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The trend of class, race, and ethnicity in social media inequality

Who still cannot afford to blog?

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Jen Schradie

THE TREND OF CLASS, RACE, AND ETHNICITY IN SOCIAL MEDIA INEQUALITY

Who still cannot afford to blog?

Blogs were the original poster child of digital democracy as an egalitarian public forum. Some scholars have challenged this theory of equality based on race and ethnicity, but no empirical analysis of American adults has questioned a class-based divide over time. Blogs, as a form of digital content production, appear to mirror other technological innovations in which a small elite group of users begin to incorporate them in their daily living after which the innovation spreads quickly to the general population, as with basic Internet access. However, the author argues that unlike this consumptive practice, blogging fits into a productive framework that requires more resources. Furthermore, most studies on blogging and inequality, in general, derive from samples of college students, which make it difficult to understand class issues. By drawing on 13 national surveys of American adults from 2002 to 2008, this study incorporates class differences and finds that an educational gap in blogging persists, rather than narrows, even among people who are online. Race and ethnicity do not have a relationship with class in accounting for the inequality.

Keywords digital inequality; lagged effect; digital production; class; race; ethnicity

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1. Introduction

The ideals of digital democracy (Gilmer 2004; Benkler 2006; Jenkins 2006) have been tempered by findings of socioeconomic inequality (Mossberger *et al.* 2003; van Dijk 2005; Robinson 2009). At the same time, diffusion theories predict inequality at the outset of any innovation, but over time, gaps lessen as adoption

rates spread. Most research on trends in digital inequality has focused on Internet access rates, or the *consumption* of online content. But since the launching of digital *production* applications in 2000, data are now available to analyze online content creation over time. This study asks if class-based digital production gaps have narrowed and tests whether or not race and ethnicity are mechanisms of any equality. To analyze production trends, I examine seven years of survey data on one activity, blogging, in the USA.

Blogs were the original poster child of digital democracy as an egalitarian public forum. Some scholars have challenged this theory of equality based on race and ethnicity, but no empirical analysis of American adults has questioned a class-based divide over time. Do blogs, as a form of digital content production mirror other technological innovations in which a small elite group of users begin to incorporate them in their daily living after which the innovation spreads quickly to the general population, as with basic Internet access? I argue that unlike this consumptive practice, blogging fits into a productive framework that requires more resources.

Furthermore, most studies on blogging and inequality, in general, derive from samples of college students, which make it difficult to understand class issues. By drawing on 13 national surveys of American adults from 2002 to 2008, I am able to incorporate class differences and find that an educational gap in blogging persists, rather than narrows, even among people who are online. Race and ethnicity do not have a relationship with class in accounting for the inequality.

Understanding the participatory trend in digital production inequality is critical to assessing the direction of the media in our increasingly networked society (Castells 2010). Is it becoming more or less democratic? The importance of production is not just about the act of creation but about the implications of that online activity. Whose voice is in the digital public sphere matters, particularly around questions of equality. If elite voices dominate in the digital public sphere, they will drown out more marginalized voices. The stakes for any disparity are high, as politicians, journalists, and the public increasingly turn to online content for what matters.

2. The state of knowledge

Many theorists have hailed blogs as critical to public discourse and democracy; yet, scant in the literature is an analysis of socioeconomic class nor the trends of any of these gaps.

Blogging was one of the earliest forms of online production in which more than just early adopters or html coders could engage. Blogs emerged in the late 1990s as a more dynamic way than websites to voice one's views in the digital public sphere. Soon thereafter, they slowly became critical tools for the claims

making process of social problems into the public arena (Maratea & Url 2008) and have also transformed political communication (Woodly 2007). Some theorists laud blogs as a critical platform for multiple participants that leads to a more democratic system than traditional media that is dominated by a few media major outlets (Gilmor 2004; Benkler 2006; Jenkins 2006).

Others have critiqued blogging as a public platform because elite voices overshadow others (Hindman 2009). Most research points to inequality between blogging and socioeconomic class and of following other paths of socioeconomic divides (Hindman 2009; Schlozman *et al.* 2010; Schradie 2011). For instance, Hindman reports, 'Of the top ten blogs, eight are run by people who have attended an elite institution of higher education' (Hindman 2009, p. 117). Other research finds that high school-educated American adults are less likely to blog than their college-educated counterparts (Schradie 2011). One study, though, found no substantial educational divides between bloggers and non-bloggers among those online (Chou *et al.* 2009).

However, much of the digital inequality scholarship on blogging has not been able to factor in class (nor age), as many studies (Jones *et al.* 2009; Correa 2010) tend to draw from samples of people who (a) are already online or (b) college students. Some researchers have worked around these issues with their site selections, but, in general, those who are not online are rarely included in the picture of the American blogging landscape.

When research does demonstrate the class inequality of online creation, such as blogging, the mechanisms point to skills (Hargittai 2008a). Other scholarship has also shown that blogging requires not just an electronic devices to produce but also the labor time, the ability to control the digital means of content production, and multiple gadgets and resources that those from higher classes are more likely to have (Schradie 2011). Simply, production of online content requires more digital tools and a greater understanding and context to use the latest applications than consumption does.

What of race and ethnicity in accounting for class inequality in blogging? Blacks and Hispanics are much less likely than Whites and non-Hispanics to connect to the Internet; yet, the scholarship on the relationship between class and race or ethnicity is underdeveloped in digital production. Offline scholars also disagree about the strength of the connection between class and race or ethnicity. Take race as an example. Wilson (1980) contends that after the civil rights era, class became the predominant force driving inequality among African-Americans. However, some theorists (Omi & Winant 1994) argue that race and nationality are distinct from class, rather than simply derivatives of socioeconomics. This paper seeks to test this relationship between class and race/ethnicity with blogging.

However, most inequality research on blogging and digital production has focused on race and ethnicity but not class. Findings of differences in rates of blogging based on ethnicity and race have been mixed in terms of the direction

of any inequalities. Many scholars, such as Jones *et al.* (2009), report that racial differences of online use among college students have eroded over time and that few social media activities have inequality. Not only do more Black college students blog than their White counterparts (Jones *et al.* 2009), but White students also tend to create less online content than other racial and ethnic groups (Correa 2010). On the other hand, another study (Chou *et al.* 2009) found no racial or ethnic differences in the odds of participating in social media sites, including blogging. Furthermore, Hargittai (2009) created an index of online production activities among college students and found that Whites are creating more content than Blacks and Latinos. Focusing on ethnicity, empirical results also point to equality in overall Internet use among those online (Livingston 2011), but Jones *et al.* (2009) found that Hispanics blogged less than non-Hispanics or Blacks.

What of diffusion of innovation theories (Rogers 1962) to explain class divides? Diffusion theories generally say that an activity's early adopters tend to be a small privileged group, but over time, everyone gains access through market saturation. Under this broader framework, one would initially expect a class-based gap because only a few privileged users will use a new technology, with the gap widening, often approaching 50 percent before declining. The gap then tapers off completely over time, though it may persist like the top of an S-curve.

In terms of Internet usage, this theory posits that the digital divide will eventually disappear (Benkler 2006; Jenkins 2006) because of a *lagged effect*. Compaine argued that online engagement lags with technological advancements which have mass and social appeal (2001), much like television or telephone penetration rates were low when they first came on the market (Fischer 1992). Eventually, market forces will enable everyone to have Internet access. In other words, the digital divide, or even inequality, is not salient in the long run but is simply a lagged effect: early adopters will always be from more elite backgrounds but eventually everyone will catch up.¹

Indeed, the Internet, like other innovations, has a narrowing in the gap over time between people who are online and those who are not (Pew 2011). Overall, the consumption divide has narrowed, albeit slightly in some cases, since the introduction of the World Wide Web in the early 1990s.

Other scholars, though, have implicitly challenged the application of the lagged effect theory with class-based digital inequality (i.e. Norris 2001). Many gaps in usage still exist (i.e. Robinson 2009). Martin and Robinson (2007) argue that Internet connectivity diffusion rates are much slower for the lowest income bracket. van Dijk (2005) challenged this comparison of the Internet with the telephone or television. The weakness of this simplified analogy, van Dijk argued, is that the rapidly changing Internet is vastly different from a landline or television, which has barely advanced technologically in more than 50 years.

Furthermore, this scholarship and theoretical frameworks on the trends of Internet adoption rates and inequality are based on digital consumption, rather than digital production gaps. Indeed, because blogging and Web 2.0 applications are relatively new over the last decade, most studies of digital diffusion are based on connectivity. While research is robust on general inequality with blogging, scant is an analysis over time. Digital inequality within a production framework requires a new look at the lagged effect claim because of the differences between consumption and production. A few scholars see a blurring between the two online phenomena (Ritzer & Jurgenson 2010), but other theorists contend that a distinct difference exists between the consumption and production of online media: consumption tends to be more passive while production is more active as it projects content into the digital public sphere (Klinenberg & Benzercry 2005; Witte & Mannon 2010; Schradie 2011). Some research has analyzed the relationship between socioeconomic class and online content production for the public sphere and has shown a digital production gap (Schradie 2011) or a gap among social media participants (i.e. Hargittai 2008b).

Overall, then, by examining blogging trends and social class, this study builds on theories of digital democracy, digital production, and digital diffusion.

3. Data and results

3.1. *Research design and methodology*

To assess lagged effect theories of blogging adoption, I examine inequality over time to detect any changes in the relationship between class and blogging. Using logistic regression with national surveys from 2002 to 2008, I investigate the estimated effect of a person's education on whether or not one blogs. I test whether or not one's *race* and *ethnicity* interact with class as a mechanism of this production gap, as these variables shape consumption of digital content.

The sample for this study draws from 13 Pew Internet and American Life Project surveys over a seven-year period. Sample size averaged 2,432, with the lowest at 912 respondents and the highest at 3,996. The advantage of using data from Pew is that the sample is representative of the US adult population, rather than just college students. Even though the sample draws only from English-speaking Hispanics, Pew constructed sample weights for demographic biases using the most recent Census Bureau Annual Social and Economic Supplement, which I incorporated into my analysis. Another advantage of this data source is that it has measures of class and age, and it tracks blogging over time, all measures often missing from other studies.

The statistical method for this study is a cross-sectional logistic regression model of dichotomous categorical-dependent variables – primarily whether or not someone has ever blogged or blogged the day before. Even though this is

not a longitudinal study, 13 surveys diminish any idiosyncratic findings from one survey or during one year, as well as contribute to more robust results. Furthermore, rather than a measurement of blogging, I am primarily interested in the *gaps* from year to year, which this method captures.

The time period for the study, 2002–2008, begins the year that blogging software became available to the general public and ends when Twitter began to gain mass appeal, to prevent the omitted variable bias of users moving toward Twitter instead of blogging.

In order to understand more precisely the comparison between consumptive and productive practices and to examine a more representative sample of all American adults, even those who are not Internet users, I draw on two samples. I first determine the likelihood of blogging among all American adults ($n = 31,587$). Next, I use a logit model that only includes Internet users ($n = 20,532$) to understand the likelihood of blogging among people online.

3.2. *Operationalization*

Defining class is controversial, yet one of the best single measures of class available is educational attainment (Hauser & Warren 1997), which is my primary explanatory variable. However, I also incorporate income in my analysis, which often turns out to be a proxy for Internet access. For my analysis, I reconstructed both of these conventional class variables. For education, I recoded the responses to one's educational level into four categories – whether or not someone dropped out of high school, graduated from high school, attended some post-secondary institution, or graduated from college. Theories of literacy levels and educational transitions (Mare 1980) inform this operationalization. I focus on the difference between college and high school-educated adults to further challenge findings of inequality, as someone without even a high school education would most likely not have the literacy to blog in the first place. In addition, I turned the income measurement into a continuous variable to allow for fluctuations in inflation from year to year, based on the consumer price index.

Racial and ethnic categories are also hotly debated, particularly binary classifications. However, these variables are based on self-reports from the survey's categorizations. In my study and for parsimony, race is whether or not someone is African American or White, and ethnicity is whether or not someone is Hispanic or not. The small sample sizes precluded interactions between race and ethnicity.

To investigate how the association between education and blogging changed over the seven-year period, I interacted the year of the survey with having a high school education to understand the trend in the digital production gap between high school and college graduates. However, to get more precise interaction

effects with class, race, and ethnicity, I calculated the predicted probability of blogging in each category and tested its significance, as one cannot directly interpret the output or the interactions from a logit analysis.

3.3. Findings: persistent class, not race or ethnicity, gaps in blogging

The digital production gap vis-à-vis blogging persists. The relationship between class and blogging is robust over time. Americans with lower educational levels continue to be less likely to blog. The mechanism for this inequality is not race or ethnicity. Although Black Americans are less likely to be online than White Americans, among those online, Blacks are more likely to blog than Whites. Meanwhile, Hispanics are equally likely to blog than non-Hispanics. The only parity that emerges over the seven-year period is that Hispanics become just as likely to be online than their non-Hispanic counterparts.

3.3.1. *Online consumption gap and socioeconomic class.* First, what has been the trend of consumption, or general connectivity, over this time period? One of the first steps toward creating a blog is having Internet access. With a logit analysis (Table 1), I mapped the binary divide of connectivity during the time period of this study (Figure 1), based on the predicted probability of ever being online. The 1990s had a rapid spike in Internet usage, especially from those higher on the socioeconomic scale (Martin & Robinson 2007), whereas the increase in access from 2000 to 2008 is slowing for all educational levels. In 2008, college-educated Americans have a likelihood of close to 90 percent connectivity, but people with less than a high school education are just 30 percent likely to be online.

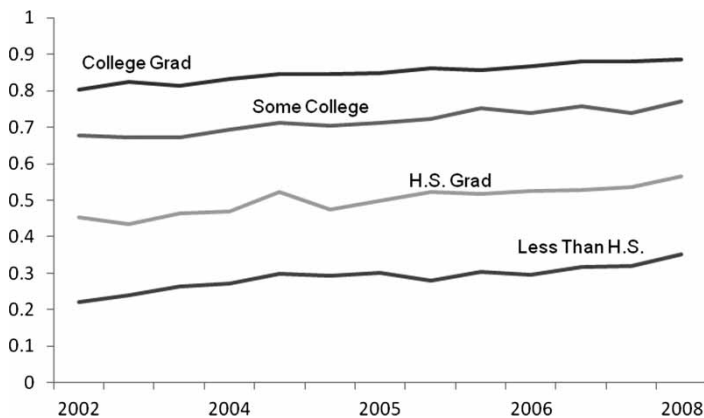


FIGURE 1 Predicted probability of ever going online among American adults. Statistically significant differences at $p < 0.05$.

Source: Logit Analysis of Pew Internet and American Life Project Surveys 2002–2008.

TABLE 1 Logit analysis of American adults and their Internet and blogging practices.

	<u>Model 1</u>	<u>Model 2</u>	<u>Model 3</u>
	<i>Internet User</i>	<i>Blog – Full Sample</i>	<i>Blog – Only Those Online</i>
<i>Education</i>			
Less Than High School	-2.27*	-0.56*	-0.11
High School Grad	-1.54*	-0.48*	-0.21*
Some College	-0.67*	-0.05	0.03
College Plus			
<i>Race</i>			
Black	-0.62*	0.13	0.26*
Asian	-0.88*	0.20	0.32
Other	-0.10	0.18	0.23
White			
<i>Ethnicity</i>			
Hispanic	-0.39*	0.06	0.07
Not Hispanic			
<i>Women</i>			
	0.22*	-0.13	-0.18*
<i>Men</i>			
Age	-0.01*	-0.08*	-0.10*
AgeSQ	-0.00*	0.00*	0.00*
<i>Main Activity</i>			
Employed Student	0.55*	0.38*	0.31*
Student	0.94*	0.50*	0.36*
Unemployed	-0.56*	-0.29*	-0.08
Retired	-0.24*	-0.29	-0.25
Employed			
Income	0.00*	0.00*	0.00
<i>Community Type</i>			
Suburban	0.02	-0.12	-0.13
Rural	-0.21*	-0.33*	-0.28*
Urban			
<i>Marital Status</i>			
Married	0.31*	-0.21*	-0.24*
Living Together	0.16	-0.10	-0.14
Divorced	0.17*	0.05	0.07
Separated	0.03	0.08	0.08

Continued

TABLE 1 Continued

	<u>Model 1</u>	<u>Model 2</u>	<u>Model 3</u>
	<i>Internet User</i>	<i>Blog – Full Sample</i>	<i>Blog – Only Those Online</i>
Widowed	-0.10	-0.49	-0.23
Single			
Parent	0.03	-0.23*	-0.21*
Time	0.02*	0.02*	0.02*
_cons	-7.39*	-12.27*	-10.30*
N	40078	30447	19873
F	323	44	26.4

Source: Pew Internet & American Life Project Surveys 2002–2008.

* $p < 0.05$.

3.3.2. *Class production gap: blogging.* Blogging also shows inequality levels based on education level. Among the general American population, descriptive statistics show that most bloggers have college experience, whereas people with less than a high school education are blogging at the lowest rates (Figure 2). Overall, the percentage of Americans who blog increased steadily from 2 percent in 2002 to 9 percent in 2008. These data, however, reflect people who have *ever* blogged. The percentage of people who are regular bloggers, who said they blogged *yesterday*, is much smaller at just 3 percent in 2008.

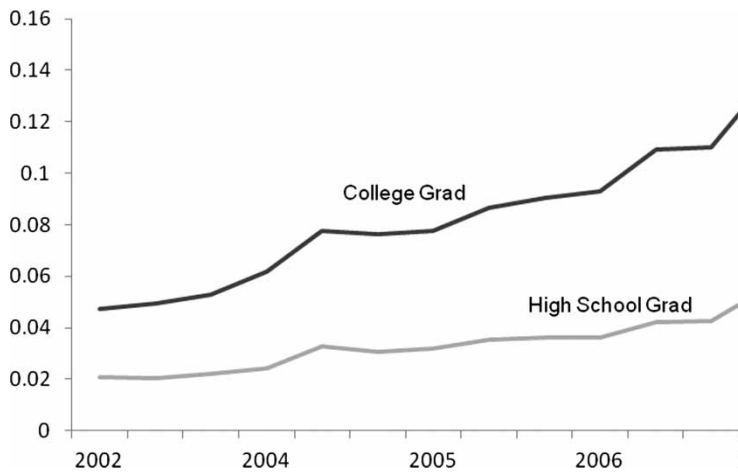


FIGURE 2 Predicted probability of blogging among American adults. Statistically significant differences at $p < 0.05$.

Source: Logit Analysis of Pew Internet and American Life Project Surveys 2002–2008.

This social media gap does not disappear with time. Once a logit analysis can factor in basic demographic variables among all American adults (Table 1, Model 2), results mirror the descriptive statistics and also show class-based inequality. The relationship between class and blogging is robust over time. Americans with lower educational levels continue to be less likely to blog. People with a high school education are, on average, ~ 1.5 times, or 50 percent, less likely to blog than college graduates over the seven-year period. This gap is statistically significant at the $p < 0.05$ level for each year (Figure 2). Higher incomes are also associated with a higher likelihood of blogging.²

What happens to the class gap when people go online? Even when people have the resources to go online, the educational gap is persistent across time, neither going up or down (Table 1). However, the actual gap is smaller than inequality among the general population, as education and income are critical for access, so, for instance, income is no longer statistically significant in this model. Nonetheless, class still matters. Many of the respondents who blog – and who have a high school education – are young adults, most of whom are 18-years old and may end up going onto higher education. In fact, student status is strongly associated with blogging. When only adults older than 25 years are part of the logit analysis, the educational gap jumps back up. Among Internet users, college-educated adults are again 1.5 times more likely to blog than their high school counterparts. Furthermore, in the logit analysis with only respondents who reported blogging the day before, a measure of regular bloggers, educational inequality persists.

3.3.3. *Race and ethnicity do not interact with class for production.* How can we explain this class-based production gap? One set of intervening variables could be race (Black) and ethnicity (Hispanic) because these demographic variables affect connectivity. Is it possible that a large portion of the high school-educated respondents who are not blogging are also more likely to be Black or Hispanic? The intersections of race and class, as well as ethnicity and class, could create more digital marginalization.

First, what of the comparison between Hispanics and non-Hispanics? Table 1 shows that Hispanic Americans are less likely to be online overall than their non-Hispanic counterparts. However, this inequality in consumption is not consistent across time for Hispanics. In 2002, Hispanics were less likely than non-Hispanics to be online, but by 2007, Hispanics are just as likely to be online in results not shown. This equality carries over to blogging. Hispanics are just as likely as non-Hispanics to blog over the seven-year period among both the general population and those online. Ethnicity and education, in this case, do not intersect. In other words, college-educated Hispanics are not more or less likely to blog than their non-Hispanic counterparts. Ethnicity gaps disappear for blogging and do not intervene or account for any class-based gaps.

What of race? While Black Americans are *less* likely to be online than White Americans, among Internet users they are slightly *more* likely to blog than Whites

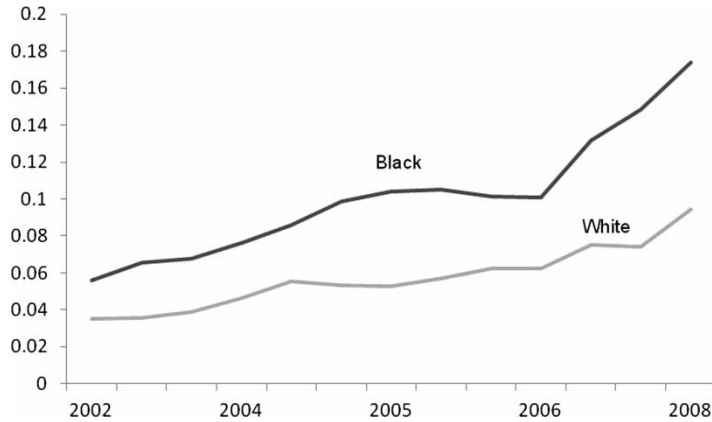


FIGURE 3 Predicted probability of blogging among American adults based on race and controlling for differences in access. Statistically significant differences at $p < 0.05$. Source: Logit Analysis of Pew Internet and American Life Project Surveys 2002–2008.

Note: This analysis includes adults over the age of 18.

across the 13 surveys (Figure 3).³ What is happening here? When all Americans surveyed are included in the logit model, Blacks are less likely to have Internet access than Whites yet *equally likely to blog*. However, among those who are Internet users, Blacks are *more likely to blog* than Whites (Tables 1 and 2). In other words, Blacks are less likely to consume content but more likely to produce it. Race matters for consumption and for production but with the significance sign flipping between the two activities. Class persists as an inequality vehicle. Nonetheless, just as with ethnicity and class, race and education do not intersect for this form of production. Race does not contribute to the education gap with blogging. In essence, the digital divide is not improving for lower educated Blacks and Hispanics like it is for higher-educated Blacks and Hispanics.

4. Discussion

A class-based production gap in blogging is consistent and persistent over the seven-year period, showing no decrease in the inequality over time. As a result, the lagged effect is not (yet) a viable explanation. The mechanism of this inequality is not race or ethnicity. Race and ethnicity matter for consumption of content but do not intervene with production, in this case blogging, to explain the class-based inequality. I will discuss these findings in light of the theoretical frames of consumption versus production, digital democracy, and diffusion.

Consumption and production frameworks help to understand how race, ethnicity, and class operate with trends in digital engagement. Table 2 shows three ways to evaluate the findings: consumption with the sample of all American

TABLE 2 2002–2008 logit results of the trend of inequality.

	<i>Consumption (Internet access)</i>		<i>Production (blogging)</i>	
	<i>Among all Americans</i>		<i>Among all Americans</i>	<i>Among those online</i>
High school grads versus college grads	Less		Less	Less
Blacks versus Whites	Less		Equal	More
Hispanics versus Non- Hispanics	Was less now equal		Equal	Equal

adults, production with the sample of all Americans adults, and production with the sample of those online. Over the 2002–2008 time period, the access gap has closed for Hispanics, who are just as likely now to consume content *and* produce blogs in both samples. This consumption comparison is the only one to have changed over time. However, the findings for Black Americans in all categories do not change over time, as they do with Hispanics. Blacks persist in their inequality with Whites in consumption. Taking into account that Blacks are less likely to be online, among all Americans, they are *just as* likely to blog as Whites. However, among those online, Blacks produce blogs at a higher rate than Whites. Simply, Blacks consume less content but once online are more likely to produce it. All these results are robust over time.

What can we say about how class, race, and ethnicity matter together? Are race and ethnicity intervening variables for class-based production inequality? We might expect some level of intersection with race or ethnicity and class in that together they create a stronger inequality effect, but the findings do not confirm this hypothesis. While race and class work together as expected for consumption inequality, they do not for this example of digital production. Since interaction effects are not at play in these models, do these findings suggest that race and class are mutually exclusive with digital engagement? Not at all. Further qualitative research could explore intersectionality in more depth. However, the results do point to Wilson's (1980) contention that class is the critical signal of inequality. Otherwise, we would expect Blacks to be less likely to blog, even among all Internet users.

So what might explain Blacks blogging more than Whites among those online? Even though African Americans are more likely to use mobile devices (Smith 2010), this cannot simply explain the difference. According to Cotton (from O'Neal *et al.* 2011), a student writing a long term-paper on a cell phone is not as convenient and viable as writing one on a computer. Similarly, while smart phones do allow for more Internet engagement, blogging generally requires different gadgets and the skills to use them, which is why class plays such a strong role. Other scholarship (Parker &

Song 2006; Byrne 2008; Correa & Jeong 2011) suggests that African Americans are motivated to participate online for shared identity and cultural expression. Daniels (2011) contends, '... the Internet encourages intimate discursive interaction, similar to the way Black barber shops and beauty salons allowed private spaces for identity discourses between Black men and women.' Perhaps, African Americans, who have been marginalized from the mainstream news media, now have a platform for participation and are more likely to blog.

So what can we conclude about digital democracy theories? It is clearly mixed. Despite the class-based blogging divide, holding class constant, findings show racial and ethnic equality with blogging as a form of production. Of those who can afford to have Internet access, Blacks are blogging more than Whites, and Hispanics are blogging just as much as non-Hispanics.

Nonetheless, questions remain as to whether or not the bloggers in the Black community are reaching the mainstream. More likely, there is a silo effect, and they have a niche platform that is mostly confined to other African Americans. Furthermore, since Blacks are less likely than Whites to consume online content, those blogs are less likely to reach the black working class. In fact, it is critical to not simply focus on those who are online and blogging. In this respect, race still matters very much, particularly its intersection with lower socioeconomic class levels. African Americans with less education and income are left out of the digital public sphere – not only is their voice barely audible but they are not hearing the wider range of voices that blogging allows.

Finally, consider the lagged effect. Is it possible that this class-based digital production gap will disappear over time? Since a high percentage of bloggers are young, and blogging itself is also in its infancy, compared to the printed press, is it possible that the socioeconomic gap will narrow as more people begin to engage in blogging and other forms of social media? This traditional diffusion theory is not supported by the empirical results of the persistent digital production gap with blogging. Even though seven years is a short time for diffusion, and conclusive claims are not possible, the gap is consistent, showing no decrease in the inequality over time, even among those already online. Diffusion models typically start with a zero percent adoption rate, say before blogging software innovators introduced the technology, and the expectation is that the gap between the early bloggers and the late-adopters would, indeed, widen to up to ~50 percent, and then as everyone starts to blog, the gap goes back to zero percent as everyone is blogging. The problem with employing this scenario with production tools is that everyone will probably not be blogging, but more importantly it does not account for class-based constraints unique to production.

While the consumption gap certainly has not closed and, in fact is leveling off, rather than tapering toward closing like with an S-curve, the beginning of the consumption gap showed a spike in results not shown. On the other hand, the blogging curve shows a primarily horizontal line among high school-educated Americans, while those with a college education have a steep rise in the

likelihood of blogging (Figure 2). Moreover, the figure shows that the actual gap is increasing, though as of yet the increase is not statistically significant.

Online content production is a different type of innovation than the consumption of, or Internet access to, a new product. The demands of basic Internet access give people time to catch on. Content creation is much different from other diffusion and lagged effect models of technology access or use, which are much more aligned to the consumption framework. Compared to digital consumers, digital producers are more likely to have control over their digital tools, adequate labor time, and an elite social context to create content.

Furthermore, the latest digital production tools constantly evolve. In fact, the data tell a different story from the lagged effect narrative. It is not simply a question of persistence of the gaps, since this might align with some theories of diffusion. Instead, newer ways to produce content continue to emerge (Schradie 2011), reinforcing van Dijk's (2005) deepening divide theory. The constantly emerging technologies and applications prohibit adoption rates from a particular productive activity from ever reaching 50 percent, since a new tool is always on the horizon. The latest technologies continue to inhabit the lives of those from higher educational levels, who are more likely than those from lower educational levels to engage in these online production technologies, leaving people from marginalized communities always running to catch up. While it is possible that some basic technologies, such as e-mail, are simple enough for everyone to engage in, these tools are not producing content for the general public. Activities that do result in content for the public's consumption, such as blogs, are already becoming passé as newer production tools, such as Twitter, have emerged onto the digital landscape.

4.1. *Limitations*

This study has a few limitations. First, emerging and shifting technologies preclude a conclusive analysis. This is not a longitudinal study, so the ability to make definitive claims of trends is limited. It is unclear where on the adoption curve either the college-educated or the high school-educated reside. However, the consistency of the data and its results over time allow for robust results. Finally, it is unclear what the audience size or content is of the blogs, whether they are for entertainment-based soap operas or politically based soap boxes. Nonetheless, this study presents a picture of the trend of blogging among the American population and finds consistent class inequality.

5. Conclusion

Even though blogging does not represent all forms of online production, it is one of the best examples of the new digital public sphere over the last decade. The blogging divide persists, challenging the lagged effect, which is not a viable

explanation for this persistent inequity in online creation. More productive applications will continue to emerge with people from lower socioeconomic levels on a treadmill never able to catch up. Instead of a trend toward more egalitarian findings, blogging shows a consistent gap.

Rather than race or ethnicity driving this inequality, surprising results emerge. Hispanics no longer are less likely to be online and are now equally likely to blog as are non-Hispanics. Black Americans are also less likely to be online but among Internet users are more likely to blog than Whites. This 'turn' from consumption to production among the African-American community would benefit from more research, particularly qualitative analyses which could probe more deeply into intersectionality. Nonetheless, these robust results suggest that even though race and ethnicity both matter with digital production it is socioeconomic class inequality that is most persistent.

Notes

- 1 Similar to this argument is that youth are early adopters, and the elderly are not as apt to embrace a new technology, but as digital natives start to age and the elderly eventually adopt or die, this gap will also disappear.
- 2 When a gap is stated throughout the paper, it is statistically significant at $p < 0.05$.
- 3 This inequality is based on the aggregate of the surveys over the time period. The number of Blacks blogging is so small each year that the trend of Blacks blogging more than Whites is only significant by using the cross-sectional analysis, although, in the individual surveys, Blacks do blog more than Whites.

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