%	49.3%
Men	49.5%	50.7%
[3]Education		
High School	10%	11%
Some College/Associates Degree	38%	32%
Bachelor's Degree	35%	39%
Graduate Degree	17%	18%
[4]Age		

1 United States Census Bureau. "Race." https://www.census.gov/topics/population/race.html

2 Henry J. Kaiser Family Foundation. "Population Distribution by Gender." https://www.kff.org/other/state-indicator/distribution-by-gender/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

3 United States Census Bureau. "Educational Attainment in the United States: 2018." https://www.census.gov/data/tables/2018/demo/education-attainment/cps-detailed-tables.html

4 United States Census Bureau. "The Nation's Median Age Continues to Rise." https://www.census.gov/library/visualizations/2017/comm/median-age.html

Credit: Diana Owen, Georgetown University

subgroups within the major political parties, such as Republicans who supported and did not support Donald Trump. MTurk samples tend to have a higher percentage of liberals than conservatives than is present in the population. However, MTurk samples closely mirror the personality and value-based motivations associated with ideologies from across the political spectrum (Clifford, Jewell and Waggoner 2015). The MTurk worker recruitment strategy employed here largely mitigated the concern with oversampling liberals.

The survey sample consists entirely of people online, which is appropriate for this study which explores the subjects' digital orientations and behaviors. Studies have found that the demographic characteristics of MTurk samples approximate the U.S. population in terms of gender, education, and race, although they tend to be somewhat younger and less representative of religious affiliation (Sheehan and Pittman 2017; Burnham, Piedmont and Lee 2018). The demographic profile of the participants in the present survey is generally reflective of the U.S. population in terms of race, education, gender, and median age.

RESEARCH QUESTIONS:

Three questions regarding the impeachment proceedings of Donald Trump were included on the survey:

[Q31] How closely did you follow the impeachment of President Donald Trump?

[Q32] Do you feel that the impeachment proceedings were fair?

[Q33] Has the impeachment influenced your candidate preference in the 2020 election?

From these three survey questions, the following research questions were proposed and examined:

Is there a correlation between those who frequently consume Twitter and whether or not they thought the impeachment proceedings were fair?

Is there a correlation between those who frequently consume Twitter and how closely they followed the impeachment of Donald Trump?

Is there a correlation between how closely survey takers followed the impeachment of President Donald Trump and their political ideology/party identification?

Is there a correlation between how survey takers felt about the fairness of the impeachment proceedings and their political ideology/party identification?

Key Findings:

Those who thought the impeachment proceedings were fair were more likely to use Twitter. 59.8% of survey takers who never use Twitter thought the impeachment proceedings were unfair.

Those who followed the impeachment of President Donald Trump very closely were more likely to use Twitter frequently or sometimes whereas those who did not follow the impeachment closely were less likely to use Twitter.

The majority of Republicans and

Democrats were invested in following the impeachment of Donald Trump, while those who identified as Independent were more likely to only follow somewhat closely or not closely.

However, 46.6% moderates followed the impeachment somewhat closely. Those who identified as liberal and conservative seemed to follow the impeachment about the same in the very closely and somewhat closely categories.

Nearly 50% of each party (Republican, Independent and Democrat) felt the impeachment proceedings were fair. Yet, only 37.7% of those who identified as conservatives thought the impeachment proceedings were fair.

STUDY FINDINGS:

(all following figures and tables created by author)

In this chart, survey takers' answers to survey question 32 "Do you feel that the impeachment proceedings were fair?" and their Twitter usage

TABLE 2. DO YOU FEEL THE IMPEACHMENT PROCEEDINGS WERE FAIR VERSUS TWITTER USAGE?

	FREQUENTLY	SOMETIMES	RARELY	NEVER
YES	253	209	141	149
NO	181	184	120	222

FIGURE 1. DO YOU FEEL THE IMPEACHMENT PROCEEDINGS WERE FAIR VERSUS TWITTER USAGE?
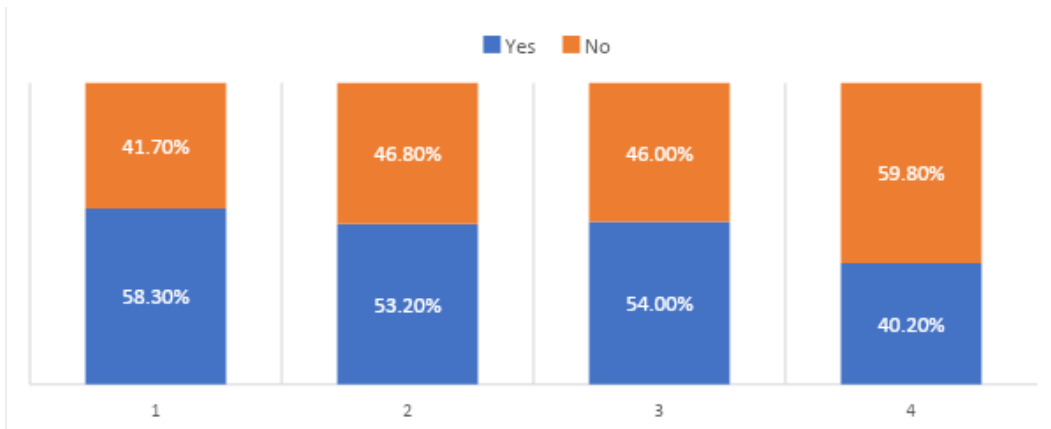
were compared to see if there was a correlation. The Chi-square was .000, indicating that there was a strong correlation (though possibly not a causation) between these two data points. Over half of those who used Twitter–regardless of how frequently they used the social media platform–believed that the impeachment proceedings were fair. Those who never used Twitter were more likely to believe the impeachment proceedings were unfair. Almost 60% of survey takers who never used Twitter believed this.

TABLE 3. HOW CLOSELY DID YOU FOLLOW THE IMPEACHMENT OF DONALD TRUMP TWITTER USAGE?

	FREQUENTLY	SOMETIMES	RARELY	NEVER
VERY CLOSELY	197	143	91	132
SOMEWHAT CLOSELY	182	189	114	149

FIGURE 2. HOW CLOSELY DID YOU FOLLOW THE IMPEACHMENT OF DONALD TRUMP VERSUS TWITTER USAGE?

In this chart, survey takers' answers to question 31 "How closely did you follow the impeachment of President Donald Trump?" and their Twitter usage were compared to see if there was a correlation. The Chi-square was .000, indicating that there was a strong correlation (though possibly not a causation) between these two data points. Those who frequently used Twitter were more likely to follow the impeachment very closely (45.4%). Only 12.7% of those who frequently used Twitter did not follow the impeachment closely. On the other hand, those who never used Twitter were less likely to follow the impeachment (35.6% for very closely and 40.2% for somewhat closely). In fact, almost a quarter (24.3%) of those who never used Twitter did not follow the impeachment closely.

TABLE 4. HOW CLOSELY DID YOU FOLLOW THE IMPEACHMENT VERSUS POLITICAL PARTY?

	REPUBLICAN	INDEPENDENT	DEMOCRAT
VERY CLOSELY	203	91	267
SOMEWHAT CLOSELY	209	130	292
NOT CLOSELY	64	88	102

FIGURE 3. HOW CLOSELY DID YOU FOLLOW THE IMPEACHMENT OF PRESIDENT DONALD TRUMP VERSUS POLITICAL PARTY?

Legend: Very closely, Somewhat closely, Not closely

Row 3: Very closely 40.40%, Somewhat closely 44.20%, Not closely 15.40%
Row 2: Very closely 29.40%, Somewhat closely 42.10%, Not closely 28.50%
Row 1: Very closely 42.60%, Somewhat closely 43.90%, Not closely 13.40%

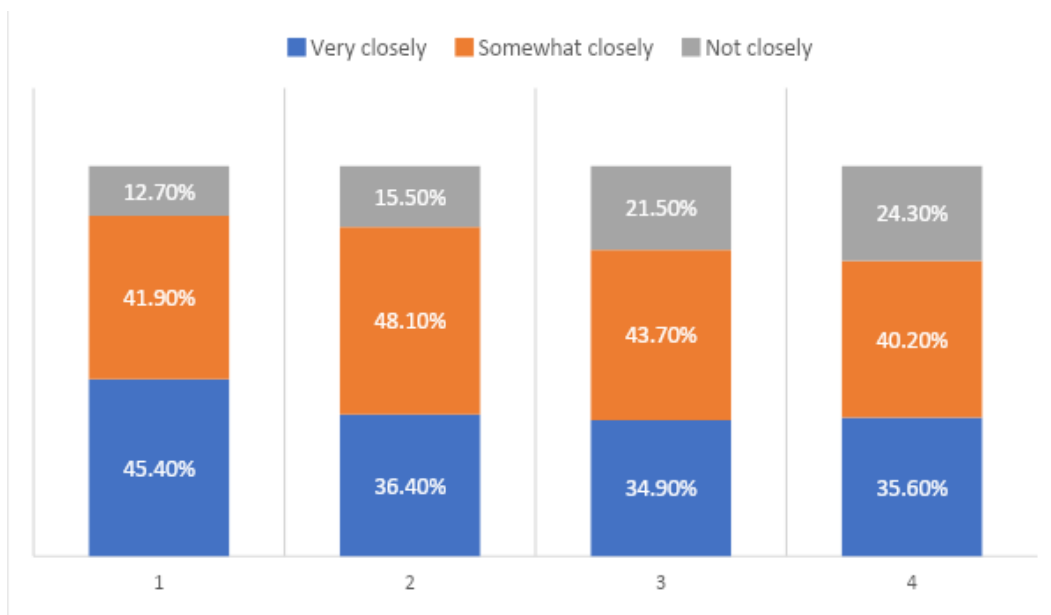In this chart, survey takers' answers to question 31 "How closely did you follow the impeachment of President Donald Trump?" and their political party identification were compared to see if there was a correlation. The Chi-square was .000, indicating that there was a strong correlation (though possibly not a causation) between these two data points. Those who identified as Republican were more likely to follow the impeachment very closely, compared to those who identified as Democrat (40.4% followed closely). Independents were the least likely to follow closely, with 28.5% not following the impeachment closely at all. However, over 40% of all Democrats, Republicans and Independents identified following the impeachment somewhat closely.

TABLE 5. HOW CLOSELY DID YOU FOLLOW THE IMPEACHMENT OF PRESIDENT DONALD TRUMP VERSUS POLITICAL IDEOLOGY

	LIBERAL	MODERATE	CONSERVATIVE
VERY CLOSELY	309	100	152
SOMEWHAT CLOSELY	311	169	151
NOT CLOSELY	92	94	68

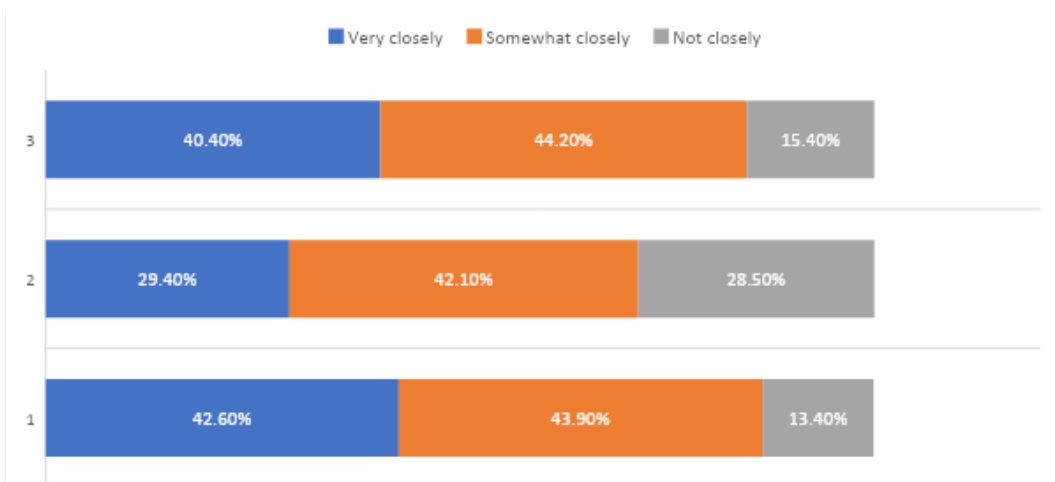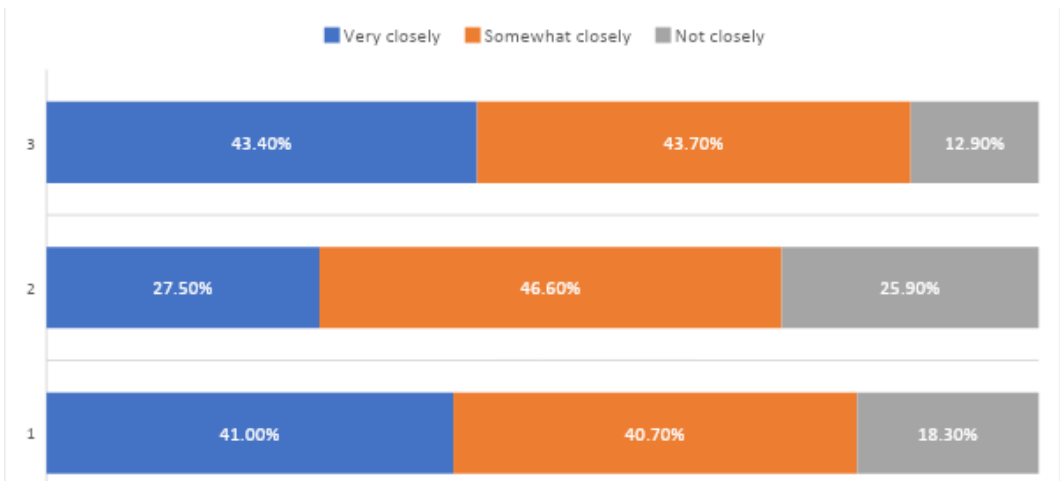**FIGURE 4.** HOW CLOSELY DID YOU FOLLOW THE IMPEACHMENT OF PRESIDENT DONALD TRUMP VERSUS POLITICAL IDEOLOGY?

In this chart, survey takers' answers to question 31 "How closely did you follow the impeachment of President Donald Trump?" and their political ideology. The Chi-square was .000, indicating that there was a strong correlation (though not necessarily causation) between these two data points. Like those who identified as Democrat and Republican, liberal and conservative paid very close attention to the impeachment about the same. Overall, those who identified as liberal followed the impeachment more than conservatives. Only 27.5% of those who identified as

moderates followed very closely, and 25.9% of moderates did not follow closely at all. However, out of all the three political ideologies, moderates had the highest percentage (46.6%) of people who followed the impeachment somewhat closely.

TABLE 6. DO YOU THINK THE IMPEACHMENT PROCEEDINGS WERE FAIR VERSUS POLITICAL PARTY?

	REPUBLICAN	INDEPENDENT	DEMOCRAT
YES	236	137	375
No	240	172	286

FIGURE 5. DO YOU THINK THE IMPEACHMENT PROCEEDINGS WERE FAIR VERSUS POLITICAL PARTY?
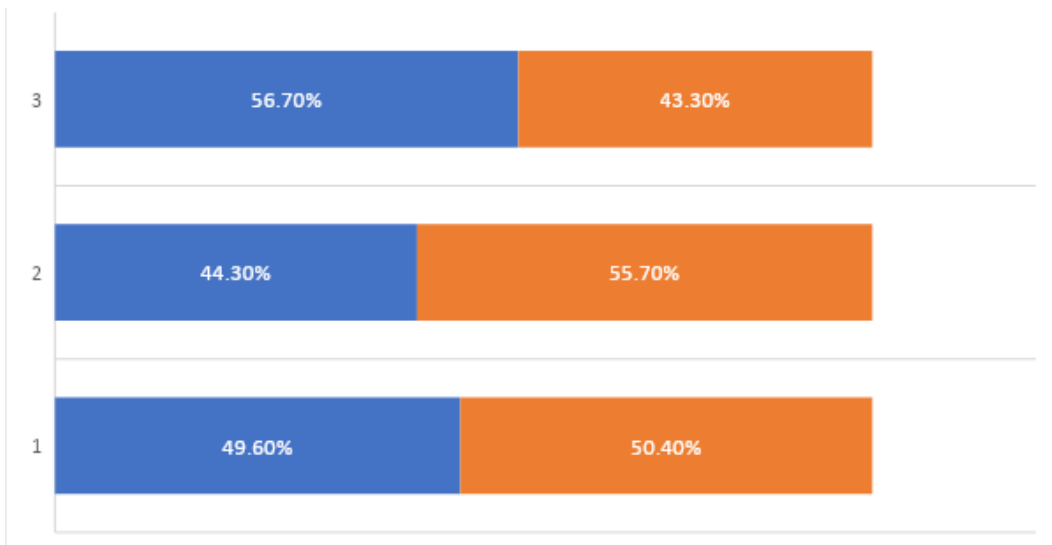
In this chart, survey takers' answers to question 32 "Do you think the impeachment proceedings were fair?" and their political party identification were compared to see if there was a

correlation. The Chi-square was .001, indicating that there was a strong correlation (though not necessarily causation) between these two data points. More than half (56.7%) of

those who identified as Democrat believed the proceedings were fair. A little less than half (49.6%) of those who identified as Republican believed the proceedings were fair. The data finding that is particularly interesting is that 55.7% of Independents believed the impeachment proceedings were unfair.

TABLE 7. DO YOU THINK THE IMPEACHMENT PROCEEDINGS WERE FAIR VERSUS POLITICAL IDEOLOGY?

	LIBERAL	MODERATE	CONSERVATIVE
YES	405	203	140
NO	307	160	231

FIGURE 6. DO YOU THINK THE IMPEACHMENT PROCEEDINGS WERE FAIR VERSUS POLITICAL IDEOLOGY?

In this chart, survey takers' answers to question 32 "Do you think the impeachment proceedings were fair?" and their political ideology w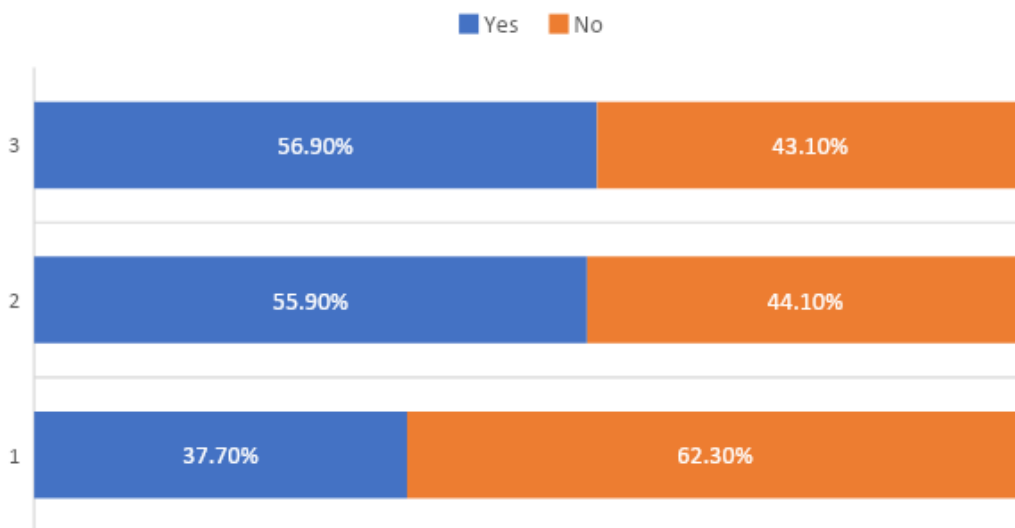ere compared to see if there was a correlation. The Chi-square was .000, indicating that there was a strong correlation (though not necessarily a causation) between these two data points. More than half of liberals and

moderates believed the impeachment proceedings were fair. Only 37.7% of conservatives, on the other hand, believed the impeachment proceedings were fair. What is particularly noteworthy is that there seems to be a difference between this figure and figure 5. In the previous figure, less than half of Independents and Republicans believed the impeachment proceedings were fair. However, in this figure, over half of moderates and a little over half a third of conservatives thought the impeachment process was fair. These findings may suggest that those who identify as Independent may not necessarily identify as ideological moderate.

Conclusion:

As indicated in the visualizations of the data provided above, there were multiple strong correlations present in the examined data. One particular interesting find is the difference between figure 5 and figure 6. It was originally hypothesized that these figures would be almost identical due to the assumption Democrats would identify as liberal, Independents would align as being moderate, and Republicans would identify as conservative. This, however, was not the case. 137 survey takers identified as Independent, while 203 survey takers identified their political ideology as moderate. 236 survey takers identified as Republican, but only 140 identified as conservative. On the other hand, 375 identified as Democrat, but 405 categorized themselves as liberal. These findings suggest that political party does not always align with political ideology.

Another key point is that those who frequently used Twitter were more likely to follow the impeachment very closely compared to those who never used Twitter. There may be a variety of factors as to why this is, though two are proposed here: (1) The activity of Trump's Twitter account was quite active surrounding the hearings. Many Twitter profiles engaged with his tweets by either liking, commenting, or retweeting. Additionally, many users engaged with content from other sources or offered their own commentary during the impeachment process. (2) Twitter has increasingly become a source of breaking news and its users utilize it as such. A 2015 study by the American Press Institute found that 86% of users use the platform for news. In particular, 40% of individuals say they use Twitter to be alerted to breaking news (Rosenstiel 2015). Understanding users' motivations for being on this social media platform therefore offers insight, at least in part, as to why those who frequent Twitter followed the impeachment closely.

Perhaps unsurprisingly, those who identified as Republican were more likely to follow the impeachment very closely, compared to those who identified as Democrat. As Trump was the Republican Party's candidate and current sitting president, it should not be surprising that his followers—who often tend to identify themselves belonging to this political party—followed the impeachment proceedings closely.

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Big Mouth Obscene, Grotesque, and Informative

Michael Willson

Abstract

The adult animated television program *Big Mouth* (2017-Present), has received both criticism and praise for how it addresses sexuality and puberty. While some critics dismiss the series as grotesque and obscene, others have found it relatable. Because the show is animated, it is able to discuss topics in a way that would be problematic and unethical if the program was live-action. Incorporating the work of Michel Foucault and published literature on sexual education, this article provides an analysis of how Big Mouth addresses the patriarchy's use of sex as a tool for power and the importance of sexual wellbeing.

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INTRODUCTION

The adult animated television program *Big Mouth* (2017-Present), can be seen as both problematic and beneficial. The series focuses on a group of middle school students as they see their bodies go through changes, discover their sexualities, and deal with the emotions that come with puberty. Like most teenagers, they endure petty gossip, overbearing parents, and monstrous hormones. Indeed, in the *Big Mouth* universe there are literal hormone monsters which act as a type of perverted guardian angel. The show takes a blunt and unapologetic look at sexuality and could easily be dismissed as obscene and grotesque. However, *Big Mouth* is more than just crude humor and shock gimmicks. The program offers intuitive insight on the subject of sexuality. Some viewers might find the series relatable as they reflect back on the confusing time of adolescence, or as they continue to understand themselves and their sexuality. Because the show is animated, and all of the adolescent characters are voiced by adult actors, it is possible for *Big Mouth* to explore topics and address issues that would be unethical if it was live action with underage actors. There are several important and current topics that are addressed in the program. There are two important topics that require a thorough analysis. The first is how sex is used as a tool for the patriarchy to stay in power. The second is the importance of sexual wellbeing. This article will incorporate the philosophy of Michel Foucault and published literature on sexual education.

BACKGROUND

Big Mouth premiered on Netflix on September 29, 2017 ("*Big Mouth* Season 1 Episodes List"). The program recently premiered its fourth season on December 4, 2020 ("*Big Mouth* Season 4 Episodes List") and has been renewed for another two seasons (Porter 2019). The series has a cast of colorful and eccentric characters, most notable are the mythological characters that represent different emotions, such as the various hormone monsters, the Shame Wizard, Depression Kitty, Menopause Banshee, Anxiety Mosquito, and Gratitoad (a toad that is filled with gratitude).

Big Mouth is very polarizing and has received both criticism and praise for its subject matter. Some critics are turned off by the sexual nature of the program and find the fact that the main characters are children disturbing. David Outten of the conservative Christian film review website Movieguide condemns the series for encouraging lustful behavior. As Outten states, "Strategically *Big Mouth* seeks to mock good behavior and encourage bad behavior. A demon of lust is not a laughing matter." (2017) Other critics appreciate the show for its unfiltered honesty on an often-shunned topic. Mark Healy of Rolling Stone describes *Big Mouth* as a, "rare coming-of-age comedy that puts a face and a voice to puberty's dark forces — characters like hormone monsters and a shame wizard appear like reckless apparitions to foster the kids' worst impulses." (2018) While *Big Mouth* has produced disparate opinions from

critics, it is clear that the program has left an impact.

One of *Big Mouth*'s creators, Nick Kroll, who also voices several characters in the program, created the series as a way to laugh at and cope with the uncomfortable ordeal that is puberty. While Kroll initially made the show simply for laughs, he takes the reception to it seriously. Kroll notes the following:

You know, when we started making the show, it was like, "oh, well, let's make a show that will make us laugh"...And then, I came home. I went to, like, my nephew's bar mitzvah after season one came out, and my nephew Jacobi and his friends were like, "Oh my God! We watched the show!" And then I saw their parents, who were like my brother and his friends, and they were like, "Thank you for having this show so that we don't have to talk to them about these subjects" or it gives them, as you said, a platform to talk about it. (2020)

The writing staff behind *Big Mouth* also consults sexual education teachers and teenagers in order to ensure that the program is both sensitive and accurate. Kroll states that, "We talk to sex educators and sociologists, and people who write about this stuff. And then through that we've ended up talking to teens and stuff who are in civic education programs. And anecdotally I'll talk to kids who watch the show and dig into it." (2020) While the program might appear to be low-brow humor on the surface, it is a show that speaks to a lot of people.

THE PATRIARCHY AND SEX

In his book The History of Sexuality Volume 1: An Introduction, philosopher Michel Foucault examines how sexuality is used as a tool for power. As Foucault notes, "And the sexual cause—the demand for sexual freedom, but also for the knowledge to be gained from sex and the right to speak about it—becomes legitimately associated with the honor of a political cause: sex too is placed on the agenda for the future." ([1980] 1978, 6) Foucault identifies three ways in which the patriarchy uses sex to maintain the status quo. The first one by the difference in genitalia, by seeing the penis as "par excellence" (Foucault [1980] 1978, 153) and the vagina as lesser. Second, by how the woman's value in society is diminished to her ability to procreate. Third, by how a woman's emotions and expressions are unfairly dismissed as hysterical.

Big Mouth dispels all three methods used to oppress women. In the season one episode, "Everybody Bleeds," Jessi Glaser, a girl who just endured the humiliation of having her first period during a class field trip, learns from her feminist mother, Shannon, how to use feminine products. Shannon addresses the ways in which the vagina is seen as the "other" in modern American society. She notes how tampons are taxed as a luxury product and sarcastically claims that if cisgender men menstruated, it would be treated as an Olympic sport.

Later in the season, in the episode, "Girls Are Horny Too," Jessi takes the time to discover her genitalia. Using *Big Mouth*'s cartoon logic, Jessi literally has a conversation with her vagina. The vagina is smiling and has a cheerful and energetic personality.

She offers Jessi a grand tour of her anatomy and addresses the ignorance that people often have regarding the female genitalia. When Jessi expresses her relief that her changing body is not something to fear, the vagina responds by saying, "Of course I'm not scary. I'm you and I am very fun." ("Girls Are Horny Too" 2017) The image of a teenage girl having a conversation with her vagina could understandably make some viewers uncomfortable, but this scene demystifies the stigma arounds the female genitalia and the shame of exploring one's body.

What is significant about the episodes "Everybody Bleeds" and "Girls Are Horny Too" is that they are both written by female writers. Having women tell the female experience helps to demystify the "otherness" of the female genitalia. The same is true for sexual education curriculums. Annie-Li Lindgren (2019) researched how sexual education is a practice where the curriculum has disproportionately been designed by men, thus adding to the mentality of the female genitalia being the other. In her research, Lindgren discusses the award-winning sexual education manual Handledning i sexuell undervisning och uppfostran [Supervision in Sex Education and Upbringing] (Kinberg and Sundquist 1909), one of the first sexual education curriculums designed by

women. As Lindgren observes "In this manual, this meant that women owned their own bodies and, implicitly, had a sexuality of their own." (2019, 783) While some viewers might find blunt comments on menstruation and talking vaginas disgusting, others could see it as liberating.

Sexism is a topic that is frequently addressed throughout *Big Mouth*. There are two examples from the program where it specifically addresses the mentality that a woman's worth in society is based solely on her ability to procreate. In the series' first episode, the main characters are sitting in a sexual education class where Jessi comments, "How come in all these videos, puberty for boys is like the miracle of ejaculation and for girls we're just a yarn ball of aching tubes?" Her friend Nick Birch is disgusted by this comment, to which Jessi responds, "Yeah, exactly. And that's why we need equal pay." Jay Blizerian, the son of a chauvinist divorce lawyer, inserts himself into the conversation and smirks, "My dad says when you take into account maternity leave, you do get equal pay." ("Ejaculation" 2017) This ignorant comment not only ignores the gender pay gap, but it also makes the assumption that all women procreate.

In the third season, *Big Mouth* takes a rare examination into a sexual situation outside of puberty, menopause. As Barbara Glouberman, the mother of one of the main characters Andrew, begins menopause, the process takes the form the Menopause Banshee. At first, this creature appears frightening, but

as Barbara takes the time to address her changing body—similar to Jessi acknowledging her genitalia—she is able to not only accept but also embrace it. The banshee cheers, "This next chapter's yours to live and now you have no fucks to give." ("Florida" 2019) This scene stresses that a woman's worth is not defined by her ability to procreate and that her life continues to have value after childbearing age.

A major part of *Big Mouth's* third season is how the patriarchy disproportionately targets women when it crafts its policies and unfairly labels any criticism as hysteria. When a new dress code is put in place, it is clear that only the girls are held accountable for their clothing. In a school assembly, where Jessi criticizes the unequal policy, the Dean of Student Life, Mr. Lizer, openly berates her in front of the class.

The plot surrounding Mr. Lizer comes up again later in the season when the school puts on a musical adaptation of the film Disclosure (1994), a film controversial for how it depicts the credibility of sexual harassment allegations. When Jessi and a group of student complains about how offensive and misogynistic the story is, Lizer dismisses their arguments. Lizer's misogyny becomes more apparent as the episode progresses. He forms a relationship with the stage manager, Lola, an emotionally abused and neglected girl, and tricks her into giving him a foot massage. When Lola later questions the ethics of this action, Lizer manipulates her and accuses her of turning it into a sexual act.

Foucault does not discuss the transgender community, which is understandable given when the book was published. By incorporating the present-day understanding of what it means to be transgender, the patriarchy's methods for staying in power can be both discredited and intensified. The idea of labeling a woman as inferior based on her genitalia is invalid, when one considers that a transgender woman would have a penis and a transgender man would have a vagina. This idea also does not consider individuals that are gender non-conforming or intersexual. Unfortunately, this will do little to stop the patriarchal idea that a woman's value is based on her ability to give birth, as a transgender woman would not possess the same reproductive organs as a cisgender woman.

At the beginning of the fourth season, which takes place at summer camp, *Big Mouth* introduces a transgender character named Nathalie. While this season is the first time the audience learns about Nathalie, the other characters knew her prior to her transition when she identified as Gabe. When Nathalie arrives at camp, the counselors unprofessionally announce her transitions to the other campers and leave her in the uncomfortable and awkward situation of having to explain herself. The boys ask insensitive questions regarding her genitalia. Seth, an obnoxious and obscene camper, blurts out, "You know what, everyone? I'm just going to ask the thing that we're all thinking, but not asking. What does your crotch look like?" ("The New Me" 2020) When Nathalie identified as a

boy, she was popular with the male campers. Now that she identifies as a girl, the male campers are diminishing Nathalie's identity to her genitalia. Their invasive curiosity reflects how the patriarchy has influenced their mentality. They want to know Nathalie's genitalia, because if she has a vagina, then she is no longer part of the group and is now seen as the other.

The girls appear to be more mature at first, until they start insisting to give Nathalie a makeover in order for her to pass as a girl. When Nathalie objects to the female campers' desire to change her, she is belittled and ridiculed. Ironically, the female campers are the ones labeling Nathalie at hysterical.

Nathalie is left humiliated by the boys and dismissed by the girls. She is rejected by both groups and is seen as the other. Nathalie feels isolated and regrets coming until she talks to Jessi, who she did not get along with back when she was a boy. She tells Jessi about her transition. Jessi listens to her, validate her feelings, and accepts Nathalie for who she is. Through the character of Nathalie, *Big Mouth* is both supporting the transgender community and rejecting the patriarchy. The program is informing the audience that identity and gender should not be reduced to genitalia and that the voice of all women, both cisgender and transgender, are valid and should not be dismissed as hysteria.

In the days following the premiere of the fourth season, critics from the LGBT community praised *Big Mouth* for how it addressed being transgender. Samantha Allen of the queer culture magazine Them commended the series for its honest and authentic depiction of a transgender girl. As Allen states, "But instead of passively enduring all of this casual transphobia, Natalie pushes back, throwing back insults and sticking up for herself." (2020) Allen also addresses the significance of having a transgender woman, Josie Totah, voice Natalie. As Allen notes, "For Totah, Natalie isn't just a character but a reminder to be her own person...Totah, who came out when she was 17, knows well the pressure of being expected to dress, look, and sound a certain way, not just in public but in Hollywood." (2020) In a YouTube video, drag queens Trixie Mattel and Katya, describe how having a transgender character helps the audience broaden their mindset and understand people that are different from them. As Trixie Mattel observes "That's the thing, programs like this don't make people anything, but they give them the vocabulary to know what it is in the real world and not feel disarmed by it." (Netflix 2020) On her YouTube channel, Samantha Lux explains how, as a transgender woman, she connected with Natalie. Lux states the following:

Trans people constantly have to act like an educator in their coming out situations, even when they're bombarded by invasive personal questions like, "what's your crotch look like", "do you pee standing up." It's hard enough on your own to come out and tell people that you're transgender, but when you're met

with all these questions and all this interrogation, it makes it that much harder. (Samantha Lux 2020)

Having an authentic depiction of a transgender girl in the media can help demystify the false assumptions on what it means to be a woman.

In reviewing Foucault's account of the patriarchy, it is reasonable to conclude that inadequate and biased school curriculums, particularly in sexual education, play a role in all this. As schools around the world are starting to develop a comprehensive sexual education (CSE) curriculum, gender equality is a topic that will come up. In their analysis of CSE curriculums, Esther Miedema, Marielle L J Le Mat, and Frances Hague (2020) categorizes the topic into separate subcategories, one of which is gender equality and power relations. They note the following:

Promoting gender equality in and through schools is a complex endeavour in itself, which would require teachers receiving careful guidance on identifying how gender is learned and enacted through the curriculum and in day-to day interactions in schools, and learning how best to address gender norms and power dynamics. (2020, 752)

In order to dismantle the patriarchy, one must learn about gender and how someone can be oppressed by their gender identity.

SEXUAL WELLBEING

Throughout society, sexual pleasure is labeled as obscene and immoral. Because sex is usually considered a taboo subject, it is difficult, but also rewarding, to discuss. As Foucault observes "What sustains our eagerness to speak of sex in terms of repression is doubtless the opportunity to speak out against the powers that be, to utter truths and promise bliss, to link together enlightenment, liberation, and manifold pleasures." ([1980] 1978, 7) This mentality that sex is something to be ashamed of is absurd, since sexual pleasure is perfectly natural. By repressing this natural feeling, it only makes the desire stronger.

Religion is often used as a device to oppress sexual pleasure. A religious institution can obstruct sexuality, restricting it to the biological function of procreation. Foucault states that, "The forbidding of certain words, the decency of expressions, all the censoring of vocabulary, might well have been only secondary devices compared to great subjugation: ways of rendering it morally acceptable and technically useful." ([1980] 1978, 21) Sex for pleasure, even when it is between two consenting adults, is labeled as lust, and therefore sinful.

The belief that sex should solely be used for procreation has made the LGBT community particularly vulnerable to religious oppression. Foucault notes the following:

We, on the one hand, are in a society of "sex," or rather a society "with a sexuality": the mechanisms of power

are addressed to the body, to life, to what causes it to proliferate, to what reinforces the species, its stamina, its ability to dominate, or its capacity for being used. ([1980] 1978, 147)

Due to the unfounded mentality that sex should take place exclusively for procreation, institutions with said mentality use sex as a tool for shunning and persecuting those that that do not abide.

Religiously based homophobia plays a role in *Big Mouth* with the character Matthew MacDell. In the first few seasons, Matthew is used primarily as the sassy gay character trope. In later seasons, he starts to develop more depth and even forms a relationship with a boy named Aiden. Matthew's sexuality clashes with his family's conservative Christian values. When Matthew's mother, Kimberly, discovers Matthew sexting with Aiden, she rejects his sexuality and even condemns him to damnation. As Kimberly states, "But you want to [have sex with Aiden] and I just can't stand the idea of you making these sinful choices and baking in hell for all eternity, because Jesus is watching." ("The Funeral" 2020) Fortunately, when Matthew comes out to his father in the following episode, his father is much more accepting and understanding. It will be interesting to see if, and how, Matthew makes peace with his mother in the next season.

Unfortunately, sexual orientation is a subject that is often ignored in sexual education curriculums. Similar to gender, sexual orientation is a topic that schools adopting CSE will likely incorporate. Miedema, Mat, and Hague note the following:

The notion of 'positive sexualities' referred to above includes the idea of sexual pleasure, while that of 'respectful relationships' seeks to capture the attention paid in CSE guidelines to enabling young people to build 'healthy' relationships with (intimate) others, and respecting others regardless of sexual orientation, gender identity, race or ability. (2020, 753)

Including sexual orientation in sexual education curriculums can be vital for the sexual wellbeing of students as they discover their sexualities and accept the sexualities of others.

Sexual wellbeing also includes the importance of consent. In the season one episode, "The Head Push," Nick and his siblings host a party while their parents are on a weekend vacation. Nick's sister, Leah, goes to her room to make out with her classmate, Daniel. Daniel starts to push Leah's head down towards his crotch. At first, Leah gently pushes him, asks that he does not do that, and continues making out with him. Daniel pushes her head down again. At this point, Leah gets assertive and states, "I think I made it clear I didn't want to do that." ("The Head Push" 2017) Daniel gets defensive and Leah leaves the room. Later during the party, Leah confronts Daniel in front of the other guests. Daniel continues to play the defense, but the other guests stand up for Leah.

The season four episode, "Four Stories About Hand Stuff," is made

up of—as the title suggests—four stories regarding various sexual acts involving hands. In the story, "Touched by a Jay-ngel," Jay and Lola, who starts a romantic relationship earlier in the season, begin experimenting with fingering. Jay, who took advice from his chauvinist older brothers, fingers Lola in a way that is aggressive and makes her uncomfortable. Jay initially gets defensive, but agrees to let Lola guide him. When they are complete, the act itself is not explicitly shown, Lola expresses her pleasure. Jay, satisfied, observes "Yeah, I guess I really am the Ultimate Fuck Machine, huh?" ("Four Stories About Hand Stuff" 2020) To which Lola replies, "No Jay…you're the Ultimate Listening Machine." ("Four Stories About Hand Stuff" 2020) While Jay initially getting defensive is problematic, this episode shows that not only is consent important, but that respect and consideration for one's partner is what really makes sex meaningful.

Consent and how it is taught has become politicized. There are some who believe that consent is a topic which one is never too young to learn about. Writers such as Eleanor Morrison (2018), Rachel Brian (2020), and Abby Schiller & Samantha Counter (2014), have published children's books on consent. Janet Halley (2016) and Laura Kipnis (2017) have written how an overemphasis in teaching consent on college campuses has led to unfair sexual assault allegations. Pop culture-based articles and blogs

reviewing *Big Mouth*'s discussion on consent have been positive. As James Wilson-Taylor of Popbuzz notes, "With a huge number of viewers of an impressionable age glued to the streaming service, an exploration of the topic in a non-patronising, entertaining, honest and attention-grabbing way is precisely what is needed." (2017) Consent, though an important topic, can be uncomfortable to discuss, especially when one does not know how the message will be perceived. Teaching the topic through an animated sitcom might be a helpful and entertaining way to learn.

Conclusion

Through incorporating the philosophy of Michel Foucault and literature on sexual education, *Big Mouth* is given an additional layer in understanding humankind and its sexual behaviors. Foucault's analyses of how the patriarchy uses sex to stay in power makes Jessi enjoying her genitalia, Barbara embracing menopause, and Nathalie taking pride in her identity all the more liberating. Studying how sexual orientation is ignored in sexual education emphasizes the importance of Matthew's role in the series. Having a thorough understanding of consent helps the viewers identify how it is used, and also how it is not used, in the show. In analyzing *Big Mouth*, it is clear that the program, as obscene and grotesque as it is, provides a helpful and informative explanation of knowing how to navigate puberty and discover one's sexuality.

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The Effects of Virtual Learning Models During COVID-19 on University Students' Concentration

Ya Zhang

ABSTRACT

With the spread of COVID-19, most universities in the United States switched to remote classes. University students' learning concentration could be influenced by this sudden switch, and they might have their own approaches to address the issue of low concentration. This study focuses on how shifting to remote learning influenced university students and their learning concentration. Also, students' strategies to improve their learning concentration and impacts of weak concentration were discussed in this paper. Five interviews were conducted in depth as a pilot study to assess the initial interview design. The findings indicated that students' learning concentration were influenced by impersonal relationships between professors and students, communication issues, less classroom atmosphere, and over-flexibility in the remote learning model, together with restricted movements and negative emotions due to COVID-19. Additionally, students utilized different approaches in terms of practice and psychology to adapt to the new learning environment to improve their concentration. Finally, students with weak concentration could fall into a vicious cycle since their negative emotions caused by low efficiency may further harm their learning concentration.

Keywords: *remote learning, COVID-19, concentration,*

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INTRODUCTION

Most universities in the U.S. made the decision to shift to a virtual learning model, which forced students to change their learning habits. Rather than having face-to-face classes on campus, most American universities utilized Zoom to organize online classes so as to reduce the risks of spreading the disease. However, this approach can influence students in several aspects: motivation of study, emotions, social life, etc, which are potential elements that influence the learning concentration of students. Specifically, students can be distracted by their family members, roommates and even their technology devices around them when they study at home because of the indirect engagement and less access to professors. Researchers have confirmed that learning concentration can be influenced by the students' learning interests and relationships between students and teachers (Erwiza, Kartiko and Gimin 2019, 206). Another study showed that remote or physical learning environments can affect students' relationships with their peers and teachers. It has been demonstrated that switching to remote learning impacted students' academic performances in higher education (Gonzalez et al. 2020). However, there are few discussions about the learning concentration during the remote learning period under the pandemic.

Under this situation, students' achievements are negatively influenced due to their weak concentration. Therefore, it is important to understand what elements should be considered to improve the learning concentration of university students and, as result, their learning achievement and efficiency. Thus this study aims to investigate how switching to virtual learning experiences under COVID-19 influences the learning concentration of university students. In this paper, the literature review about main concepts of concentration and virtual learning, as well as new research about COVID-19, will be presented in the following section. Next, this paper will detail the interview process with nine Georgetown students, following their remote learning experiences, which is the qualitative method utilized in the study. Also, the process of data analysis and findings will be presented. Finally, both theoretical and practical implications from the study will be demonstrated.

LITERATURE REVIEW

LEARNING EFFICIENCY AND CONCENTRATION

Learning efficiency is an important factor used to measure the quality of learning. In the study, Efficiency in Learning, Clark, Nguyen and Sweller (2006) indicated that high efficiency of learning means students can acquire and understand new knowledge faster and better. They found that unprepared instruction may lead to a high cost since individuals are only learning or seemingly learning but actually suffer from low learning production and academic achievement (e.g. low test scores). They believed that instructional

guidelines should aid students in the human learning process in order to improve learners' efficiency. In 2019, Erwiza, Kartiko and Gimin discovered that despite a well-conducted virtual learning education, student learning achievement on a national exam was low. However, some other researchers concluded that online discussion provided new opportunities for students to have better grades (Campbell et al. 2008).

Now, it is essential to consider what exactly concentration is in the learning process. Having concentration means individuals are able to maintain their focus on their tasks for a certain amount of time. Researchers also found out that high-anxiety can reduce the capacity in which students control their focus (Fernández-Castillo and Caurcel 2014, 265-271). However, whether and how virtual learning impacts students' emotions and further influences their concentration in their studies should also be taken into consideration when evaluating the effects of virtual learning.

Virtual Learning

Virtual learning, which is also called e-learning, is a new way of education and aims to reduce face-to-face time in classrooms (Bri et al. 2009, 33-41). Dillenbourg, Schneider and Synteta (2002, 4-16) identified a virtual learning environment as a "social space" and "designed information space," where students participate as actors to co-construct the remote learning platform. This is a new strategy in the education sector that allows students and teachers to interact and communicate synchronously via technology (Bri et al. 2009, 33-41). However, Clark, Nguyen and Sweller (2006) concluded that there are direct and indirect impacts for students who engage in virtual learning. They supposed that virtual learning negatively impacted students' concentration in the learning process since the learning environment could influence relationships between students and teachers. As can be seen that remote learning will limit the time of face-to-face communications, the relationship between teachers and students can be different from when they have physical classes in classrooms.

Impacts from the Pandemic

The pandemic would impact individuals' both physical and mental health. In 2020, the public report shows that COVID-19 was "the leading cause of death" in the United States. The researchers also demonstrated that the real number of deaths caused by COVID-19 might be 50% higher than the number in the report (Woolf et al. 2020). Heras-Pedrosa, Sánchez-Núñez and Peláez (2020) found that COVID-19 negatively influenced individuals' mental health, because topics including unhealth, death, sadness, depression and anxiety became more pervasive during the pandemic period (Restubog, Ocampo and Wang 2020). It implies compared with pre-COVID-19, people have to spend more time to stay safe and keep healthy during the pandemic.

RESEARCH QUESTIONS

The study focused on "How virtual learning decisions under the COVID-19 influence students' learning concentration?" A few related questions were also discussed and explored: whether university students can focus on their studies in the virtual learning environment, what elements in the remote learning process influence their concentration, how they address the issue of concentration, and how low concentration impacts university students.

METHOD

In this study, the convenience sampling method was conducted to select participants in a large east coast university within the United States that experienced complete lockdown during the pandemic. Specifically, the students took classes only online with no hybrid or in-person option. Nine graduate students were selected from a personal network, of which two students are Native American and seven students are Asian. This selection provided a rich conversation since the students felt comfortable sharing their experiences with their interviewer. The interviews averaged approximately 25 minutes in length to discuss their remote learning experiences. All participants were asked 20 questions, such as: "Could you tell me the last time you could not focus on your studies?", "What are your motivations to focus on studying when you work at home?", "How is your relationship with others?"

Initially, the first five interviews were conducted in advance as a pilot study to assess the interview design including questions, data, and the process of analysis. After that, some interview questions were revised to enable the next four participants to talk about more relevant experiences. Basically, semi-structured interviews were conducted in the whole process in order to easily compare the data (Tracy 2020, 157-159). All the interviews were recorded on Zoom with participants' agreements. All audio files were transcribed by utilizing Trint to prepare for analysis.

THE PROCESS OF ANALYSIS

To analyze the interview data, the data was coded line by line based on Tracy's analysis logics (2020, 213-224). As mentioned, the first five interviews were conducted as a pilot study, and descriptive codes were identified to recognize the essence of each interviewees' answers. The codes were then assigned to categorizations, after which they were grouped to identify themes: physical influences, emotional influences, influences on learning concentration, and influences from low learning efficiency. After four more interview data was transcribed, the new data was coded to match the identified pattern. However, some of the new codes were not exactly related to the original patterns. Therefore, categorizations were reconsidered and redefined, after which the new categorizations were grouped into eight themes: limitations of environments, communication issues,

negative emotions, reduction of social life, practice, mental adjustment, motivations, and influences from low learning efficiency (Table 1).

 The total eight themes were organized as different groups based on their common features. Group one includes four themes discussing how remote learning under COVID-19 influenced students: limitations of environments, communication issues, negative emotions, and reduction of social life. For example, an interviewee mentioned that she had to practice social distancing and kept staying in her small room with her laptop to take classes and communicate with her professors. Group two focuses on how students address the issue that they cannot concentrate on their studies and contains three themes: practice,

mental adjustment, and motivations. For example, an interviewee said, "I need to comfort myself and be more patient." The last group, consisting of one theme, describes students' emotions when they study in low efficiency. A student described that he felt trapped and overwhelmed when he could not focus. Next, the three groups will be discussed to identify potential answers for the research questions.

TABLE 1: DEFINITION AND SAMPLE EXAMPLE OF EACH THEME

THEME	DEFINITION	CODES	EXAMPLE	FREQUENCIES
LIMITATIONS OF ENVIRONMENTS	University students' new learning environments have limitations on their study.	Stay with technology devices, Limited space Long distance from prof, and peers, stay up for work	Interview 2: "I have to always stay in my room and use my laptop to take classes and talk with my partners for teamwork."	8
COMMUNICATION ISSUES	University students' communication with professors and peers became not that effective.	Hard to communicate and collaborate, Bad social life, Less communication, Not sure professors' expectation, Less push from professors, More self-study	Interview 3: "I don't really know my professor's expectation. Before I could talk with my classmates about homework after class, but now I cannot. "	9
NEGATIVE EMOTIONS	Students have negative emotions due to the virtual learning model under COVID-19.	Limited joy Depressed Cannot focus on study	Interview 3: "I cannot focus on my study almost every day." Interview 4: "My joy is limited in this situation."	5
REDUCTION OF SOCIAL LIFE	Students have to keep social distance and stay at home most of the time.	No new friends Losing college life Repetitive life	Interview 9: "I didn't make any new friends. Every day is the same, just repeat yesterday."	7

PRACTICE	Students are trying to address their issues to adapt to new learning environments.	Live near campus Take lots of breaks Build new habits	Interview 8: "I barely did exercise, but now I am like doing exercise regularly."	4
MENTAL ADJUST-MENT	Students take some actions to keep mental health.	Comfort myself Be more patient Enrichment	Interview 6: "Sometimes I comfort my-self that it will finish one day. I don't want to overthink, it wastes my time"	7
MOTIVATIONS	Students' moti-vation to focus on their studies.	Deadlines Exams Graduate on time	Interview 9: "I need to grad-uate on time and get a job to earn money. So I have to focus on study now."	7
INFLUENCES OF LOW LEARNING EFFICIEN-CY	Students are in-fluenced when they cannot focus on their work and thus have low learn-ing efficiency.	Depressed Overwhelmed Trapped Frustrated	Interview 6: "So trapped, when I cannot focus, I felt the school work is too overwhelm-ing at that point."	4

FINDINGS

Based on the initial findings in the pilot study and experiences that additional participants shared, all of them indicated that their learning concentration has been influenced by shifting to online classes. The eight themes potentially address the three primary research questions about influences of shifting to remote learning under COVID-19 on learning concentration: 1) What are the influential factors resulting from remote learning environments and COVID-19 to students' concentration? 2) How did students attempt to address the issue of low learning concentration? 3) How did weak concentration and low learning efficiency in turn impact university students? The three questions will be discussed one by one in the following section.

INFLUENTIAL FACTORS RESULTING FROM THE SHIFT TO REMOTE LEARNING AND COVID-19

There are some limitations of long-distance learning environments. First, two major factors limiting concentration pertain to student-professor interactions. Remote learning separated professors and students, causing some relational issues. Doris, one of the interviewees, said "Honestly, I think a lot about how every time we finish Zoom. Everyone waves goodbye. And that's like the only real human acknowledgment."

It implies that remote learning with a lack of face-to-face interaction distanced the relationship between professors and students. Moreover, compared with physical classes, professors had less access to their students in Zoom classes and thus more miscommunication would happen. Due to the difficulty in reaching remote professors, students had to spend time on self-study to understand academic knowledge and professors' expectations about their learning achievements that they could easily acquire from in-person classes. Therefore, confusion and increasing time spent on study frittered away their patience and concentration on their work.

Second, distance learning reduced the opportunities to meet and interact with peers in physical class and outside of it, which were important elements of classroom atmosphere. As a result, the lack of classroom atmosphere had a detrimental effect on their learning concentration and motivation. Interestingly, benefits of remote learning such as flexibility and convenience could also negatively influence the learning concentration of students, especially in class time. Patrick, a second-year graduate student, stated, "Zoom class is really relaxing. Be honest, yesterday I slept over class time, because the professor could not see what I was actually doing." That happened because professors could not hold students accountable all the time during remote learning. Additionally, without peer support, which could be experienced in a physical learning environment, students might not be able to always concentrate on study.

COVID-19 also harmed students' learning concentration. Since students' movements were restricted during the pandemic, they got limited joy and felt depressed. A participant, who went back to her home country and took online classes, said, "I don't have any new friends. I am stuck in my home every day." Their commentary implies that negative emotions from repetitive lives were able to take away students' energy and motivation for study and thus weakened their learning concentration.

How Students Address the Issue of Low Learning Concentration

To adapt to remote learning and improve learning concentration, some students proactively took a number of measures in terms of both psychology and practice. Although students got a sense of losing out on college life, they attempted to adjust their emotions and comfort themselves in order to immerse themselves into study. Some students developed new habits such as exercising regularly in order to improve their physical health and adapt to sitting down and watching screens instead of interacting with their classmates in a classroom. Although some students went back to their permanent address and lived with their family members, many students still chose to live near campus since they attempted to keep the same life as before. However, not all students took additional actions on the issue of low learning concentration. A graduate student, who is majoring in computer science, mentioned, "I think I am just motivated by deadlines and exams. They could push me to focus on my work when I was tired of study. Nothing else." Therefore, although some students did not intentionally improve their learning concentration, students' responsibilities (finishing homework and passing exams) were essential elements that could motivate students to manage their learning concentration.

Negative Impacts resulting from Weak Concentration and Low Learning Efficiency

Most participants elaborated that they felt trapped, depressed, and overwhelmed because of low learning efficiency caused by their weak learning concentration. As mentioned, negative emotions might harm students' energy and motivations for study, thus being a distraction in their studies and weakening their concentration. After the low concentration, students feel even more depression, which exacerbates the cycle.

Limitations

In this paper, interviews were conducted with university students to understand their virtual learning experiences during COVID-19. However, it might be interesting to create a survey or another

quantitative approach to these findings to further analyze how a larger sample of students might think about their attention over last year. Due to the remote working environment, one potential limitation of this study is that the interview samples in this study focused on a personal network in Georgetown University and the number of them was limited. Future studies should expand their sample size to more deeply investigate the influence of remote learning during the pandemic for university students of more diverse backgrounds.

Conclusion

 The study focused on how remote learning under COVID-19 influenced university students, especially their learning concentration. Influential factors, students' solutions and impacts of weak concentration were analyzed in the paper. Remote learning itself caused relational and communication issues and less classroom atmosphere, which weakened learning concentration of university students. COVID-19 limited students' movements and thus caused negative emotions, which harmed their concentration. The seeming benefits of remote learning models, such as flexibility and convenience, could also be negative factors that weaken students' concentration due to the lack of access from professors. To address these issues, plenty of students proactively took actions in terms of psychology and practice. In addition, the study indicated that low study efficiency caused by weak learning concentration could trigger negative emotions, which in turn will further harm learning concentration and efficiency.

The study implied that university students had awareness to improve their learning concentration. Although it was their first time to experience remote education under the pandemic, many of them had different strategies to adapt to it. Further research could focus on which approach is the most effective to help more students focus on study better in the remote learning environment. In addition, the study could help faculties and administrators in universities to have deep understandings about students' remote learning experiences and thus improve remote learning models in the future.

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About GNOVIS

GNOVIS is a scholarly journal and academic blog run by graduate students in the Communication, Culture, and Technology Program (CCT) at Georgetown University. As an organization, we are a platform for interdisciplinary discussion within the CCT Program and broader Georegtown community.

JOURNAL

The GNOVIS journal is a peer-reviewed scholarly publication that employs a double-blind review process. Peer Reviewers are selected from CCT students who have demonstrated exceptional academic achievement and forward-thinking scholarly work in their studies, are able to recognize and evaluate exceptional scholarship produced by their peers, and show a commitment to furthering the values of interdisciplinary scholarship.

Beginning with the 2007–2008 academic year, the Journal has been published bi-annually, during the fall and spring semesters. Prior issues of gnovis were published on a rolling basis. Starting in Fall 2019, it was decided that the Journal would be an annual publication.

The front cover of this edition of gnovis Journal was designed by CCT's Cedric Shi.

BLOG

Updated regularly throughout the academic year, the GNOVIS Blog includes both ongoing commentary from our staff, as well as contributed posts from students and academics at all levels. Topics vary, but are drawn together by their relevance to the GNOVIS mission.

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Interdisciplinary thought and research does not occur in a vacuum, nor is it strictly articulated through academic papers. Through our online channel, we have the opportunity to explore the dialogue between disciplines in new and creative ways. GNOVIS seeks to move scholarship off the page, to explore CCT-related themes as they occur in other academic and professional settings, molding cutting-edge scholarship with multimedia journalism. This year GNOVIS launched About Us, a podcast tackling pressing issues of society and technology.

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