Physicians, Nurse Practitioners, and the Shortage in Primary Care Providers: Professional Autonomy in the Public Discourse

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ABSTRACT

The shortage of primary healthcare providers has placed strain on the U.S. healthcare system and brought renewed attention to the professional autonomy of those who deliver care. This health policy issue is also a social problem. It has caused conflict among professionals, legislators and the public. A central component of the dispute revolves around the construction and maintenance of professional boundaries, wherein expertise is manifested in healthcare. This article examines how the public domain discusses professional conflict and frames expertise through an analysis of reader comments (N=782) to a *New York Times* article. This article asks: What assumptions about experience and educational training shape public views of who should have professional autonomy? The analysis identifies tension between education and experience in the publics' framing of expertise. Findings shed light on how professional disputes in the public domain exhibit dimensions of credentialism and experiential expertise among a key stakeholder in healthcare.

Keywords: Primary Care Medicine; Professional Autonomy; Expertise; Credentialism; Gender

INTRODUCTION

A crisis has emerged in the U.S. healthcare system and the institution seems to be at the precipice of change. Current research shows that there is a shortage of practicing primary care providers (Baron 2009; Christian 2011; Jacobson and Jazowski 2011; Fairman, Rowe, Hassmiller and Shalala 2011). This predicament is projected to worsen as the United States experiences an unprecedented growth of its elderly population (Hammatt 2015) and federal healthcare reform aims to extend access to primary care to millions of new patients (Jacobson and Jazowski 2011). However, the American healthcare system is ill-prepared for such an increase of patients (Christian 2011). Recent reports indicate that the system will need more than 50,000 additional primary care providers by 2025 (American Family Physician 2012: 1099) to meet the anticipated demand.

There are multiple hurdles to fulfilling this need. Not only is there consistently low interest in medical education in general, there is declining interest in specializing in primary care. Notably, only two percent of graduating physicians plan to pursue this area of specialization (Hauer et al. 2008). This overall lack of interest in specializing in primary care is often attributed to rising student debt (Devi 2008), as the average medical student leaves school with over $150,000 in student loans, coupled with relatively low pay in this area of medicine (Christian 2011).

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One possible solution for addressing the shortage of primary care providers is the expansion of nurse practitioners' autonomy. More and more nurse practitioners are graduating college (Aiken 2011) and support for the extension of their roles and the removal of mandated physician oversight has been endorsed by the Institute of Medicine (Institute of Medicine 2010; Jacobson and Jazowski 2011; Volpintesta 2014). However, barriers such as state legislation and professional boundaries have prevented this from happening in many places (Naylor and Kurtzman 2010).

Although advocates have stressed that broadening nurse practitioners' scope of practice is not an attempt to replace primary care physicians (Jacobson and Jazowski 2011), many individual physicians have been reluctant to embrace the change (Naylor and Kurtzman 2010). This rejection of expanding nurse practitioners' autonomy within the medical field has been noted by researchers as a "fear of substitution" (Fairman et al. 2011). In other words, the reluctance is more about protecting the professional boundaries and authority of physicians. They tend to argue that the most appropriate response to the crisis is by increasing the number of healthcare providers with the "MD" credential (Christian 2011; Volpintesta 2014).

This predicament within healthcare has brought attention to professional boundaries and, specifically, to the professional autonomy related to the delivery of primary care. State-level variation in the regulation of primary care delivery has caused conflict among professionals and their affiliated organizations, and it has also aroused the attention of the public. In 2014, New York became the 17th state to pass legislation to grant nurse practitioners' the legal authority to practice primary care without physician oversight (Nurse Practitioners' Modernization Act 2014). At the time, New York state legislators determined that physician centric structures no longer served a clinical purpose. Consequently, the passing of this new law sparked a debate in the media, which involved the voices of numerous stakeholders, including members of the public. Thus, a unique opportunity to examine how the foundations of expertise are contested and negotiated in the public sphere occurred when a controversial article, "Nurses are Not Doctors" (Jauhar 2014) appeared in the *New York Times* in 2014. The article attracted 852 reader comments, and the discourse that ensued illustrated the contested nature of expertise. Certainly, the public is not passive at times of change (McLeod, Pescosolido, Takeuchi and White 2004), and a solution to this crisis will largely be informed by patients' willingness to accept a new structure.

Accordingly, this article asks a key question: what assumptions about experience and educational training shape public views of who should have professional autonomy? This article examines a different component of jurisdictional conflict and the foundations of expertise—public responses to the expansion of nurse practitioners' autonomy. Previous research on professional boundaries has shown the dynamic nature of interprofessional conflict and demarcation through micro-perspectives (Apesoa-Varano 2013; Mizrachi, Shuval and Gross 2005) it has also highlighted practitioners' strategies to claim authority (Norris 2001). However, this study extends prior research by examining how this boundary dispute is understood and negotiated by another domain—the public. The findings shed light on how the shortage of primary care providers is understood and discussed among a vital milieu, and also provides new insight about how the tension between credentials and experience in the negotiation of expertise is framed by laypeople.

THEORETICAL BACKGROUND

Framing Professions in the Public Discourse

Nurse practitioners and physicians have begun their careers confined by professional barriers. These barriers result from diverse educational training that has been shaped by professional cultures passed down within their field (Hall 2005; Starr 1982). During the course of this training, individuals not only master the skills of their profession, but they are socialized to adopt the identity and values of their occupation (Hall 2005; Loseke and Cahill 1986). As such, "professionals are somewhat exclusive groups of individuals applying somewhat abstract knowledge to particular cases" (Abbott 1988: 318). The link between professionals and their work is defined as jurisdiction, which places some professions in full

control and others as subordinate. That is, professional barriers comprise disputes for control among professions (Halpern 1992).

Abbott (1988) posits that these disputes often occur in one of three milieus: the workplace, legal statute and public domain. While there has been a substantial effort made in the sociological literature on healthcare to shed light on these debates in and among the workplace (e.g. Norris 2001; Mizrachi, Shuval and Gross 2005; Nancarrow and Borthwick, 2005; Albert, Laberge, Hodges, Regehr and Lingard, 2008; Apesoa-Varano 2013; Niezen and Mathijssen, 2014; Liberati, Gorli and Scaratti, 2016) there has been less emphasis on understanding how the public perceive these debates. The current alterations in healthcare legislation and recent exchanges by medical professionals has brought the conflict into the public arena. In doing so, researchers have a unique opportunity to explore jurisdictional disputes beyond the workplace—that is, in the domain of public opinion. Present literature shows how these boundaries work in symbolic and social relations (Lamont and Molnar, 2002), and existing theories may also show how this dispute is shaped.

Expertise is signaled to others through their credentials (Baker 2011; Bills 2003; Brown 2001; Deterding and Pedulla 2016). That is, academic degrees are a central component to both the construction and maintenance of professional boundaries. They are a symbol meant to indicate competence, trustworthiness, as well as signal ability to potential employers and in general, the public (Brown 2001; Deterding and Pedulla 2016; Walters 2004). Credentials are observable and are one of the most easily identifiable symbols of authority, legitimacy and claim to expertise.

In addition, credentials stratify and empower degree holders as well as regulate access to leadership positions (Brown 2001; Baker 2011). Credentialing theory posits that academic degrees are more of a cultural status symbol than an indicator of skill and knowledge (Brown 2001; R. Collins 1971; R. Collins 1979). In fact, as more and more people attain educational credentials, they become devalued (Van de Werfhorst and Anderson 2005). According to Collins, "educational requirements for employment have become increasingly widespread, not only in elite occupations but also at the bottom of the occupational hierarchy" (R. Collins 1971: 1003).

A number of scholars have documented this labor market transition, specifically focusing on how it contributed to changes in institutional requirements (Arnstein 1982), and the development of new educational programs (French and Wailes 2007). These transitions may be driven by institutional and personal aspirations for a status symbol (Arnstein 1982) as much or more than the technical needs of society (R. Collins 1971). However, it may be too simplistic to assert that educational credentials perfectly specify either (Bills 2003). Instead, this literature suggests that the public opinion about professional barriers may not be just about educational credentials, but may also be about the experiential expertise they possess.

According to Carr (2010), "Expertise is something that people do, rather than something people have" (18). Others question the grounds of knowledge and posit that expertise may actually emerge from experience. For instance, publics no longer trust physicians because they have special access to *truth*, but instead they rely on their *expertise* (Collins and Evans 2002; Collins and Evans 2008). Such claims to expertise largely depend on context as there are many ways in which *experts* can be classified (Collins and Evans 2008; Burgman et al. 2011). For instance, Collins and Evans argue that expertise is slowly accumulated through individuals' immersion and interaction within a field regardless of certificates and credentials (Collins and Evans 2002; Collins and Evans 2008). Setting aside the quality of expertise debate that Collins and Evans are primarily concerned with, the purpose is to assess if expertise may have a role in shaping public opinion. Certainly, individual experts are all around us and have influential power.

In medicine, expertise is thought to be acquired through a series of stages from causal networks to illness scripts (Schmidt and Boshuizen 1993). In this view, expertise is experience-based, is a process rather than an attribute, and is practical. Beliefs about the credibility of experts are often derived from group identity. Outsiders often overlook the value of expertise external to the confines of their own social

group (Wynne 1992). In other words, expertise involves intense identity negotiation (Epstein 1996; Wynne 1992). Applied to the debate about the expertise of healthcare providers, this suggests that respondents' will evaluate the autonomous delivery of primary care medicine on the basis of individuals' immersion and interaction within the specialty, and not solely on healthcare providers' credentials. Even further, publics will likely evaluate expertise in relation to other social groups (e.g. NP's and MD's).

In a similar vein, research indicates that expertise is itself a gendered phenomenon (Azocar and Ferree 2015). Since the industrial revolution, the medical field has been male dominated. In fact, before the 19th century, women were not even allowed to attend most universities (Hall 2005). As women slowly gained access to the paid workforce, they were often encouraged to take on careers that extended and embraced roles of the home. However, feminine-typed expertise tends to be devalued and equated with temperament rather than training or experience (Azocar and Ferree 2015). Women must clear a higher bar than men to be seen as equally credible sources of expert knowledge (O'Brien 2016). Within the healthcare field, they frequently became nurses and were viewed as physicians' helpers (Stuart 1993; Hall 2005). That is to say, expertise has been historically gendered and organized in healthcare.

In recent years, there has been an influx of women physicians, yet assumptions about gendered expertise remain embedded within both the field and the public. There still exist gender disproportions in the practicing medical field (Boulis and Jacobs 2008) and especially among medical school faculty (Pololi, Civian, Brennan, Dottolo and Krupat 2012). These disparities range from discrimination in letters of recommendations (Pololi et.al 2006) and tenure decisions to harassment from subordinates, isolation from male-colleague interactions and in first authorship practices (Filardo et al. 2016). Compared to male dominated specialties, those with higher rates of women physicians remain the lowest paid (Boulis and Jacobs 2008). Therefore, gender is closely related to the acquisition and maintenance of expertise and may structure how expertise is framed in the public discourse.

To summarize, the theories of professions suggest that there are three locales in which professional disputes over control will likely occur: in the workplace, in the written law and in the public domain (Abbott, 1988; see also Halpern 1992). Both legislative changes in the state of New York and medical professionals' publications in popular media outlets have contributed to the presence of this professional dispute in the public arena. This article attempts to gauge how these changes in healthcare legislation translate to and are framed by the public. By employing the existing literature, the expectation is that public debates about the professional autonomy of primary care providers will be shaped simultaneously by primary care providers' experience, academic credentials, and gender. The analysis below demonstrates *how* a key stakeholder in healthcare frames jurisdictional disputes in a highly visible public forum. I provide an episode on how professional disputes are talked about and understood among this notable domain during a specific instance when professional boundaries within healthcare are being negotiated and redrawn in many states.

DATA

This study uses data from the public domain—specifically, the reader comment forum to an online article. In general, there has been an expansion of research using data from internet content (Evans et al. 2017; Markens 2012; McCarthy 2015; Sumner et al. 2014; Vicari 2013) and this platform for analysis offers several advantages. Presently, 85 percent of all Americans use the internet regularly (Pew Research Center 2015) and nearly 61 percent say it is essential to them (Pew Research Center 2014). News is more often read online rather than in print (Pew Research Center 2010), and recent reports suggest that this trend will likely continue. As such, online news outlets have integrated social media sharing capabilities as well as reader comment forums (Almgren and Olsson 2016) to build loyalty and a stronger sense of engagement in the news process (Santana 2014). This growth of interest in participatory journalism has become widespread since the beginning of the new century and with the increased accessibility of the Internet (Pew Research Center 2010). Recent research indicates that readers tend to show preference to comment on news covering legislative changes (Almgren and Olsson 2015) such as

those in healthcare. Since the public is active in constructing frameworks around evolving social problems (McLeod et al. 2004), media discourse is a vital milieu for understanding and capturing public opinion (Gamson and Modigliana 1989).

In 2007, the *New York Times* became the second newspaper to allow reader responses in its online forum and by 2008, and 75 percent of major newspapers followed suit (Santana 2011). As part of this trend toward participatory journalism, the *New York Times* editorial department evaluates all comments before they are made public in effort to ensure that the dialogue represents an extension of journalism in a respectful and on-topic manner (Sullivan 2012). While comments are often a direct response to the author, dialogue also occurs among those who comment regularly. Barker and Galardi (2015) argue that these comment forums can be conceptualized as a mixture of "letters to the editor" and electronic bulletin boards. Because a change to the healthcare system will likely be informed by patients' willingness to accept a new or changed structure, it is imperative to gather an index of social beliefs (Santana 2012). Other research on discourse analysis has examined press coverage materials and transcripts of testimonies following institutional changes in jurisdictional boundaries (Covaleski et al. 2003; Suddaby and Greenwood 2005). Reader comment data is a novel method for examining microlevel processes and is ideal for capturing claims surrounding the current healthcare predicament—at least the claims of those with active interest and the proclivity to publicly comment.

The central theme of Sandeep Jauhar's piece, "Nurses are Not Doctors," was that the passing of recent legislation by the state of New York that had granted nurse practitioners' more autonomy undermined physicians' expertise. This publication was chosen for the focus of this analysis for a variety of reasons. First, Jauhar, a physician and a contributing writer to the *New York Times* since 1998, is a leader in the healthcare field. He has published best-seller books, as well as academic papers in leading journals such as *The New England Journal of Medicine.* He has frequently appeared on television and talk radio and has also written essays in popular media outlets such as, *TIME* and *The Wall Street Journal* (New York Times 2016). Sandeep Jauhar is a well-known and influential person in the healthcare field. Additionally, in comparison to his previous op-eds in the *New York Times*, "Nurses are Not Doctors" attracted the most comments, indicating both the significance and contested nature of the topic. Indeed, the fervent dialogue that took place in the reader comments on this piece suggest that the issue is polarizing.

All 852 comments were extracted during 2016 for analysis. Using NVivo, I constructed a coding scheme through a series of stages. In the initial reading of the comments, I identified several overarching themes that acknowledged whether the comment was in support of or opposition to the authors' opinion. In subsequent readings of the data I first utilized a grounded theory approach to theoretically sample and interpret these data (Charmaz 2011). By doing so, I was able to employ both focused coding analysis and axial coding analysis. My second round of coding primarily identified thematic similarities among the initial codes but also, how they were related to one another. After this systemic process, I developed a codebook. I then matched codes to existing theory developed by previous literature (Strauss and Corbin 1994). I ran query reports on all codes of primary interest to both identify word frequency as well as their meaning in the comment. For instance, "experience" and "training" were used frequently, yet their meaning in a given comment was altered depending on whether it had agreed or disagreed with the theme of the article. Lastly, I conducted a series of cluster analyses and word frequencies by node. I present these below.

Among the total respondents to the article, we were able to ascertain 70 self-identified medical professionals. According to Table 1, there were a total of 32 physicians that responded to this op-ed, many of whom demonstrated instances of interprofessional conflict and professional boundary marking by writing phrases such as, "…but they aren't doctors." In addition, we identified 25 nurse practitioners and nursing professionals, along with 9 medical professions positioned among these two broader fields. We termed this third category "intermediate," which included physician assistants and professionals in training such as, medical students and nursing students. Because our primary research question is

concerned with how public's view who should have professional autonomy, we removed these 70 self-identified professionals from the subsequent analyses.

TABLE 1. Frequency of self-identified health professionals

Profession	*Signifiers*	*Frequency*
Physician	"MD," "Dr.," "physician"	32
Intermediate (PA/Med Student)	"Med Student," "PA"	9
Nurse/Nurse Practitioner (NP/RN)	"Nurse," "N.P.," "R.N."	25

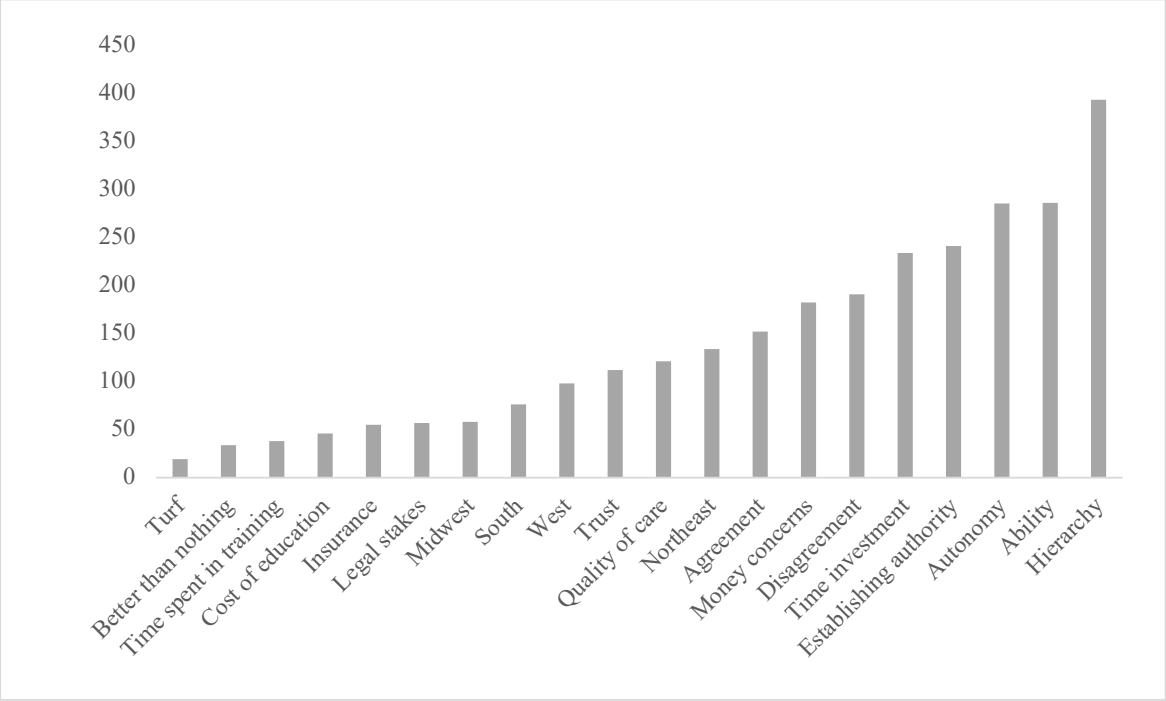
Source: Reader comments from New York Times Article, "Nurses are Not Doctors," 2014. *Notes:* Sub-sample of total comments; total number of self-identified professionals (N=70). Final sample size (N=782). Intercoderreliability = .72.

To verify the reliability of my coding of these data, a research assistant independently coded a subsample of the data. After norming and training sessions with the codebook (Supplementary 1), where we practiced coding together, the research assistant separately recoded 25 percent of the data. This exercise was used to assess the level of agreement between coders (Hayes and Krippendorff 2007). Our intercoderreliability for all variables was 74 percent, and thus all variables were included in the analysis. In cases of disagreement between the coding of the data, the authors' coding was kept.

From these data, several tensions emerged from the reader responses. For example, some of these include the codes of ability, autonomy, authority, boundary marking, time investment, quality of care and gender slippage. According to Figure 1, the code with the most amount of words from these data is hierarchy, followed by autonomy, ability and establishing authority. Together these four codes account for more than 50 percent of the total words coded. In the results I discuss evidence of their co-occurrence.

Overall, these data reflect a broad range of the public opinion, it brings strangers together in dialogue (Barker and Galardi 2015) and provides a rich opportunity to explore how professional autonomy is understood and how expertise is framed in the public domain. These data are publicly available yet, names used in the subsequent results are pseudonyms in an effort to protect individual identities. These data highlight the debate between those in favor of nurse practitioner's autonomy and others who defend the existing physician centric structures.

FIGURE 1. Total number of words coded by node



Source: Reader comments from New York Times Article, "Nurses are Not Doctors," 2014. *Notes:* Total number of words coded (N=2793) from 782 responses. Intercoderreliability = .72.

RESULTS

In addition to the frequency of certain codes shown in Figure 1, I assess how similar the codes are in relation to one another. Table 2 presents the correlations of two columns of codes from a cluster analysis. These findings suggest cultural patterns of co-occurrences between certain ideas.

TABLE 2. Cluster analysis of nodes

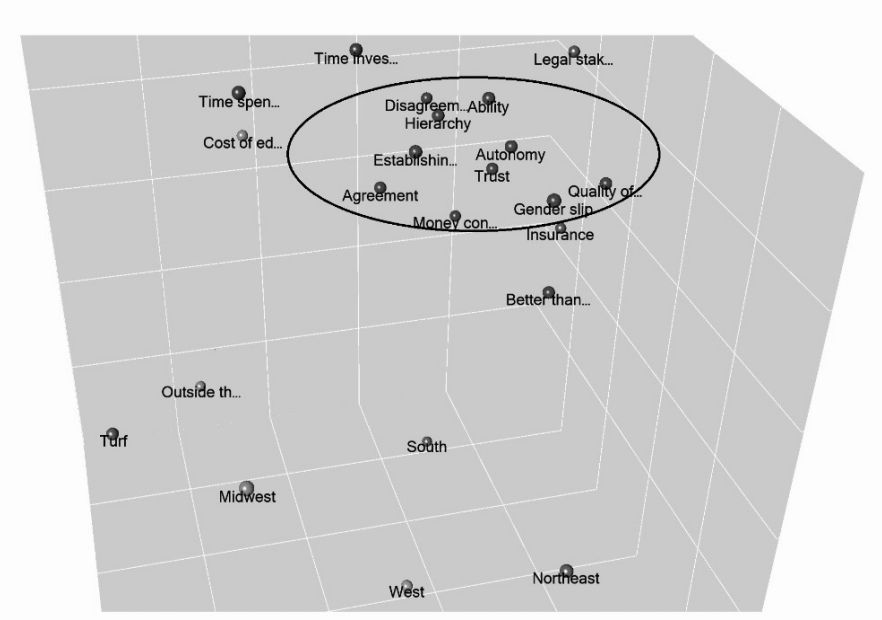
Code A	*Code B*	*Pearson correlation coefficient*
Nodes\\Ability	Nodes\\Autonomy	0.91
Nodes\\Ability	Nodes\\Establishing authority	0.79
Nodes\\Ability	Nodes\\Gender slip	0.65
Nodes\\Ability	Nodes\\Hierarchy	0.89
Nodes\\Ability	Nodes\\Time investment	0.75
Nodes\\Ability	Nodes\\Trust	0.85
Nodes\\Autonomy	Nodes\\Establishing authority	0.76
Nodes\\Autonomy	Nodes\\Gender slip	0.58
Nodes\\Autonomy	Nodes\\Hierarchy	0.85
Nodes\\Autonomy	Nodes\\Time investment	0.68
Nodes\\Autonomy	Nodes\\Trust	0.82
Nodes\\Establishing authority	Nodes\\Gender slip	0.57

Nodes\\Establishing authority	Nodes\\Hierarchy	0.78
Nodes\\Establishing authority	Nodes\\Time investment	0.71
Nodes\\Establishing authority	Nodes\\Time spent in training	0.62
Nodes\\Establishing authority	Nodes\\Trust	0.71
Nodes\\Gender slip	Nodes\\Hierarchy	0.63
Nodes\\Gender slip	Nodes\\Trust	0.61
Nodes\\Hierarchy	Nodes\\Quality of care	0.70
Nodes\\Hierarchy	Nodes\\Time investment	0.79
Nodes\\Hierarchy	Nodes\\Time spent in training	0.52
Nodes\\Hierarchy	Nodes\\Trust	0.86
Nodes\\Quality of care	Nodes\\Trust	0.77
Nodes\\Time investment	Nodes\\Time spent in training	0.76
Nodes\\Time investment	Nodes\\Trust	0.61

Source: Reader comments from New York Times Article, "Nurses are Not Doctors," 2014. *Notes*: Nodes with many words in common. Correlation above .50 shown; cluster (10) for (N=782). Intercoderreliability = .72.

Table 2 shows that the three most occurring codes are also related to one another. Responses coded within the node of autonomy shared many words in common with those of ability (r=.91) and hierarchy (r=.89). While these data show an association between the codes, time investment and time spent in training (r=.76), the observed associations between time investment and the most commonly occurring codes appear to be stronger. For instance, time investment is more strongly associated with hierarchy (r=.79) and autonomy (r=.68) than time spent in training, suggesting that many may maintain the perception to expand professional autonomy on the basis of experience rather than on credentials.

FIGURE 2. Cluster analysis of nodes



Source: Reader comments from New York Times Article, "Nurses are Not Doctors," 2014. *Notes*: Nodes with many words in common. Correlation above .50 shown; 3D cluster (10) for (N=782). Most similar codes are defined by the oval. Intercoderreliability = .72.

Expanding autonomy: experience is enough

This major point of contention regarding who should have professional autonomy is best illustrated by Kareem's comment, "NO DOUBT that a nurse of 30 years has more knowledge than a recently graduated young doctor. The debate isn't about MD vs NP, it's about experience vs lack thereof, regardless of the title." Unambiguously, respondents that advocated for the expansion of nurse practitioners' autonomy defended professional experience and "firmly believe[d] nurse practitioners [could] and do provide good primary care." They often defended nurse practitioners' know-how as a source of expertise as well as point out the inconsistency in state laws. In Figure 2, this is demonstrated by the closer association of the node for time investment and autonomy or as Mohammed wrote,

> I think properly trained and experienced nurse practitioners should be allowed to independently see patients on their own. In some states, they already do and are doing an exceptional job of filling the jobs that are sorely understaffed.

In fact, many respondents credited nurse practitioners' expertise to their years of experience spent in the field. They often quantified the time investment by providing comments such as,

> This expertise is honed over thousands of hours…The novice physician does not have this expertise any more than a novice nurse does. However, an experienced nurse could certainly have this over a novice physician. Expertise is earned through thousands of hours of precise practice and not a degree or title.

Indeed, proponents of expanding nurse practitioners' autonomy construed the physician/nurse practitioner boundary differently. These readers tended to point out skill areas in which physicians are lacking. Many commenters also provided personal anecdotes and experiences that positioned nurse practitioners' ability to deliver quality care as equal to, or in some cases, superior than physicians. As evident in Table 2, quality of care is closely related to the hierarchy node (r=.70), suggesting that commenters who expressed beliefs on care delivery were also likely to discuss professional hierarchy. For instance, Silvana expressed, "I've gotten better care from nurse practitioners than doctors in my life, and they're not afraid to refer to doctors if need be." Confident comments like Silvana's occurred frequently among those that supported the expansion of nurse practitioners' roles, such as one that read, "[the NP] has also made diagnoses that the M.D. missed," and, "a nurse practitioner in primary care practice provides much better care than the doc." As shown in Table 2, quality of care is strongly associated with coded phrases representing trust (r=.77). This is also evident in the text, as nurse practitioners were also often noted as, "… dedicated, not driven by the almighty dollar and are not prone to let their egos get involved." In fact, many comments referred to the difference in the quality of care, and argued that physicians should for instance, "spend more time doing what's best for their patients instead of protecting their turf."

Throughout these comments however, it became evident that readers had sharp disagreement about the boundaries of primary care providers. Often these comments either protected the established professional boundaries or advocated for a reallocation of authority (Gieryn 1999) when considering who should have professional autonomy to deliver primary care.

Protecting boundaries: bring in the M.D.

Those who were critical of this transition, attempted to devalue nurse practitioners' educational training. As Imani shared,

> Clinical diagnosis is a learned art in which clinical experience is paramount…making accurate diagnoses requires years of practical clinical experience built on a foundation of solid scientific initial and ongoing knowledge. It is not something that is learned exclusively 'on the job.

Often these commenters found security with the traditional physician centric structure and specifically with physician supervised primary care. This is illustrated in one comment that read, "…what really gave us comfort was that [NPs'] also realized their limitations and were most definitely under physician's supervision." Frequently, among these comments, nurse practitioners' ability to delivery primary care was called into question on the basis of their credentials (or lack thereof) by various healthcare professionals and laypeople. Several comments that were critical of expanding nurse practitioners' autonomy also took note to quantify the time spent in training, which was narratively assumed to correlate with ability. For example, Leticia wrote,

> It takes a minimum of 7 years course work and training beyond a bachelor's degree to become a primary care physician, aside from the different mindset, academic credentials, and skillset required to go into each field in the first place.

Aside from these narratives however, Table 2 does not indicate an association above .5 for these two nodes. In fact, the distance between time spent in training and ability is visually greater than that for time investment and ability.

Many of these responses were extremely polarizing, often privileging the status and authority of one profession over the other. This is perhaps best exemplified by one comment which indicated that, "to argue that NPs are as qualified as MDs is lunacy." Quite frequently, commenters that opposed the expansion of nurse practitioners' scope of practice tended to equate it with an encroachment on physicians' established boundaries. For instance, Abdul positioned physician training not only as superior to nurse practitioner training, he also advocated for nurse practitioners to attend medical school,

> No amount of experience in the field can possibly substitute for going to medical school. Nurses are wonderful and amazing, but they simply do not have the training to make complex diagnoses. We should encourage all interested nurses to continue their training and go to medical school. Then they can be wonderful and amazing doctors.

Similar comments, extended Abduls' notion of boundary marking by stating that the two lines of work are fundamentally different. For instance, one comment read, "that said, they are not highly qualified physicians, they are highly qualified nurses" and, "a nurse cannot have the same depth and breadth as a doctor." These types of comments empowered the status of the credential "MD" and simultaneously used it as a symbol (Brown 2001) for boundary marking.

Respondent's also expressed concern that the expansion of nurse practitioners' autonomy would adversely affect those that are less fortunate. As Abaigeal said, "You get what you pay for. We want cheap medical care and we're getting "providers" with limited knowledge and training." Comparable comments often positioned primary care delivered by those with the credential "MD" as superior, often evoking fear and doubt in nurse practitioners' diagnoses, for example, one comment read, "It is a matter of life and death that you all leave in the hands of these non-MDs."

These commenters often relied on medical practitioners' credentials as an embodiment of expertise and more precisely, as a symbol of authority (Brown 2001; Collins 1979; Walters 2004). Even further, many of these responses attempt to protect physicians' professional boundaries and justify the field's authority by denying the credibility of nurse practitioners (Gieryn 1999).

On these points of contentions, credentials were equated with authority for both nurse practitioners as well as for physicians and comments on both sides of the dispute often posited that it was in the best interest for the patients. That is, at the core of these disputes was a deep concern not only with the implementation of the new legislation set forth by the state of New York, but also with the legitimacy of medical professionals in the healthcare system overall. These commenters use the rhetoric of experience and/or credentials to publicly debate professional autonomy not just to justify the medical authority of physicians or nurse practitioners but to construct boundaries of expertise based on these attributes.

Gendered expertise

Another theme that arose in these data was gender slippage. Table 2 shows key associations between the node for gender slip with hierarchy (r=.63), ability (r=.65) and autonomy (r=.58) suggesting high rates of co-occurrences. Below I provide narratives for each association type.

Primary care medicine has approximately an even ratio of female to male physicians. Yet the pronouns used in many comments reflect the historically structured gender typing of professions. This tension was evident in responses when individuals would assign gender pronouns (she/her, he/his) to their comments. Specifically, one respondent was giving an example and stated, "On one hand we have an MD who has gone through 4 years of med school and 3 years of residency…and does not feel pressured discussing cases with his specialty friends…on the other hand we have an NP with her limitations…" In this example, the respondent assumed a gendered hierarchy and specifically, the physician to be male and the nurse practitioner to be female. Examples of "gender-slips" such as this one occurred in comments throughout the data. As Taylor shared, "Many things are a job for a nurse. She will know the difference and provide guidance." Even more, these comments often reflected on the differences in educational experience and training, yet still equated males with the credential "MD." As Alex wrote about gender and ability, "NP's and docs are not the same, we should also be aware that they do not approach medical care the same way and that a doctor who graduates at the very bottom of his class...is still a doctor."

Importantly, none of the comments mistakenly assigned a female as a physician or a male as a nurse. Often these commenters would position women in supportive roles which provides further evidence of the larger picture of how expertise is gendered and structured within the historical development of the healthcare field. For instance, Ari wrote, "If doctors are to be more effective, they need PAs and NPs...trying to reach a doctor, no matter how much he will be paid, is like trying to navigate in a flood." Together, these data illustrate how the public debates professional boundaries within healthcare and how one key stakeholder tends to frame expertise in terms of authority and gender. As such, these comments provide a unique opportunity to examine how credentials and experience serve as the basic foundation of how members of this domain respond to professional disputes and attempt to understand and negotiate expertise. In other words, these comments show how the public utilizes various frameworks as mechanisms in which legitimacy and professional authority is understood and debated in the public sphere.

DISCUSSION

These findings compliment and contribute to the sociological literature on professions as well as knowledge in important ways. A major contribution of this article is the focus on the public domain. This study extends previous research on boundary work by showing *how* professional conflict is interpreted and framed by members outside of the profession. Thanks in part to Jauhar's effort to voice professional conflict in the public arena, this article contributes to previous healthcare research focused on workplace conflict by showing how jurisdictional struggles brought into the public domain are understood and debated. The analysis shows how the public uses frameworks, reflected and constructed through media discourse, such as ability, medical authority, and gender as mechanisms to negotiate credentials and experience during one specific transition in professional boundaries among healthcare. By examining online reader comments, these findings provide a novel method to assess how publics understand and perceive professional autonomy. Moreover, the additional cluster analysis of node types provides a robust account of how the theoretical tension between educational credentials and experiential expertise is debated in a public media forum. It not only shows how the ideological frameworks resonate with cultural narratives (Snow and Benford 1988), but also measures how likely the narratives are to co-occur with one another.

The purpose here was not to determine what level of educational attainment is appropriate for who should have professional autonomy in delivering primary care, but instead to examine *how* publics attempt to understand jurisdictional disputes and *how* credentials and experience shape expertise and

warrant professional authority and legitimacy. By examining assumptions in the public about the bases of nurse practitioners' autonomy, this article has utilized a health policy issue to shed light on a growing social problem. Overall, the removal of mandated physician oversight has become increasingly supported by legislation. Currently, nurse practitioners have full autonomy to deliver primary care in 22 states, along with the District of Columbia. In another 16 states, nurse practitioners have partial autonomy (American Association of Nurse Practitioners 2017). Notably, this article evaluated how this transition is understood by one of the key stakeholders in this shift in the delivery of healthcare—the public.

Perhaps the most important finding of this article is that there exists a rather polarized dialogue when deciding who should have professional autonomy to deliver primary care. However, the evidence presented here does suggest that publics may be more likely to associate experiential expertise with professional autonomy rather than credentials (Figure 2). As additional states are impacted by the shortage of practicing primary care providers, it is reasonable that more state governments will investigate expanding the role of nurse practitioners' scope of practice. Thus, the findings presented here should provide legislators with likely public tensions—especially those between educational attainment and professional experience.

The comments analyzed in this article offer evidence of an ongoing credibility contest (Gieryn 1999) which centers on medical professionals' education and training and is directly tied to the widespread cultural beliefs about gender. First, while the existing evidence on expertise indicates that it is itself a gendered phenomenon (Azocar and Ferree 2015), this finding warrants future research. Second, many commenters labelled the contest a "turf war," or described physicians as motivated to "protect their turf." Although the healthcare system has been in constant flux since the early 20th century, institutional changes tend to be challenged by those in dominating positions. Similar to the introduction of public health (Dunn and Jones 2010), some physicians are intensely opposed to regulatory change. For commenters who opposed the expansion of nurse practitioners' autonomy, many questioned their credentials and experience. In other words, they dismissed their experiential expertise. For instance, commenters often confused professional nurses (RN's) with nurse practitioners (NP's), yet their roles differ substantially. Nurse practitioners are required to obtain a master's degree (or doctorate), and complete hundreds of clinical hours, evaluation, and national certification (Fairman et.al 2011). A nurse practitioner will devote at least two years of graduate-level education in attaining a master's degree and at least three years for a doctorate (DeCapua 2016). The erasure of this difference in many of these comments provide evidence that many members of the public rely on educational credentials to construct boundaries among primary care providers. More importantly, this framework was used as a mechanism to influence respondents' beliefs about who should have professional autonomy to deliver primary care.

Some physicians like Jauhar, have attempted to protect their professional expertise and credential status by advocating another approach to the crisis in primary care. Specifically, they have encouraged the United States to educate more physicians. Advocates of this approach tend to support the reduction of time spent in medical education from four years to three years, as some medical schools have already done. Theoretically, this curriculum reduction aligns with credentialism's claims, that the "MD" may be more of a status symbol than a valid measure of technical or instrumental knowledge. Nonetheless, these advocacy efforts have brought jurisdictional disputes among healthcare professionals to the public domain (e.g. Jauhar, 2014).

Given the divide, I raise an important question for future researchers to explore: what individual differences account for one's opinion for who should have professional autonomy? These data cannot definitively answer this question, but the findings presented in the second section of the results suggest that there may be an association with individual status. Future researchers should attempt to answer this question not only empirically but also analytically.

This article used a unique method to access individuals that were separated geographically. The sample is not representative, but it does shed light on a naturally occurring conversation surrounding a major transition in healthcare. This study is not without limitations. I could only report findings on a

rather unique group of people—a self-selected sample—and it remains unclear what separates these individuals' views from other readers who chose not to comment or even those that did not read the article at all. Analyzing these data with and without professionals resulted in substantively similar conclusions. Because the primary goal of this article was to contribute to the literature by assessing the public domain, we removed self-identified professionals from the analysis. Although we were able to identify respondents as self-identified healthcare workers (Table 1), the dedication to one's profession captured in professional comments may have influenced lay person and the broader public responses.

Disputes among professional boundaries are not unique to healthcare and future research should explore others that occur in law and science. Within healthcare, future research should examine the influx of the three-year medical school education and attempt to compare the quality of their new curriculum to their previous one. Although they point to a historically engrained social hierarchy within healthcare, it will be important to document how this dialogue unfolds as the number of women physicians continues to rise. Lastly, while this study focused on reader comments to gain insight on the domain of public opinion following this transition, future work should also analyze how professional autonomy is discussed among other stakeholders in healthcare, such as professional organizations like the AMA and the AANP. One could argue that these organizations have the potential to act as a fourth milieu in understanding professional disputes.

On the cusp of yet another transition within healthcare, one in which the professional autonomy to deliver primary care is being renegotiated in many states and by numerous stakeholders, the analysis presented here shows how credentials and experience are outlined in the public discourse. More specifically, this article shows *how* the public utilizes frameworks as mechanisms in which autonomy in primary care medicine is understood and debated. The findings are noteworthy and provide a useful window to the contentious discord surrounding professional boundaries, expertise and medicine.

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