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Pseudonymous Academics: Authentic Tales from the Twitter Trenches

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Abstract

Academics' use of social media platforms is widely recognized and often understood as an extension of traditional academic practice. However, this understanding does not account for academics' use of pseudonymous Twitter accounts. We used a combination of computational and human-driven methods to examine the activity of 59 anonymized, self-identified academics on Twitter. Our computational analysis identified five broad topics: discussing academic life, discussing British news and affairs, discussing everyday life, surviving lockdown, and engaging with academic Twitter. Within these broad topics, we identified 24 more specific codes, most of which were concentrated in individual topics, with some cross-cutting codes. These codes demonstrate how the pseudonymous accounts considered in this study can be considered "authentically academic" even if they do not conform with widespread expectations of academic social media use.

Keywords

academia, authenticity, social media, Twitter

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1. Introduction

Since the emergence of modern social media platforms in the mid- to late-2000s, they have become a subject of interest for scholars studying the intersection of the internet and higher education. In the introduction to a 2012 special issue for this journal, Hrastinski and Dennen noted that these platforms "influence on higher education settings [had] already been felt in a number of ways" (p. 1). Subsequent publications in this same venue have further demonstrated the overlap between social media platforms and higher education. While some research has examined the efficacy of these platforms as learning and teaching technologies (e.g., Manca, 2020), many scholars have instead considered other professional uses of social media in higher education settings, such as academic staff's formation of professional communities (Eaton & Pasquini, 2020) and faculty and staff's participation in professional learning networks (Trust et al., 2017). Indeed, Manca and Ranieri (2016) found that Italian academic faculty and staff used social media platforms less often to teach than to support other professional responsibilities; however, this same study found that personal use of social media platforms was more widespread than other investigated uses. In this context, it is perhaps unsurprising that Veletsianos and Kimmons (2013) would describe faculty use of social media as "characterized by a personal-professional tension" (p. 46).

Despite these established findings, contemporary research on academics' use of social media platforms often frames this use as primarily an extension of traditional academic practice. For example, Bennett and Folley (2014) describe social media as "a new medium for PhD students to enact their scholarship and present themselves and their work to a wide audience" (p. 1). Likewise, many researchers are concerned with the affordances of social media for scientific

communication and impact (e.g., Álvarez-Bornstein & Montesi, 2019; Bex et al., 2019) or professional conferences (e.g., Greenhow, Li, & Mai, 2019); this focus is clear from the work researchers have done to define and conceptualize terms such as *digital scholarship* (Weller, 2011), *social scholarship* (Greenhow & Gleason, 2014; Greenhow, Gleason, Marich, & Staudt Willet, 2017; Greenhow, Gleason, & Staudt Willet, 2019), *open scholarship* (Veletsianos & Kimmons, 2012a), and *networked participatory scholarship* (Veletsianos & Kimmons, 2012b). Common to many of these understandings is that academics "leverage social media affordances... and values... to reframe the ways in which scholarship is accomplished" (Greenhow, Gleason, & Staudt Willet, 2019, p. 990; see also Greenhow and Gleason, 2014). Foregoing any of these particular terms, Barbour and Marshall (2012) frame academics' use of social media in terms of earlier work on *academostars* and the academic prestige economy; the underlying assumption of all this work is that the purpose of social media is to advance one's academic career.

In this study, we consider academics' operation of pseudonymous Twitter accounts, which clearly depart from any of these affordances or frameworks. Indeed, Jordan (2019) argues that expressing "professional identity online" is necessarily "tied to an authentic name" (p. 840), ruling out polyvalent or pseudonymous online identities. Similarly, explicitly academic platforms such as Academia.edu and ResearchGate are built around developing professional networks and sharing professional accomplishments (Jordan, 2019). From this perspective, it is unintuitive to think of a Twitter account as authentically academic if its operator cannot use their account to take credit for their publications' success or students' accomplishments. Nonetheless, scholarly and popular media have firmly established that there are those who tweet and post about academic life either anonymously or under scholarly-coded pseudonyms (e.g., Dennen, 2009; Downey et al., 2018). This phenomenon is necessarily limited to general-purpose social media

platforms like blogs and Twitter—it would make little sense to operate a ResearchGate profile pseudonymously, further illustrating the unintuitive nature of this phenomenon.

Yet, the absence of authentic names from academia-themed accounts does not entirely rule out the presence of other manifestations of authenticity. Consider Marwick and boyd's (2010) observation that Twitter users participating in their study framed authenticity on the platform "in direct opposition to strategic self-promotion" (p. 127). While anonymous and pseudonymous academics on Twitter are clearly giving up opportunities to strengthen their professional reputation, they may nonetheless be striving for a particular kind of authenticity in doing so. The tension between this understanding of authenticity and that described in the previous paragraph reveals the importance of defining this concept. In doing so, we acknowledge that "authenticity is a social construct" (Marwick & boyd, 2010, p. 119), and "never an objective quality inherent in things" (Grazian, 2003, p. 12). Nonetheless, even these authors acknowledge that authenticity is a widely-understood and widely-pursued concept, and scholars have done considerable work to try to define it. Indeed, in a review of literature from multiple disciplines, Lehman and colleagues (2019) suggest that authenticity is associated with "(1) *consistency* between an entity's internal values and its external expressions, (2) *conformity* of an entity to the norms of its social category, and (3) *connection* between an entity and a person, place, or time as claimed" (p. 1).

Our purpose in this study is to consider whether pseudonymous Twitter accounts can be considered authentically academic according to the framework provided by Lehman et al. (2019). We do so by examining the activity of 59 anonymized, self-described academic accounts on Twitter, exploring the meaning behind their tweets in order to better understand the seeming contradictions in this phenomenon. Using a combination of computational and human-driven

analysis of tweets, we have identified five broad topics represented in these tweets and 24 more specific codes that define and connect these topics. Based on these findings, we argue that anonymous academic accounts are implicitly engaged in an effort to redefine what it means to be authentically academic and what kinds of benefits academics gain from social media participation. These findings will first contribute to further understanding of the phenomenon of academic uses of social media, underlining that academics are more than their professional responsibilities and that their social media use is therefore more than a uniquely professional phenomenon. This contribution may provide additional insights for academics considering their own use of social media by inviting them to consider which aspects of their identities they wish to portray online in which ways.

2. Literature Review

Although it is well established that academics use social media (e.g., Gomez-Vasquez & Romero-Hall, 2020; Veletsianos, 2016; Weller, 2011), this phenomenon remains a "contentious" (Lupton et al., 2018, p. 8) and "incongruous combination" (Stewart, 2018, p. 63). Yet, Lupton et al. (2018) argue that academics who use social media are not "frivolously wasting their time" (p. 1) but are rather using social media for legitimate purposes. As previously acknowledged, scholarly efforts to legitimize academics' use of social media often focuses on the professional benefits of this use. For example, academics "woo, hook up and spin stories" to make connections (Lemon et al., 2015, p. 15); they also "think aloud," hold "informal conversations," "listen in on conversations," "observe people's behavior" (Lupton et al., 2018, pp. 8-9), and engage in "conference chatter" (Sugimoto et al., 2017, p. 2043).

However, this phenomenon is more complex than the application of new digital tools to traditional academic practice. For example, Kieslinger (2015) describes academics' social media

use as being influenced by both peer pressure and structural changes to academia (see also Barbour & Marshall, 2012). Similarly, Guillaume and colleagues (2019) have expressed concern that social media use may create additional pressures for faculty, including institutional expectations and pressure to achieve certain metrics. One of the authors of this collaborative autoethnography rejected the need to self-promote on social media, criticizing an "over-emphasis on research and research-related activities instead of other valuable aspects [of] faculty work" (p. 130).

Further complicating the issue is that although there are social media platforms dedicated to academic work, academia-related activity also happens widely on general purpose platforms. This may be due in part to the limitations of academic platforms. Jordan's (2019) participants described "academic SNSs… as 'static' and not sites that foreground social interaction" (p. 838). Likewise, a *Nature* survey (Van Noorden, 2014) found that if more academics maintained a (cursory) presence on ResearchGate or Academia.edu, Twitter was "much more interactive" (p. 127). Furthermore, there is a *network effect* that characterizes social media platforms; in short, the presence of more people (regardless or profession) makes the platform potentially more useful to its users. Veletsianos and Kimmons (2013) described the value that academics expressed in "checking up on people they care about, whether it be friends, students, family members, or colleagues" (p. 47). Similarly, Jordan's (2019) participants described the mixing of personal and professional as similar to "a conference coffee break" or other "social break times"—that is, there is a precedent for the inclusion of personal identities in professional contexts. Yet, the blending of these worlds also results in *context collapse* (Marwick & boyd, 2010) that can create important tensions for academics (Jordan, 2019; Veletsianos & Kimmons, 2013).

In the sections that follow, we discuss academics' blending of identities on social media platforms, the potential issues arising from that blending, and the possibility of anonymity as a response to those issues. Any consideration of the authenticity of pseudonymous Twitter accounts—such as the one we will carry out later in this paper—must be informed by these issues of identity.

2.1 Academics' Multiple Identities

Academics must acknowledge and balance various identities as they employ social media platforms. Marwick and boyd (2010) have argued that humans' inherent "need for variable self-presentation is complicated by increasingly mainstream social media technologies that collapse multiple contexts and bring together commonly distinct audiences" (p. 115). Academics may navigate this *context collapse* by presenting only a *formal self* (Barbour & Marshall, 2012) "carefully crafted for the search committee" (Crymble, 2021, para. 8), operating different social media accounts for different audiences (Bennett & Foley, 2014), or setting various accounts to either public and private access (Barbour & Marshall, 2012). However, others follow the example of Bennett and Foley (2014; see also Jordan, 2019), who intentionally wanted "people to be aware of [their] various identities and to connect on a personal level alongside the professional and academic" (p. 3).

In juggling these identities, academics must become performers (Lupton et al., 2018). Although different *academic selves* may approach online identity in different ways (Barbour & Marshall, 2012), there is typically a "messiness" of having multiple identities, portraying them on social media, and taking associated risks (Budge et al., 2016, p. 210). These risks include "challenging mainstream and academic norms" (p. 218) in a context where institutions may scrutinize this behavior or sharing one's professional shelf in a public context where others might

respond negatively or aggressively (Budge et al., 2016). It is therefore important for academics to strategically craft (Marshall et al., 2018; Mewborn & Thomson, 2018) and even "confront" their online persona (Hurt & Yin, 2006, p. 1246). Writing in the context of secondary educators, Kimmons and Veletsianos (2014) suggest that some social media users develop online identities built around a "constellation of interconnected… acceptable identity fragments" (p. 295). In the words of one of their participants, such an identity "accurately reflects her life, 'but not all of me'" (p. 295)—just those parts she expects her intended audience will deem to be acceptable. Judgments of the authenticity of a pseudonymous account must therefore take into consideration which identities (or fragments thereof) are being expressed through that account's activity.

2.2 Challenges Posed by Multiple Identities

If academics work hard to manage the expression of different parts of their identity online, it is because they are aware of the dangers of failing to achieve that balance. Hildebrant and Couros (2016) emphasize that social media use is increasingly expected of academics and that the nature of these expectations make a public, real-name identity important. However, these factors have "disastrous consequences for those whose digital identities are deemed socially unacceptable" (p. 87). Cain et al. (2019) emphasize the importance of being prepared for "social media attacks on faculty from the public" (p. 626). Although some academic institutions may be supportive of faculty who misstep on social media, there remains pressure for junior academics to develop a scholarly reputation without "rocking the boat" (Veletsianos, 2016, p. 55). If Twitter and other social media platforms are increasingly recognized as resources for this first goal, there is no denying that they can also contribute to the ruin of fledgling—or even established—careers (Bateman, 2017). Veletsianos and colleagues (2019) report that academics have scaled back their use of social media due to concerns about online privacy and self-protection—but that this can

be difficult for those who want to keep up the other parts of one's identity present in those spaces.

It is important to note that certain academic populations may be more exposed to these kinds of threats than others. As Greenhow and colleagues (2019) have written, "inequities persist that challenge" the typical optimism associated with academics' use of social media, and keeping an active online presence may "advantage certain scholars over others." (p. 993); in particular, they note that because women generally face more harassment online than men, women academics may have fewer incentives to participate in social scholarship than their male counterparts. Indeed, Cassidy and colleagues (2014) found that female faculty members participating in their study were more likely to have experienced cyberbullying than their male colleagues; in a less-direct example, Veletsianos, Kimmons et al. (2018) found that educational videos posted to YouTube received both more positive and more negative comments when presented by a woman than a man. Based on findings such as these, Veletsianos, Houlden, and colleagues (2018) have outlined the importance of considering the online harassment of women scholars. In short, authenticity carries with it particular risks, and those risks are greater if an account is "tied to an authentic name" (Jordan, 2019, p. 840)

2.3 Anonymity as Response to Challenges

Recognizing the challenges described above, academics have established pseudonymous online personas since before the establishment of modern social media platforms. For example, Walker (2006) noted the existence of pseudonymous blogs "characterized by a tongue in cheek refusal to revere to the ivory tower experience" (p. 130). Similarly, Gregg (2009) describes a blog as "a safe space to share… disappointment" with academia (p. 471), though she also notes that pseudonymity is not a practical option for all academics. These uses of blogs (and similar,

subsequent uses of social media) correspond with what Oltmann and colleagues (2020) have described as purported government officials' use of Twitter in "quasi-anonymity" to voice "pseudonymous dissent" against the Trump administration (p. 6). In short, pseudonymous use of social media allows one to voice public complaints about one's employer with diminished fear of reprisal.

Anonymity may also help social media users share content that they would not wish associated with their professional identity. Walker (2006) suggests that pseudonymity allows academics to share "the bits that are too bodily (sex! mess! clothes! hunger!) or emotional (performance, anxiety, depression, love, doubt) to fit into a traditional academic image" (p. 8). A perhaps-unlikely analog can be found in van der Nagel and Frith's (2015) study of an adult-oriented subreddit in which "women are most often revealing their own bodies, but not the identity markers of their name or face" ("Beyond the 'anonymity continuum'" section). If anonymous academics bare less than the users of r/gonewild, they might nonetheless agree that "not using real names online allows people to control what they reveal about themselves and who they reveal it to" ("Conclusion…" section). In either example, online users wish to share something about themselves but without the complications that could come from providing one's own name—a pseudonymous account may offer the exchange of some kinds of authenticity for others.

3. Purpose and Research Question

Academics have multiple professional and personal identities and roles such as instructor, researcher, administrator, parent, romantic partner, and citizen. Furthermore, "authenticity is a defining part of Twitter to an extent" (Jordan, 2019), creating expectations that academics will share more than just their professional identity. However, faced with multiple identities and

possible tensions between them, they must inevitably decide which elements from which identities to share through their online presence. Anonymity is one strategy academics can use to share aspects related to more vulnerable identities without concerns that their professional pursuits might be affected. Yet, given increased expectations that academics will use social media and ongoing conversations about measuring academic productivity via social media, it remains unintuitive to think of an *anonymous* academic account as an *authentically* academic one.

Our purpose in this paper is to better understand this tension through a large-scale consideration of content published by anonymous academic Twitter accounts. Although previous work has clearly established the presence of anonymous academic personas in online places, we are unaware of any research that has broadly considered the content produced by these personas on contemporary social media platforms. Thus, considering what these accounts tweet about will lend further insight into their users' intentions and purposes for the accounts. Our guiding research question for this study is "what do anonymous academics post on Twitter?" Answering this question will allow us to evaluate the academic authenticity of this phenomenon by comparing these posts to Lehman and colleagues' (2019) summary of authenticity as consistency, conformity, and connection.

4. Method

This study will look at "what" is being said by incognito academic Twitter accounts in order to evaluate the authenticity of these accounts. It follows the example of Nelson (2020) in combining computational and human-driven methods for the purposes of text analysis.

4.1 Research Ethics

Although it is considered public data by our respective ethical review boards, we emphasize that researchers do not have *carte blanche* when working with social media data. Thus, throughout this process, we have been attentive to the ambiguity of "public" communication online (Fiesler & Proferes, 2018; Markham & Buchanan, 2012) and the uncomfortable overlap between social media research and surveillance (Suomela et al., 2019). We recognize that it is difficult for researchers to entirely avoid the issues of digital labor associated with this kind of research (e.g., D'Ignazio & Klein, 2020; Selwyn, 2019), but we have pursued an approach that we feel balances documenting a phenomenon of interest and respect for the producers of the data we have studied. For example, although the operators of the Twitter accounts we studied already enjoy a certain level of anonymity, we have taken considerable steps in this manuscript to further ensure their privacy by omitting names, pseudonyms, distinctive language, and any other possibly identifying information.

4.2 Data Collection

We used snowball and convenience sampling to identify pseudonymous academic Twitter accounts for this study. Snowball sampling is often used to reach hidden, hard to reach, vulnerable and underserved populations, for research that covers sensitive issues (Atkinson & Flint, 2001; Biernacki & Waldorf, 1981; Noy, 2008), when no sampling frame exists (Baltar & Burnet, 2012; Goodman, 2011), or when the aim of the study is explorative, qualitative and descriptive (Hendricks & Blanken, 1992). The process often starts with a convenience sample from the hard-to-reach population (Goodman, 2011, Heckathorn, 2011). We began by identifying one pseudonymous account and then examining Twitter accounts that followed or were followed by this account. From these accounts, we identified other pseudonymous accounts that referenced being a "professor" or "academic" in their username or profile details (a strategy

that deliberately included future or former faculty members); had tweeted in the month prior to account selection; and had a minimum of 100 tweets, 50 followers, and 50 accounts followed. We continued this process by examining the accounts following or followed by each of our new accounts until we had identified 67 accounts.

We pursued this snowball sampling for two reasons. First, researching social media is a "nearly impossible task" (Friz & Gehl, 2016, p.689) because of its transience, so when doing research in the ever shifting "Internet time," and by default, "social media time," researchers are forced to adopt "simple, reasonable but effective work arounds" while being clear in their research designs (Karpf, 2012, p.654). Second, Gruzd and colleagues (2011) describe follower-following relationships as an indication of community on the Twitter platform; this sampling method can therefore be understood as a productive way to focus on a pseudonymous academic community on Twitter. However, as we indicated earlier in the paper, academic Twitter as a whole is a much broader phenomenon than these pseudonymous academics, and this sample was not intended (and should not be understood) as representative of the broader phenomenon.

Using a Twitter developer account and Python, we collected the tweets composed by these accounts between January 1, 2019 and May 1, 2020. We then reprocessed the tweets using the *rtweet* package for R (Kearney, 2019). Finally, to keep the focus of computational text analysis on tweet content, we used regular expressions to remove URLs and Twitter usernames from all of the tweets. Each of these steps resulted in the removal of tweets and associated accounts from the dataset; our dataset for analysis was therefore composed of 77,514 tweets from 59 accounts.

The pseudonymity of these accounts makes it difficult to determine the degree to which these 59 accounts are (not) representative of academia or academic Twitter. Nonetheless, we

present the following information about these 67 accounts as suggested by their usernames and profile information: 17 presented as female, and eight as male; 15 described themselves as tenured, four as early career (with two of those four concurrently pursuing PhDs), two as contingent faculty, two as professors of practice, one as a postdoc, and one as a former academic; three came from the social sciences, two from STEM fields, and one from the humanities; two described working at public universities, two at regional universities, and two at a community college; 15 situated themselves in the United States, three in the United Kingdom, and one in Canada. We note that even this information is incomplete (in that we are missing information on more than half of accounts in all of these categories) and possibly incorrect (as they are sometimes based on educated guesses that we cannot independently confirm).

4.3 Data Analysis

Our overall analysis strategy was guided by Nelson's (2020) proposals for supporting the typically human-driven methods of grounded theory and content analysis with computational methods. We followed the first two steps of Nelson's *computational grounded theory* by first using topic modeling to reduce "complicated, messy text into simpler, more interpretable lists or networks of words" (p. 11) and subsequently confirming and expanding the computational analysis through human-driven coding. However, we stopped short of Nelson's third step of using human coding for an additional round of computational analysis; the purpose of this final round is to develop a valid and reliable computational tool for studying larger corpora of text (2020). While valuable in other contexts, this final step did not correspond with our goals for this project, which were to describe this particular sample rather than develop a reliable, universal coding scheme. We therefore used the results of topic modeling as a kind of purposive sampling, making the most of Nelson's blending of computational and human methods but ultimately

preferring to make the human-driven interpretative analysis the authoritative account of these data.

4.3.1 Step One: Topic Modeling

Topic modeling is an unsupervised machine learning technique employed for text analysis (Humphreys & Wang, 2018; Yun et al., 2019) that "enables researchers to explore open-ended questions for which they do not know the range of possible answers a priori" (Berger et al., 2020, p. 7). Because the small size of tweets (which are limited to 280 characters) poses practical difficulties for topic modeling, we treated each account's aggregated tweets as a single document for the purposes of generating the topics (see Hong & Davison, 2010); however, the topics were then applied to individual tweets. Thus, the topics we have identified should be understood as a combination of similar posts and similar accounts (both of which are useful for our purposes); indeed, as we will demonstrate, some topics were made up largely of tweets composed by accounts with distinctive tweeting styles. To carry out this topic modeling, we used the *quanteda* (Benoit et al., 2018) and *topicmodels* (Grün & Hornik, 2011) packages for R.

4.3.2 Step Two: Human Coding

We used the results of topic modeling as the starting point for a human-driven analysis rather than as the final results of our study. In this way, we used topic modeling as a kind of purposive sampling, an identification of cases that can directly inform the research problem (see Creswell & Poth, 2018). That is, given the large amount of data available for answering this problem, the five computationally derived categories served to "explicate ideas, events or processes" in the data (Charmaz, 2008 p. 98) that could be further explored with a human-driven analysis.

This human-driven analysis was guided by the principles of the methodology associated with grounded theory, in which theories are derived from the data (Glaser & Strauss, 1967). In this context, theories are understood as "interpretations made from given perspectives as adopted or researched by researchers" (Strauss & Corbin, 1998, p. 279). That is, our coding was focused on identifying patterns of tweeting that might help explain the use of pseudonymous accounts. Nonetheless, grounded theory approaches foster fresh understandings by producing "thick and rich description, concept analysis and pulling out themes" (Corbin & Strauss, 2008, p. 11).

We—the two authors—began this approach by individually and iteratively coding the 100 most representative tweets from each topic with an undetermined number of open codes to allow the codes to emerge from the data (Strauss & Corbin, 1998). Data analysis started with open coding in which every tweet was manually given multiple codes in order to keep close to the data and develop the building blocks to develop explanations embedded in and common to the empirical data (Corbin & Strauss 2008; Charmaz 2008). However, this first round of coding produced an unmanageable number of codes; we therefore used this experience to inform a second round. This second round was an iterative process, in which we both regularly revisited and adjusted codes as part of evaluating their capability to offer an explanation of the phenomenon (Glaser & Strauss 1967). Like in the first round, individual tweets were sometimes allocated multiple codes. During this second round, we collaboratively coded the top 50 tweets for each topic, with one author suggesting one or more codes for a tweet and the other author agreeing, disagreeing, or suggesting additional codes; this continued iteratively until we had discussed and resolved all disagreements for a given tweet. This process allowed us to meet our twin goals for the second round: reaching theoretical saturation and reducing our number of codes to a manageable number.

As suggested earlier, our goal in data analysis was to provide an accounting of this particular sample of data (as an example of a broader phenomenon) rather than develop a generalizable, reliable coding scheme. This analysis was therefore conducted from an interpretivist perspective which emphasizes the interactive role of the researcher. In grounded theory the researcher is fully immersed in the data. Theory emerges from the constant interplay or "flip-flop" between the data and the researcher's knowledge. The researcher and the researched are interdependent (Pidgeon & Henwood, 1997), and theories are "interpretations made from given perspectives as adopted or researched by researchers" (Strauss & Corbin, 1994, p. 279). Consequently, we acknowledge that there is potential bias in the coding and that these codes may not be applicable to other data.

5. Findings

We followed Nelson's (2020) suggestion that "the best way to determine the number of topics is by the usefulness of the output" (p. 18). Thus, we ran the analysis several times, specifying a different number of topics each time. We then reviewed the terms most associated with each topic (as determined by beta scores) and the tweets most representative of each topic (as determined by gamma scores) to judge whether specifying the given number of topics resulted in distinct categories. Based on this process, we identified five distinct topics. We interpreted each topic based on the ten most associated terms and the fifteen most representative tweets, turning them into the broad topics described in Table 1.

Table 1

Broad Topics Emerging from Topic Modeling

topic number and description	associated terms	summary of most-representative tweets	number of accounts
1: discussing academic life	student, today, day, class, work, time, know, can, grade, email	references to the semester schedule, interaction with students, and the academic experience (though they sometimes also referenced everyday experiences)	9
2: discussing British news and affairs	bbc, news, fuck, time, can, peopl, need, think	references to British politics, BBC news stories, and British academic or everyday experiences	3
3: discussing everyday life	student, day, class, work, time, know, can, peopl, need, year	references to pop culture, family experiences, and politics (though they clearly also referenced professional experiences)	12
4: surviving lockdown	day, kid, fuck, time, know, peopl, good	entries in a running log of activity during a COVID-19-driven lockdown	1
5: engaging with academic Twitter	#phdlife, #phdchat, #academicchatt, #academiclif, #academia, #academictwitt, today, week, #research	references to both academic experiences and everyday experiences judged to be relatable to other academics	1

Note: We have removed emojis and identifying terms from the list of associated terms. Some terms are automatically *stemmed* and may not be complete words. *Number of accounts* is based on the number of accounts in the 50 most-representative tweets.

Our human coding resulted in 24 data-driven codes distributed among five topics. Table 2 provides a brief overview of our identified codes and demonstrates how these codes not only provide more granular insight into this phenomenon but also illustrate the ways in which codes are either concentrated in a particular topic or cross-cutting between multiple topics. The relative distinctiveness of each topic as seen through human coding lends further confidence to our topic modeling procedures. Throughout this section, we will discuss how these codes appear in these topics in detail. We will begin with a discussion of three codes that were universal in the sense that they were present in all topics and more-or-less evenly distributed across them. Then, we will describe each topic individually, focusing on the codes that characterize them.

Table 2

Narrower Codes Emerging from Human Coding

	Topic 1: discussing academic life	Topic 2: discussing British news and affairs	Topic 3: discussing everyday life	Topic 4: surviving lockdown	Topic 5: engaging with academic Twitter	Total
Life	9	5	8	8	9	39
COVID-19	6	8	5	3	5	27
Family and Pets	5	2	6	5	4	22
Surviving the Semester	10					10
Survival Technique	8					8
Student Complaints	7	1	2		2	12
Student Empathy	6					6
Desperation	5					5
Administration Complaint	5				5	10
Teaching Productivity	4		3			7
Vacation and Holidays	3		2	2	2	9
Politics and Activism	5	25	13	6	1	50
Politically Incorrect		8				8
News (Meta)		7				7
Academic Complaints	3	3	8		3	17
Looking Back			5			5
Hobbies			4	3		7
Academic Advice	1		3			4
Lockdown Log				22		22
Professional Twitter				3		3
Doing Research					11	11
Productivity					8	8
Health			4		7	11
PhD Experience					6	6

Note: Blank cells indicate that there were zero instances of a code in that topic.

5.2 Universal Codes

Three codes were universal in that they cut across all five topics. In this section, we will discuss the *Life*, *COVID-19*, and *Family and Pets* codes as they appeared in our data. Although the *Politics and Activism* code was present in all topics, it took particular forms in particular topics and will therefore be discussed in context. Other cross-cutting codes will typically be discussed in the context of the topic in which they appeared most frequently; however, like *Politics and Activism*, we will sometimes refer to them multiple times.

The *Life* code encompassed posts that included general references to daily, mundane, and trivial activities that do not make up an academic's professional responsibilities. These included running errands; drinking coffee or preparing meals; complaining about colleagues; making comments about traffic, driving, or commuting; and haircuts or cosmetic treatments. In other cases, though, tweets commented on more substantial—and personal—topics, such as a partner's injuries or struggles related to birth control.

Unsurprisingly, given the timeframe of this study, the *COVID-19* code was present across all topics. We also note that Topic 4 was dominated by a *Lockdown Log* code that has an obvious relationship to this code but remained distinct enough that we will treat it separately there. Tweets included in the *COVID-19* code sometimes simply acknowledged the presence of the virus and pandemic or commented on the added stress they brought about, their effects on daily life, or their political dimensions. Frequently, though, academics specifically commented on the ways that COVID-19 impacted their professional lives, including the sudden move to online teaching, the additional work required to provide support for students, or the challenges of working from home.

The *Family and Pets* code encompassed tweets where academics discussed loved ones (both human and animal). These tweets related minor complaints about spouses, adventures and misadventures in parenting, and trouble with relatives. Tweets focused on animals were generally positive, including announcing their arrival into a family, describing taking them for a walk, or announcing the joys of having them near while working from home. Less frequently, these tweets mentioned the loss of pets and troubles of caring for them.

5.3 Topic One: Discussing Academic Life

This topic was largely (but not entirely) focused on discussing negative aspects of academics' professional lives. The stress and demands of academia were among the most prominent of these aspects. For example, the most common code (*Surviving the Semester*) frequently discussed "making it to the end of the semester" and often explicitly referred to the actual number of weeks that had been endured so far. This was closely related to the *Survival Techniques* code that included productivity advice and mantras related to surviving the semester or achieving work-life balance. *Administration Complaints* dealt with negative and dreaded encounters with superiors such as department chairs, deans, senior faculty, a university senate, or senior administrators.

More intense than either of these codes were the five tweets coded as *Desperation*, in which academics expressed concern about heavy workloads and not being able to catch up. In one case, this tweet overlapped with the *Vacation and Holidays* code, bemoaning the lack of vacation due to overwork; however, most instances of this latter code instead referred to cultural holidays such as Christmas Eve, seasonal events such as Fall and Valentine's Day, the winter break or spring break, getting away on vacation, and updates from being on vacation.

In keeping with this academic focus, three of the codes present in this topic were focused on teaching. *Student Complaints* were often mocking in nature, criticizing students for lying about their work, not bringing a pen to write the final exam, pleading for higher grades, or asking questions that could be answered with the proverbial "read the syllabus" reply. In contrast, students were positively praised in the *Student Empathy* code, where participants sought to increase student engagement and saw teaching as a joyous and rewarding activity. Finally, academics shared their methods and advice for teaching in tweets that we coded with the *Teaching Productivity* code.

5.4 Topic Two: Discussing British News and Affairs

This topic was characterized by its geographic focus on the United Kingdom and, correspondingly, on British news and affairs. This topic was dominated by *Politics and Activism*, including discussion of Brexit, comments on stories from BBC news, and criticism of prime minister Boris Johnson and the British government's COVID-19 response. On a related note, tweets associated with the *News (Meta)* topic addressed how the news was reported, including its "objectivity" and editorship. Perhaps most interestingly, the *Politically Incorrect* topic expressed contrary and unpopular-in-the-academy opinions by criticizing progressive issues such as maternity leave, equality in sports, and feminism.

5.5 Topic Three: Discussing Everyday Life

If the first topic was largely focused on academics' professional life (with glimpses into their personal life), this topic was the opposite. Given our focus on Twitter accounts that explicitly identified themselves as academics, it is unsurprising that there was some conversation about professional matters. Indeed, *Academic Complaints*—which focused on injustices in the structures of academia—was one of the most common codes in this topic. Likewise, three tweets

also provided *Academic Advice* to students or fellow academics, and the previously discussed *Student Complaints* and *Teaching Productivity* codes also appeared in this topic.

Nonetheless, what distinguished this topic was how often tweeters discussed elements of their personal lives. Correspondingly, this topic was a smorgasbord of codes but mainly focused on everyday musings, such as the office being too cold, the difficulties of cleaning up after children, and the perils of driving. *Looking Back* tweets nostalgically remembered favorite events and pastimes such as first concerts attended, favorite video games, VHS tapes, and early career advice. Similarly, the *Hobbies* code organized tweets that commented on video games and music. Like in the previous topic, many tweeters commented on *Politics and Activism*, though this time in the context of U.S. politics. *Health Issues* commented on personal or family issues related to physical or mental health.

5.6 Topic Four: Surviving Lockdown

This topic was dominated by one account's *Lockdown Log*—an account of surviving a COVID-19 stay-at-home order. These tweets had a regular structure that indicated the amount of time spent in lockdown and an often amusing recollection of the events that occurred during one day. Such events included interactions and activities with family, work accomplished, media consumed, items ordered while shopping online, the "joys" of homeschooling, and the status of their migraines and grading. Most tweets made liberal use of emojis and were organized into a running Twitter thread. Although they reported on an experience shared by many other people (including tweeters in this study) during this timeframe, these particular tweets were remarkably candid, sometimes using strong language or making references to the account-holder's sex life.

Although there were references to academia scattered throughout this account's *Lockdown Log* and other tweets, it is noteworthy that the other codes defining this account were

largely non-professional. For example, *Politics and Activism* focused on U.S. politics, and *Hobbies* tweets included references to a favorite pastime. Tweets associated with the unique *Professional Twitter* code dwelled on the tweeter's habit of following a different professional community (i.e., one not related to academia) on Twitter and commenting on how amusing they found it and how little they understood.

5.7 Topic Five: Engaging with Academic Twitter

Although this topic encompassed several distinct codes, it was dominated by a single account, who appended several academia-related hashtags to their tweets to increase their reach and engage with a broader community. Although less common than other codes, the *PhD Experience* code helped situate this account and their comments; in these tweets, they bemoaned the hardships of completing a PhD, including working with data, dealing with supervisors, setting targets for finishing chapters, candidly commenting on loneliness and isolation, and looking forward to one day leaving academia.

Other codes demonstrated an obvious connection with that core idea. *Doing Research* often involved recounting the productive output completed that day, such as the number of words written or chapters completed; in both conjunction and contrast, the *Productivity* code commented on how much work had been done—or in the case of cleaning the house or taking a day off, how little work had been done. Finally, tweets coded as *Health* dwelled on acute health issues, pain management, and the mental stress of doing a PhD.

6. Discussion

In the sections that follow, we evaluate the posts composed by pseudonymous accounts and consider how they might be considered "authentically academic" although they fail to conform with many of the standard practices of academic social media use.

6.1 Consistency

Lehman and colleagues (2019) describe consistency as an understanding of authenticity as being true to oneself. In this context, pseudonymous accounts allow for academic authenticity in that they acknowledge the challenges facing academics with public social media profiles (e.g., Bateman, 2017; Cain et al., 2019; Hildebrant & Couros, 2016; Veletsianos, 2016). Pseudonymity allows academics to minimize the "fear of exposure" that could otherwise prevent academics from "making full use of the potential of… social media" (Bennett & Folley, 2014, p. 4). More explicitly, anonymity creates a freedom to "bitch" (Gregg, 2009, p. 477) about the "'dark side' of administration" (p. 477) and other parts of academia. In particular, this supports academics in "voicing pseudonymous dissent or engaging in political activity" (Oltmann et al., 2020, p. 6) that is authentic to academics' "true selves" but that could invite controversy or reprisal that they would rather avoid.

In this context, it is noteworthy that we coded more tweets as *Politics and Activism* than as any other code. Although heavily concentrated in Topic Two, on British news and affairs, every topic contained at least one tweet focusing on these potentially sensitive subjects, and pseudonyms may have been valued by these users for protecting their professional identities from public scrutiny. Perhaps more interesting in this context are the eight *Politically Incorrect* tweets that emerged in Topic Two: This user's pseudonym may have allowed them to voice contrarian opinions on feminism and other issues without inviting the ire of fellow academics. Even more urgently, our *Administration Complaints* and *Student Complaints* codes represent tweets that may well represent some academics' true opinions but that could invite considerable professional difficulties if academic colleagues or students could trace them back to a named academic.

6.2 Conformity

From a conformity point of view, "an entity is authentic to the extent that it *conforms* to the social category to which it has been assigned or that it has claimed for itself" (Lehman et al., 2019, p. 16). This view is particularly helpful in this instance given that authenticity is judged here in terms of a relationship with a group rather than oneself. Thus, pseudonymity is not necessarily an obstacle to the authenticity of an academic social media account so long as that account authentically connects with academia. The already-noted presence of the *Administration Complaints* and *Student Complaints* suggests considerable authenticity in these accounts, and other codes such as *Surviving the Semester*, *Student Empathy*, *Teaching Productivity*, *Academic Complaints*, *Academic Advice*, *Doing Research*, and *PhD Experience* only further emphasize the academic nature of these accounts. Seen from this perspective, academics' use of social media should not be understood as a utilitarian resource for career advancement but rather as a community-building tool.

Wenger and colleagues (2002) define *communities of practice* as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (p. 4). We acknowledge concerns about overuse of this concept (e.g., Gee, 2005) but argue that the community of practice—particularly when defined in these terms—remains useful for understanding what many anonymous and other academics are trying to accomplish through social media especially given "academia's uncomfortable relationship with care" (Veletsianos, 2016, p. 80). Like the anonymous bloggers studied by Dennen (2009), these anonymous Twitter academics "mostly discuss job experiences rather than specific details of their scholarship" (p. 25). It is the shared experience rather than the specific accomplishments that matter here, and this can extend into a

community of care that provides recognition and solace as "co-worker" solidarity is amassed (Gregg, 2009, p. 471).

It may also be the case that anonymous academics on social media are seeking conformity with social media norms rather than traditional academic norms. Budge and colleagues (2016, p. 218) have acknowledged that social media allows for "a different type of academic community" that contests convention mainstream and academic customs and represents risk taking. Their own cultural norms and accumulation of cultural capital allows this subcommunity of academics to develop with its own "stickiness" (Weller, 2011, p. 71) and "emotionally comfortable" (p. 73) dialogue to spend time with. Conformity to social media conventions is not evident in the names of our codes, but we note the frequent use of threads and emojis in Topic Four and hashtags in Topic Five as indicative of attention to this social category in addition to the broader attention to academia.

6.3 Connection

Lehman and colleagues (2019) argue that "an entity is authentic to the extent that it is *connected* to a person… as claimed" (p. 16). As previously discussed, academics have multifaceted identities and are typically pressured into presenting "acceptable identity fragments" (Kimmons & Veletsianos, 2014, p. 295) while hiding other aspects of those identities in order to navigate the challenges associated with public social media use. Thus, professional social media accounts and platforms do not reveal the complete and therefore authentic self of an academic either. They may build up a professional reputation, but they remain disconnected from the associated person in important ways.

The pseudonymous accounts in this study challenge the very idea of "academic authenticity" by expanding it to include all of the facets of these academics' identities. That is,

by sharing less about themselves professionally, they are able to share more about themselves personally, thereby emphasizing that academics are people outside their professional duties (i.e., that they have a *Life* and perhaps *Family and Pets* or *Hobbies*) and that it is impossible to separate the personal and professional aspects of the *COVID-19* experience. The *Lockdown Log* emphasizes this considerably, blending family concerns with professional duties and even acknowledging that academics have sex lives in addition to scholarly pursuits. Thus, our findings highlight the "academic as person" rather than just the "academic as academic," suggesting that this broader view is important for a holistic understanding of anonymity and authenticity.

6.4 Limitations and Future Research

Although this study offers a preliminary analysis of the tweets of pseudonymous academics, it is not without its limitations. Perhaps most pressingly, despite the evidence we have described of authentic academic identity among these tweeters, there remains a "lack of 'verification' or proof of identity" (Oltmann et al., 2020, p. 8); although we have described the compelling reasons that may invite academics to take on pseudonyms, absolute verification of this phenomenon is constrained by its very nature. Furthermore, this study is characterized—and, therefore, limited—by our focus on English-speaking academics, all of whom appear to live and work in the Global North. The timeframe of this study should also be acknowledged as a possible limitation, given the prevalence in our data of references to COVID-19.

The selection and gatekeeper bias in the convenience and snowball sampling must be recognized (Atkinson & Flint, 2001) and this does not allow us to generalize the study's results to a wider population. This qualitative study aimed for vertical (i.e. generation of theory) rather than horizontal (i.e. applicability to other users and situations) generalizability (Braun and Clarke, 2013).

There are also limitations inherent to our methodological approach. As previously described, we have followed Nelson's (2020) example of combining human-driven and machine-driven text analysis. Indeed, our initial phase of topic modeling was helpful for considering large amounts of data and our second phase of qualitative coding made use of human nuance for a more fine-grained final analysis. However, even the data we analyzed through human coding was initially identified by computational methods; while less practical, an entirely human-driven analysis may have resulted in other findings.

Future research may expand our understanding of this phenomenon by working around these limitations. Oltmann et al.'s (2020) work on politically focused anonymous accounts may serve as a particularly compelling example. Their interviews of the operators of anonymous Twitter accounts allowed for more exploration of the identities behind the accounts and gave insight into motivations and reasoning that an analysis of the tweets may not reveal. Furthermore, future research can focus on a specific group of pseudonymous academics on Twitter, such as Ph.D students or adjuncts; our analysis made no distinctions between groups that may have different concerns. Finally, the technical design and community values on social media platforms such as Reddit make anonymity a semi-explicit feature (rather than just possibility) of their use, which may have implications for how information and experiences are shared there. Specific attention to these kinds of platforms may also be warranted.

7. Concluding Comments

Since the mid-2000s, social media has become a subject of particular interest within the broader literature on use of the internet in higher education contexts (Hrastinski & Dennen, 2012). Researchers have established that academics use social media for a mix of personal and professional reasons (Manca & Ranieri, 2016), often creating tensions between them

(Veletsianos & Kimmons, 2013). Yet, much of the work on academics' use of social scholarship has been explicitly focused on reconsidering "scholarship in light of today's social media adoption" (Greenhow & Gleason, 2014, p. 399) implicitly ignoring other aspects of academic identity and how the adoption of social media might affect those.

In this paper, we have analyzed tweets composed by self-described academics who have navigated this tension by concealing both their professional and personal identities and operating under pseudonyms. Although pseudonymity itself stands in tension with purported professional benefits of social media use, this study not only responds to the call for research to take an "expansive view of scholars' social media use" (Veletsianos, Johnson and Belikov, 2019, p. 12) but also applies Lehman and colleagues' (2019) definition of authenticity to demonstrate how the pseudonymous tweets and their categorization are authentically academic and cover hidden but valuable aspects of faculty experience. Pseudonymous academic accounts can be and are easily dismissed as irrelevant by mainstream academia and academic administrators as they are not an extension of traditional academic practice or university brand. However, a bottom-up and data-driven analysis of this scholarly space shows they can reveal important gritty and wholesome insights into the full and authentic academic identity of professors' lived experience and serve a legitimate purpose. Anonymity allows academics to express identity fragments that may not be perceived as *acceptable* (Kimmons & Veletsianos, 2014) but that address substantive issues that are glossed over in university communication channels and necessarily ignored on more traditional academic accounts. These uses of social media cannot truly be considered "social scholarship" (e.g., Greenhow & Gleason, 2014; Greenhow, Gleason, & Staudt Willet, 2019) but remain an important aspect of academics' online identities.

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