

Ndumu, A. (2020). Toward a new understanding of immigrant information behavior: A survey study on information access and information overload among US Black diasporic immigrants. *Journal of Documentation*.

Title: Toward a new understanding of immigrant information behavior: A survey study on information access and information overload among US Black diasporic immigrants

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Abstract: Purpose – Immigration dominates much of the current US sociopolitical discourse. The research on US-based immigrant information behavior, however, remains scant. To understand the role of information in immigration, this study explores information overload among Black immigrants in the US.

Design/methodology/approach – The researcher developed a literature-derived information overload scale to investigate participants' information access along with experiences and response to information overload.

Findings – Results suggest that participants experience information overload due to behavioral (e.g. the demands of needing, seeking, or using information), quantitative (i.e. volume or length), and qualitative (e.g. authority, diversity, or urgency) indicators. Most participants mitigate information overload by turning to intermediaries and filtering resources.

Research limitations/implications – The information overload scale can advance knowledge of the role of information in immigrant acculturative stress.

Social implications – LIS researchers and practitioners can utilize findings to foster social inclusion and well-being among immigrants.

Originality/value – Scholarship on immigrant information behavior must reflect the centrality of information in migration and how it shapes integration and acculturation.

Keywords: Immigrants, Information behavior, Information overload, Acculturation, Social inclusion

Paper Type: Research

1. Introduction

According to the 2010 US Census, one in every seven people in the United States is an immigrant. The lived experience of immigrants is one of the most controversial topics in recent US history. As an area of library and information science (LIS) research, however, the subject of immigrant information behavior in the US context remains underexplored. Although information researchers and professionals recognize the urgency of information resources in immigrant settlement and social inclusion, much of the literature is abstract, localized, and descriptive. Some LIS researchers (Pyatiet al., 2008; Srinivasan and Pyati, 2007) have called for empirical knowledge of immigrant's culturally situated and information communication technology (ICT)-mediated diasporic environments. Fields such as demography and population studies recognize migrants' information capacity, agency, and dynamism (Dekker and Engbersen, 2014). However, LIS researchers have not thoroughly examined this reality; the posture of immigrants as universally information impoverished or digitally divided persists.

1.2 State of the problem

New understandings must reflect the centrality of ICT in migration in light of accelerated and global information dissemination. Immigrants – even those who are forcefully displaced – are likely to be introduced to information technology before migration. Research substantiates that those with greater ICT access are more likely to migrate (Forunati et al., 2013; Nedelcu, 2012). Upon relocation, however, they often encounter information landscapes that are “huge, overwhelming, and too much”(Lloyd, 2015, p. 197) in comparison to those of their countries of origin. Migrants might, therefore, become “exacerbated by the multiple formats and channels available” (Bawden and Robinson, 2009, p. 3). This area of immigrant information behavior warrants attention.

1.3 Purpose

By repositioning the discourse from the stance of deficiency, or information poverty, to the dilemma of an abundance of choice (Bawden and Robinson, 2009), or information overload, this study may bring to the forefront a taken-for-granted aspect of migration. Commonly perceived as a by-product of mainstream society, researchers have not viewed information overload from the perspective of immigrants. Classic information overload research involves middle-class consumers, professionals, and technophiles within information-intense settings such as workplaces, businesses, and the academy. Here, attention is granted to an understudied population – Black immigrants. To be sure, this is not to say that Black immigrants are not middle-class, consumers, professionals, or technophiles. Plenty has been established about mainstream society. Borrowing from the US Census Bureau definition, a Black immigrant is operationalized as any foreign-born Black (single or mixed race) adult (aged 18 or over) who permanently resides in the United States, regardless of immigration status. The United States is home to 3.8–5.2 million Black immigrants primarily of African, Afro-Latinx,

and Afro-Caribbean descent. Though far from monolithic, Black immigrants' perspectives on information access and overload might reveal important aspects of this community's experiences with acculturative stress. This study will investigate whether there is congruence between immigrants' information access, information overload, and acculturation. This segment of the population was selected because there is very little LIS research on immigrants from the Pan African diaspora; these groups are often homogenized within larger LIS discussions on Black Americans or are subsumed with comprehensive scholarship on immigrants. This study is part two of a three-study dissertation (Ndumu, 2019, 2020) on the information behavior of Black immigrants living in the United States.

1.4 Theoretical framework

The theory of information worlds provides a theoretical perspective from which to understand information access and possibly information overload among immigrants. Originated by Burnett and Jaeger (2008), it is a framework for conceptualizing information behavior. Information worlds reflects the dual role of the individual in society (Burnett et al., 2001; Burnett et al., 2008; Burnett and Jaeger, 2008; Jaeger and Burnett, 2010) and offers a multifaceted argument involving the intersection of personal and public information transfer. Information may exist in the mind of an individual, or community exchanges, or even throughout abstract systems or processes resulting in social significance (Worrall, 2014). An information world is comprised of (1) social norms, or ethos as well as decorum dictated by the community; (2) social types, or the identities and roles that members take on and/or are assigned; (3) information value, or the significance placed on information; (4) information behavior, acceptable activities that impact the members' interactions with information; and (5) boundaries, the margins or perimeters that influence the movement of information. The application of the theory of information worlds suggests that Black immigrant groups approach information as a mechanism for acculturating within US society yet as an extension of their cultural traditions. Although this study cannot be considered representative of the entire population of Black immigrants in the United States, the findings afford insight into this community's information worlds.

1.5 Research questions

To explore the relationship between information access and information overload among US Black immigrants, the following questions were designed:

RQ1. How do Black immigrants living in the United States access information? RQ2.

Do Black immigrants experience information overload?

RQ3. If so, what characteristics (e.g. amounts, resource types) or settings (e.g. physical spaces) are associated with information overload?

RQ4. If so, how do Black immigrants respond to information overload?

For this study, “information” is broadly defined as “the pattern of organization of matter and energy,” as posited by Bates (2006). Information can be embodied versus encoded and experienced, expressed, embedded, or recorded.

2. Literature review on information overload

Information overload is generally characterized as “the point at which information becomes more of a hindrance rather than a help” (Bawden and Robinson, 2009, p. 4). It involves subjective and objective user dynamics as well as concrete and abstract resource characteristics. The very discussion of information overload elicits various conceptualizations. Narrow interpretations see information overload as “the proliferation of available data and publications and ever-more-comprehensive and widespread, automated means of access to them” (Biggs, 1989, p. 411) while broad interpretations hold that it is “the pressure of too much information” (Bawden and Robinson, 2015, p. 243).

Information overload represents the difficulty of working one’s way through vast, complicated, or hard-to-reach resources. Synonyms are both colorful and plentiful: analysis paralysis (Schwartz, 2004); cognitive dissonance (Festinger, 1962); continuous partial attention (Rose, 2011; Stone, 2007); data smog and infobesity (Shenk, 1997); infoglut (Andrejevic, 2013); information anxiety (Wurman, 1989; Wurman et al., 2001); information diet (Johnson, 2012); information inflation (Doomen, 2009); information pollution (Nielsen, 2003); library anxiety (Bostick, 1993; Mellon, 1986; Jiao et al. (2006); multidimensional library anxiety (Van Kampen, 2004); overchoice or choice overload (Toffler, 1990); reference overload (Radford, 1996, 1999; Reichardt, 2006); tyranny of small decisions (Kahn, 1966); and technostress (West, 2007).

2.1 Historical context

A common misconception is that information overload is a problem unique to the information society and the correlative rise in ICTs. On the contrary, information overload has been a concern since the invention of recorded information along with the transmission of communication and was alluded to by Socrates and even Biblical writers (Bawden and Robinson, 2009; Gleick, 2011). However, it did not enter the public consciousness until the industrial era and the invention of the printing press. Though he did not explicitly use the term, neurologist George Beard (1881) warned in *American nervousness: Its causes and consequences*, a supplement to nervous exhaustion that a deluge of reading materials such as newspapers, magazines, and books cause anxiety, headaches, dyspepsia, or even mental breakdowns (Beard, 1881; Lincoln, 2011). The term “information overload” was first mentioned in Gross’ (1964) *The managing of organizations* but was popularized by Toffler’s (1990) *Future shock*.

Information overload has been addressed in several domains; Akins (1997) pinpoints at least 20, the top four being business, communications, information technology, and LIS.

In their meta-analysis of information overload, Eppler and Mengis (2004) review an array of operationalizations, contexts, variables, and measurements across fields such as consumer and decision science, management and organizational studies, communications, and marketing. The earliest empirical studies involving information overload were conducted in business or clinical contexts including neurocognition, psychology, management, and consumer choice. The works of Shannon and Weaver (1949), George Miller (1956, 1968), James Miller (1960, 1963, 1964, 1978), and Klapp (1978, 1986) provided solid foundations on information overload.

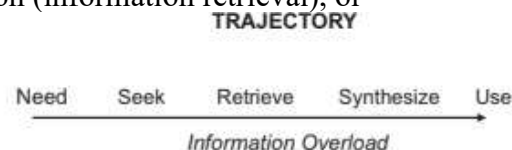
The debate surrounding information overload has also influenced popular culture. It became a catchphrase particularly during the 1990s as a result of a series of large-scale reports on how the prevalence of information contributed to poor health along with gross inefficiency (Bawden and Robinson, 2009, 2015). For example, a 1996 Reuters survey of business managers, *Dying for Information*, revealed that two-thirds of managers believed information overload was directly related to job dissatisfaction, struggling personal relationships, and ailing health. TED Talk founder Richard Paul Wurman's (1989, 2001) *Information Anxiety 1* and *2* warned about the pressures of functioning in the Information Age. Similarly, in his best-selling historiography of humankind's relationship with information across five millennia, Gleick (2011) contended that "we have met the Devil of information overload and his impish underlings, the computer virus, the busy signal, the dead link, and the PowerPoint presentation" (p. 5).

As ICT advances, the discourse on information overload regenerates. Information overload is now positioned as an assault brought on by the prevalence of social media. The casualties are attention, relationships, and identity formation. Allen and Shoard's (2005) study on the effect of mobile ICT on information overload, Feng and Agosto's (2017) investigation of mobile information overload, Beudoin's (2008) examination of the adverse effects of Internet use, along with Rodriguez et al.'s (2014) work on social media use and information overload give credence to such concerns.

2.2 Behavioral dimension

Information overload is commonly thought of as a spectrum. Some researchers suggest that a linear relationship exists between the user and the information (Bawden and Robinson, 2009; Jackson and Farzaneh, 2012; Jacoby, 1984; Meier, 1963), whereby information overload can intrude at any point and to varying degrees (Figure 1). When interpreted as such, a person might feel pressured at the discovery phase, or by the very demand for information (information need), as they actively seek resources (information seeking), when they acquire information (information retrieval), or

Figure 1.
Behavioral (linear)
dimension of
information overload



possibly the stage when they process (information synthesis) or use (information use) information.

This sequential, behaviorist interpretation of information overload dominated early scholarship. Weick (1970) concluded that information overload is “the perceived inability to maintain a one-to-one relationship between input and output within a realizable future, given an existing repertoire of data and desires” (p. 68). Rogers (1983) wrote that information overload is “the state of an individual or system in which the excessive communication inputs cannot be processed, leading to break down” (p. 181). The overarching concern in these early studies was how the proliferation of information resources and data impacted decision-making and productivity (Speier et al., 1999). It is important to note that while the sequential, behaviorist interpretation of information overload traditionally corresponds with technological and information-saturated settings, the present research also takes into account everyday, offline, nontechnical, and culturally relevant information needs, seeking, retrieval, synthesis, and use.

2.3 Quantitative dimension

Quantifiable aspects of information overload might include the number of resources along with each artifact’s length or duration. What is generally deemed a valuable commodity – ample information – becomes unmanageable, inconvenient, or otherwise a liability (Bawden and Robinson, 2009; Case, 2010, 2016). Information overload can also be temporal (Akin, 1997). Time poses several potential problems. For one, the act of acquiring or handling information consumes time. For another, information may be necessary to address time sensitive needs (Akin, 1997). Also, users may need the most recent information. Urgency and currency are therefore important considerations when analyzing information overload.

Further still, an individual can be overwhelmed not only by amounts but also by the very places where information can be sought. Locales, then, represent a spatial, physical aspect of information overload. “Libraries are prime sites for overload,” as Case (2010, p. 118) puts it. In his study on over 6,000 college students, Mellon (1986) found that 80 percent experienced library anxiety. Gross and Latham (2007), Jiao et al. (2006), and Kuhlthau (1988) arrived at similar findings. To further explore this phenomenon, Bostick (1993) introduced the library anxiety scale, which Van Kampen (2004) later expanded into the multidimensional library anxiety scale. Following the same line of inquiry, Reichardt (2006) investigated reference overload, or when librarians, well-intended but misguided, present users with too many resources.

The quantitative aspects of information overload often are often likened to overconsumption (Akin, 1997), as evidenced by Johnson’s (2012) call for an “information diet”; Andrejevic’s (2013) warnings against “infoglut”; and Shenk’s (1997) exhortations on “infobesity.”

2.4 Qualitative dimension

Qualitative characteristics of information overload involve resource type (primary, secondary, or tertiary source) or abstract content attributes such as diversity, ambiguity, novelty, complexity, authority/reputation, completeness, informativeness, consistency, volatility, and accessibility (Stvilia and Gasser, 2008). The nebulous nature of information causes overload. Simpson and Prusak (1995) elaborate on broad attributes of information overload such as truth (credibility), guidance (assessment), weight (authority), accessibility (ease of access), scarcity (lack). Users can also feel daunted by requisite treatment – the need to read, tally, edit, synthesize, populate, or submit a resource (Lincoln, 2011; Eppler; Mengis, 2004). Tangential to this, Hwang and Lin (1999) found that both variance and homogeneity of resources may intimidate users. There is also the related problem of the genericized nature of information. Bawden and Robinson (2009) argue that information resources, though diverse in content, are delivered through a limited number of interfaces, predominantly a Web interface. The result is a perceived uniformity of information, or homogenized diversity, “with the look and feel of different resources of the print age – a textbook, a newspaper, a handwritten diary entry, a photocopy of a journal article, a printout of a data file – being largely lost” (p. 2).

2.5 Cognitive dimension

Unlike the behavioral, quantitative, and qualitative dimensions of information overload, the cognitive dimension represents the effect and affect of information overload on the user. Mintzberg (1975) interpreted information overload as “brains having difficulty processing all the relevant information –there is too much, it may be with expectations or previous patterns, and some of it may simply be too threatening to accept” (p. 17). Information overload can prompt feelings of powerlessness, anxiety, or fatigue (Wurman, 1989, 2001). Klapp (1986) suggested that surplus information acts as noise and results in confusion. Miller (1960) argued that it could lead to a host of other responses: omission (failing to process some of the inputs); error (processing the information incorrectly in some way); queuing (delaying processing of some information with the intention of catching up later); filtering (processing only that information identified as having “high priority”); approximation (lowering standard of discrimination by being less precise in categorizing inputs and responses); multiple channels (splitting up the incoming information in order to decentralize the response); and escaping (dismissing the burden of attending to inputs).

Katz and Kahn (1966) expound upon Miller’s concepts and substitute the terms queuing, filtering, and approximation for omission, error, and escape, respectively. They suggest that the ways people adjust to excess information are based on well-considered priorities. Theories such as the principle of least effort (Zipf, 1949; Case, 2010, 2016), satisficing (Simon, 1957), rounding (Solomon, 2002), or sensemaking (Dervin, 1998) support the idea that users are governed by bounded rationality where they arrive at the best possible decisions using immediate circumstances.

It is possible to deeply internalize information overload. A number of theories enrich our understanding of the psychological ramifications of information overload. Schwartz (2004) describes “the paradox of choice,” Festinger (1962) writes of “cognitive dissonance,” and Rose (2011) and Stone (2007) describe, through the theory of continuous partial attention, the process of simultaneously observing or considering, at a superficial level, multiple sources of information. This coping mechanism is similar to what Kahn (1966) calls the “tyranny of small decisions.” The prevalent metaphor here is environmental harm: information pollution (Nielson, 2003), data smog (Shenk, 1997), or dissonance (Festinger, 1962).

2.6 Relevance to research on immigrant information behavior

Prior conceptualizations describe the facets of and responses to information overload. The behavioral, quantitative, qualitative, and cognitive dimensions of information overload are relevant when considering how immigrants navigate new information environments as they adjust to life in the United States. This adjustment or acculturative period is critical. Defined by Rudmin (2009) as “second culture acquisition and adaptation,” acculturative learning depends on information absorption, but “information has rarely been examined for its effectiveness as a method of second-culture learning”(Rudmin, 2009, p. 118). Acculturation can last up to 25 years, according to longitudinal studies (Meca et al., 2018). Research from an array of disciplines holds that the first five years post-immigration comprises a “sensitive acculturative period” (Cheung et al., 2011) when a newcomer is at higher risk of acculturative stress. Acculturation, like information overload, is a highly personalized and subjective experience (Berry, 1997). Still, positive information encounters are essential to acculturation (Mercado, 1997) and the lack of information is not the only possible problem. Immigrants might feel pressured by voluminous and complex information or pressures stemming from the various stages at which they need, seek, use, or process resources.

While acculturation is a frequent topic of interest within population and migration studies, there are no known studies connecting information overload and acculturation. In fact, empirical studies on how people experience information overload are meager (Akin, 1997; Tidline, 2000; Savolainen, 1995). There have been concerns as to the ability to truly examine such a complex construct, with scholars such as Akin (1997) noting that historical information overload experiments addressed searching competence, not information overload. Lincoln (2011) similarly argues that information overload research lacks standardization. This article addresses this limitation within the research canon by introducing an information overload scale that relates to the immigrant context. Real-world connections between information overload and social problems (e.g. risks to social inclusion or acculturation) are important for linking LIS research to community well-being. Research that explores how information intersects with immigrants’ quality of life is important and necessary.

2.7 Literature-derived information overload indicators

The following information overload index was constructed based on content analysis of well-known information overload research (Table I):

For a newcomer or immigrant who is adjusting to new information environments, information overload can be triggered by the demands associated with needing, seeking, selecting, retrieving, and using information. These constructs coincide with the behavioral dimension of information overload. The various requirements – whether perceived or actual, self-imposed or external, optional or obligatory – can result in a sense of pressure. An immigrant may also feel overloaded by a resource's attributes, particularly if the resources are unfamiliar.

Concrete resource attributes include the format (print, digital, verbal, and visual); amounts insofar as volume or length (excess or scarcity); time-adjacent (temporal) or extent of timeliness (currency) or geolocative aspects (spatial). Nonconcrete attributes, which might render an information resource unattainable or burdensome, include variance or heterogeneity (diversity), convenience of obtaining (accessibility), legitimacy or respectability (authority), difficulty (complexity), necessary action/reaction (treatment), or priority (urgency).

Information overload indicator	Dimension	Description
Information need	Behavioral	Act of recognizing a requirement for an information resource
Information seeking	Behavioral	Act of looking for or attempting to obtain an information resource
Information selection/ retrieval	Behavioral	Act of choosing or obtaining an information resource
Information use	Behavioral	Act of utilizing or applying an information resource
Print format	Qualitative	Information resource that is available as a physical document, such as print books or letters
Digital format	Qualitative	Information resource that is available online, such as websites, eBooks, blogs
Verbal format	Qualitative	Information resource that is available as verbal communication, i.e., songs, face-to-face conversations
Visual format	Qualitative	Information resource that is available as a visual or art resource, i.e., photograph, flyer, logo
Excess information	Quantitative	Large volume or length of information resources
Scarce information	Quantitative	Small volume or length of information resources
Currency	Quantitative	Current nature or timeliness of an information resource
Diversity	Quantitative	Variance or heterogeneity of information resources
Accessibility	Quantitative	Convenience of obtaining information resources
Authority	Quantitative	Power associated with an information resource
Complexity	Quantitative	Content difficulty of an information resource
Treatment	Quantitative	Action or process that is required of an information resource
Urgency	Quantitative	Attention or consideration that is required of an information resource
Spatial/temporal	Quantitative	Physical or geographic location that is associated with an information resource

Table I.
Information overload indicators

3. Methods

A survey questionnaire was used to quantify (1) how Black immigrants access information, (2) the extent to which they encounter information overload, and (3) corresponding amounts, types, channels, treatment, and other dimensions. This method was selected for its explanatory potential or utility in regard to illustrating patterns in a

rational and concrete manner. The survey approach is ubiquitous within LIS research. A 2008 bibliometric examination of the LISTA database by Gonzalez-Alcaide and colleagues suggests that “survey” was the seventh most frequent descriptor (out of almost 7,000 total) as well as the single most frequent co-occurring descriptor for articles on academic or public libraries. Several other studies suggest that surveys are used in anywhere from one-quarter to a third of all LIS studies (Davies, 2012; Hildreth and Aytac, 2007; Hider and Pymm, 2008; Luo and McKinney, 2015; Tuomaala et al., 2014; Turcios et al., 2014).

Here, the survey method allowed for a systematic examination of information overload and the subsequent evaluation of an information overload scale. The researcher designed a 26-item questionnaire to investigate information as a stressor from the point of view of Black immigrants. The instrument contained multiple choice and open-ended questions that were divided into three sections: (1) personal demographics, (2) information access, and (3) information overload. The information overload scale (section III of the questionnaire) consisted of a Likert scale (0 5 never; 1 5 seldom; 2 5 sometimes; 3 5 often; 4 5 very often) to measure how frequently, if at all, respondents felt overwhelmed or burdened by specific information overload indicators. This scale was developed using a deductive approach based on the literature-derived constructs, or what Oosterveld (1996) calls the external and prototyping technique based on the state of knowledge of the phenomena of interest and what Timmers and Glas (2010) refer to as the presence of substantial knowledge about the content and structure of an occurrence. Responses were therefore precoded based on the definitional value of various information overload indicators.

The instrument was pilot tested for functionality by five individuals who met the inclusion criteria. Based on pretest feedback, the questionnaire was refined to make questions and constructs univocal and intuitive. In addition to face validity through construct coverage in prior research, the scale’s content validity is believed to be sound, as Pearson’s correlation coefficients between constructs and information overload scores ranged from 0.393 to 0.932. Internal consistency reliability of the scale, or the standardized Cochran’s alpha, equaled 0.927.

Print surveys were available in English, Spanish, and French to ensure inclusivity and achieve a strong response rate. An online version of the questionnaire was created in English using the Qualtrics software; it allowed respondents to translate surveys into several languages. The survey link was first distributed to potential participants electronically via email and social media. Additionally, the researcher distributed and collected print surveys throughout churches, restaurants, parks, and similar public places in Miami, Florida; Washington, D.C.; and Houston, Texas. These cities are recognized as having sizeable Black immigrant populations, according to Census data. Participants were encouraged to recommend additional participants. Therefore, sampling included a mixture of snowball and convenience approaches. Data collection took place between July and December 2017. An a priori analysis indicated that 64 responses were needed to achieve statistical power. Although the research herein cannot be considered

representative of the entire population of Black immigrants in the United States, the findings afford insight into their information worlds.

Points for the 18 constructs were tabulated, and each participant was given an information overload score ranging from 0 (low) to 72 (high). Descriptive statistics provide raw measurements of the dynamics of information overload and information access based on responses. Since data collection was not random, nonparametric analyses were necessary to further explore relationships. The one-sample Kruskal–Wallis H test and Mann–Whitney tests were used to evaluate differences in information overload scores among demographic subgroups.

4. Results

4.1 Demographic characteristics

A total of 104 responses were collected. Thirteen responses were eliminated due to incompleteness or ineligibility (i.e. US-born participants or international students). Ninety-one responses were analyzed. In terms of ethnicity, 51.6 percent (n 5 47) were Afro-Caribbean, 31.9 percent (n 5 29) participants were African, and 16.5 percent (n 5 15) were Afro-Latinx, as shown in Figure 2.

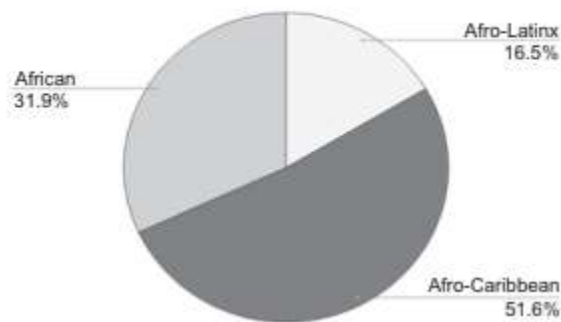


Figure 2.
Ethnicities

Variable	%	N
<i>Ethnicities</i>		
Afro-Caribbean	52	47
African	32	29
Afro-Latin	17	15
<i>Countries of birth</i>		
Jamaica	23	21
Haiti	19	17
Nicaragua	12	11
Tanzania	12	11
Uganda	9	8
Bahamas	5	5
Nigeria	5	5
Panama	2	2
Cameroon	2	2
Guyana	2	2
Kenya	2	2
Belize	2	2
Barbados	1	1
Bermuda	1	1
Dominica	1	1
Dominican Republic	1	1
Ghana	1	1
Honduras	1	1
Trinidad and Tobago	1	1
<i>Languages or dialects</i>		
English	100	91
Spanish	24	22
Haitian Creole/Kreyol	19	17
French	15	14
Swahili	15	14
Luganda	0.07	7
Jamaican patois	0.05	5
Igbo	0.02	2
Hausa	0.02	2
Yoruba	0.02	2
Kikuyu	0.01	1
Edo	0.01	1
Lunyankoke	0.01	1
Chaga	0.01	1
Ankole	0.01	1
Lugisu	0.01	1
Akose	0.01	1
Turkish	0.01	1
Arabic	0.01	1
Ta	0.01	1
Ewe	0.01	1
Twi	0.01	1
Japanese	0.01	1

Table II.
Cultural heritage

As demonstrated in Table III, ages ranged from 20 to 81, with 43 being the mean age (SD 5 14.70). Thirty percent (n 5 28) of participants represent what migration literature (Rumbaut, 2004) calls “Generation 1.75,” or dependents who migrated closer to birth; 17 percent (n 5 16) arrived as teenagers or “Generation 1.25,” dependents who migrated closer to adulthood; and 50 percent (n 5 46) migrated as adults. In terms of year of migration, 16 percent (n 5 15) migrated to the United States since 2008; 24 percent (n 5 22) migrated between 1998 and 2008; 18 percent (n 5 17) migrated between 1988 and 1998; and 40 percent (n 5 36) migrated prior to 1988. The mean migration age was 20 (SD 5 12.43).

Variable	%	N
<i>Gender</i>		
Female	67.8%	61
Male	31.9%	29
<i>Age</i>		
18–34	25.2%	23
35–60	58.2%	53
60–83	16.4%	15
<i>Migration age</i>		
1 mo.–12 yrs	30.7%	28
13 yrs–18 yrs	17.5%	16
Over 18 yrs	51.6%	47
<i>Education</i>		
Grade school/primary	0.01%	1
High school/secondary	23.1%	21
Bachelor's	44.2%	40
Vocational/technical	4.4%	4
Professional	.01%	1
Master's/PhD	26.3%	24
<i>Employment</i>		
Employed	76.9%	70
Unemployed	6.6%	6
Retired	12.1%	11
Disabled	1.09%	1
Student	2.19%	2
<i>Marital status</i>		
Married	42.8%	39
Never married	36.2%	33
Widowed	10.9%	10
Separated	1.09%	1
Divorced	1.09%	1
<i>Number of children</i>		
0	30.7%	28
1–2	38.4%	35
3 or more	29.7%	27

Table III.
Demographics

Table II represents backgrounds. Participants noted 19 different countries of origin (six African, five Central or South American, and eight Caribbean) along with 26 languages or dialects. Participants resided in eight states and 27 different US cities or towns, of which the most frequently noted were Miami, Los Angeles, New York, Houston, and Washington, D.C.

Sixty-eight percent of participants were women (n = 62) and 32 percent were male (n = 29). Forty-four percent (n = 40) held Bachelor's degrees; 26% (n = 24) had Master's or Doctorate degrees, 4.4 percent (n = 4) received vocational or technical training (e.g. cosmetology; electrician), and one person held a professional (medical, pharmacy, or law) degree. Most participants were either married (43 percent, n = 39) or never married (33 percent, n = 30) and were employed full time (77 percent, n = 70) or retired (12 percent, n = 11). The majority (52 percent, n = 47) did not have children. Fourteen percent (n = 13) had one child, and 33 percent (n = 30) had two or more children.

	Variable	%	N
Table IV. ICT and information resources	<i>ICT devices</i>		
	Smartphone—home	91%	83
	Tablet—Home	89%	81
	Computer/laptop—home	33%	30
	Computer/laptop—work	70%	56
	Smartphone—work	65%	54
	Tablet—Work	37%	51
	<i>Information resources</i>		
	Internet	88%	80
	Family/friends	76%	70
	Work colleagues	73%	66
	Media	36%	30
	School/university	26%	24
	Church/temple	20%	18
	Public library	7%	6
	Cyber café	2%	2
	<i>Resource preferences</i>		
	Accuracy of resources	87%	82
	Ease of locating resources	67%	63
	Timeliness of resources	66%	62
	Speed of locating resources	65%	61
	Familiarity of resources	32%	59

	Variable	%	N
Table V. Information activities	<i>Daily information behavior</i>		
	Info needing	61%	56
	Info seeking	56%	51
	Info use	58%	54
	<i>Information activities</i>		
	Education/career	66%	60
	Health/wellness	50%	46
	Finance/work	52%	47
	Legal/immigration	13%	12
	Housing/community	29%	26
	Parenting/dating	28%	25
	Religion/spirituality	40%	36
	Shopping/entertainment	40%	36
	Social/recreational	23%	30
	Politics/current events	29%	27

4.1.1 Access to information. As shown in Table V, when it came to home ICT access, 91.2 percent (n 5 83) of participants had access to desktops or laptops; 89 percent (n 5 81) had smartphones; 32.9 percent (n 5 30) had tablets. Among those who were employed, 70.3 percent (n 5 64) of participants had access to desktops or laptops; 64.8 percent (n 5 59) had access to smartphones; 27.4 percent (n 5 25) had tablets. A large proportion of participants (76 percent, n 5 70) relied on friends or family (in person or virtually) along with Internet reference tools such as Google (88 percent, n 5 80). Responses suggest that television, radio, and newspapers were not as frequently used (36 percent, n 5 33) and few participants (7 percent, n 5 6) sought public libraries for information resources.

Concerning engagement with information, 51 percent (n 5 46) of participants answered that they needed information daily; 46 percent (n 5 40) of participants indicated that they searched for information daily; 48 percent (n 5 44) indicated that they used information daily. Another 31 percent (n 5 28), 35 percent (n 5 32), and 35 percent (n 5 32) indicated that they needed, sought, and used information (respectively) at least once a week or at most 4–6 times a week.

Participants sought information primarily for education needs (66 percent, n 5 60); religion/spirituality (40 percent, n 5 37); health and wellness (40 percent, n 5 36); and finance/ employment (32 percent, n 5 29). Only 13 percent of participants (n 5 12) indicated that they sought legal or immigration information, but 29 percent (n 5 27) noted politics as a top reason for information seeking. Although only 20 percent of participants (n 5 18) indicated that they relied on their church or temple for information resources, religion/spirituality was a primary reason (40 percent, n 5 37) for information seeking. Data on information activities and preferences is provided in Table V.

4.1.2 Experiences with information overload. Information overload scores ranged from 0 (low) to 72 (high) with a mean of 29 (SD 5 14.06), as shown in Figure 3 The assumptions of independence of cases, normal residual distribution, homogeneity of variance were sound, according to Levene’s test. However, sampling was not randomized. Statistical analyses called for nonparametric analyses, as a result. Kruskal–Wallis H and Mann–Whitney tests were used to analyze differences between information overload scores among subgroups.

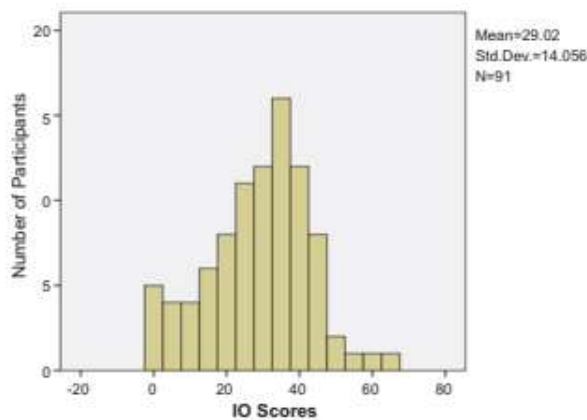


Figure 3.
Information overload
scores

As shown in Table VI, results indicate that there was no significant difference in information overload scores as it relates to age at migration, $H = 1.511$, $p = 0.470$ based on mean information overload scores of 40.02 for those who migrated as children (Generation 1.75), 45.50 for teens (Generation 1.25), and 47.61 for adults. There was also no significant difference in information overload scores based on length of time

since migration: $H(5) = 0.149$, $p = 0.928$, although those who migrated within the last 10 years had higher overall information overload scores ($M = 48.31$) than those who migrated within the last 20 years ($M = 45.57$) or 30 years ($M = 45.48$). Participants who indicated that they had at least one child before migrating had higher information overload scores ($M = 48.44$) than those who indicated that their children were all US-born ($M = 47.07$). Participants who had no children had the lowest overall information overload scores ($M = 42.43$). However, further analysis showed that these differences were not statistically significant: $H(5) = 0.022$, $p = 0.881$.

Mann–Whitney tests were used to analyze differences in scores based on gender and marital status. Results suggest that there was no significant difference in information overload scores based on marital status: $u(4) = 0.571$, $p = 0.923$, $r = 0.27$. However, there were significant differences based on gender: $u(1) = 6.538$, $p = 0.001$, $r = 0.98$. Findings depict that males had significantly higher information overload scores ($Mdn = 35$) than women ($Mdn = 28$).

4.1.3 Characteristics and settings associated with information overload. Table VII reflects the frequency of information overload indicators, with those that are prominent in bold. Information overload was commonly associated with behavioral indicators. About 62 percent ($n = 56$) of participants expressed that they experienced information overload as a result of needing, seeking, and acquiring information. Information use was least likely to prompt information overload. Concerning quantitative indicators, about 69 percent ($n = 63$) of respondents attributed excess or lengthy information, and 59 percent ($n = 53$) attributed scarce information. Fifty-eight percent of participants experienced information overload due to the currency of information. Resource format (e.g. print, digital, verbal) was the least prevalent among indicators. Survey participants were provided with the option to include comments. Based on these comments, information overload also relates to:

- (1) visual stimulation (“Too much visual stimulation from all the various avenues [movies, ads, television, billboards]—even taken in passively can be overwhelming”);
- (2) automated voice recordings (“automated voice recordings while seeking information by phone can be a challenge at times”);
- (3) false information (“In the age of the Internet, it is not easy to distinguish real info from false info”);
- (4) large volumes of information (“huge volume [sic] of new information being constantly created”);
- (5) volatility (“It seems to me that in the U.S. information can be changed easily; it is not final”);

(6) credibility (“There are too many sources that provide information, and it is hard to know which ones are legitimate and which ones are not legitimate”; “Some info is not well-searched; thus misleading”).

	Indicators	%	N
Table VII. Information overload indicators with frequencies	<i>Behavioral</i>		
	Information need	60.4%	55
	Information seeking	61.5%	56
	Information selection/retrieval	61.5%	56
	Information use	58.2%	53
	<i>Quantitative</i>		
	Excess information	69.2%	63
	Scarce information	59.3%	54
	Currency information	58.2%	53
	<i>Qualitative</i>		
	Print format	24.1%	34
	Digital format	40.6%	37
	Verbal format	35.1%	32
	Visual format	40.6%	37
	Accessibility	49.4%	45
	Authority	59.3%	54
	Complexity	57.1%	52
	Diversity	58.2%	53
	Spatial/temporal	53.8%	49
	Treatment	52.7%	48
	Urgency	59.3%	54

4.1.4 Negotiating information overload. The final portion of the survey evaluated the cognitive dimension or how Black immigrants respond to information overload. Selections were not mutually exclusive.

As shown in Table VIII, 67 percent (n 5 61) of participants indicated that they at times deal with information overload by turning to intermediaries for help; 87 percent (n 5 79) expressed that they do more research on their own; 54 percent (n 5 49) of participants decide quickly based on circumstances (e.g. satisficing, filtering, approximating); and roughly 30 percent of participants (n 5 27) deal with information overload by postponing the task (e.g. stunting, queuing, escaping).

5. Discussion

5.1 Information access

Despite the variance among participants’ profiles, there appears to be a shared experience in terms of information access. Participants were found to have adequate information access as evidenced by the fact that most utilized ICT devices at home (91 percent) and/or work (70 percent). Participants also engaged regularly with information; most noted that they needed (61 percent), searched for (56 percent), or used (58 percent) information on a weekly or daily basis. Family and friends (76 percent) and Internet reference tools (88 percent) were the most frequently used resources. Information access appeared to be linked to upward mobility, as indicated by the fact that the top four reasons for using information were education/career (66 percent), health and wellness

(50 percent), and finance and employment (52 percent). Respondents were often overwhelmed by needing (60.4 percent), seeking (61.5 percent), or selecting (61.5 percent) resources, which can all be considered customary to immigrant acculturation and integration. It is presumable that the pressure to become socially included coupled with their transnational identities shapes how participants engage with information. Information overload can thus be seen as a function of how immigrants address social boundaries and expectations along with the settings that prompt needing, seeking, retrieving, and handling information.

5.2 Information overload

Information overload, according to responses from Black immigrants who participated in this study, appears to be linked to the vastness of information. Respondents shared that they felt overwhelmed by excess (69 percent), urgency (59 percent), and authority (59 percent). They did not appear to be overwhelmed to the same level by modes of resource dissemination. Participants expressed being comfortable with multimodal (both print and digital) or multimedia (for instance, both television, radio) resources. Likewise, respondents were less likely to be overwhelmed by resource formats – that is print (24 percent), digital (40 percent), verbal (35 percent), visual (40 percent). However, a significant proportion of respondents specified that resource complexity (57 percent) and diversity (58 percent) prompt information overload. Information settings that require compliance or action are also linked to information overload. According to respondents, obligatory or administrative information can create a burden. This finding may reflect some of the information-related triggers or stressors that immigrants encounter as they acculturate and integrate – for instance, those involving complicated, long-term, high-stakes, and possibly legal/official information incidents (i.e. employment, housing, immigration, and health).

Response	%	<i>N</i>	Table VIII. Information overload responses
Intermediary	67.1%	61	
Filtering	86.8%	79	
Satisficing	53.8%	49	
Postponing	30.3%	27	

5.3 Sociocultural considerations

Findings counter notions that immigrants are uniformly prone to information poverty (Benitez, 2012; Ono and Zavondy, 2008; Shen, 2013), gatekeeping (Agada, 1999; Khoir et al., 2015; Metoyer-Duran, 1991, 1993), and the digital divide (Alam and Imran, 2015; Ono and Zavondy, 2008), all of which inhibit access to information. Personal narratives are essential when studying immigrant information behavior, regardless of group experience. Immigrant type, language, age, age at migration, reason for migration, country of origin, and information habits prior to migration are important considerations. As much as possible, research on immigrant information behavior

should seek to include participant or population profiles. Without such context, research paints an incomplete picture. For instance, based on the findings of this study, participants who identified as Generation 1.75, or child migrants, appear to adapt to the US information landscape in that they displayed higher levels of home and work ICT access as well as lower information overload scores than their counterparts. Those who migrated as teenagers, Generation 1.25, displayed moderate levels of home and work ICT access and higher information overload scores in comparison to Generation 1.75. Those who migrated as adults displayed the highest information overload scores. It can thus be said that participants who spent their formative years in the United States fare better in regard to adapting to the US information landscape and are less prone to information overload.

Similarly, nearly twice as many Black immigrant women took part in the survey compared to their male counterparts, but Black males displayed 23 percent higher information overload scores than Black immigrant women. Further statistical analysis confirmed that these differences were significant. Migration literature supports that Black male immigrants face acute social and acculturative demands upon relocation to the United States. Some studies suggest that Black male immigrants confront greater discrimination and socioeconomic challenges in comparison to their female counterparts (Doamekpor and Dinwiddie, 2015; Park et al., 2015). Information overload might contribute to the unique limitations that Black male immigrants face as they acculturate to US society.

Further still, regardless of generally positive outcomes in terms of social capital, the Black immigrants who participated in this study overwhelmingly experienced information overload. Of the 91 responses, only four participants expressed that they never encounter information overload. Marital status and levels of education did not seem to mitigate information overload, as further analysis showed no significant difference in information overload scores based on educational attainment or marital status. In other words, though at face value those with spouses as well as higher levels of education have an acculturative or information advantage, the data herein does not support this idea, at least not in the Black immigrant context.

5.4 Information worlds

This study is one of few granting exclusive attention to the information worlds (Jaeger and Burnett, 2010) of Black immigrants. Findings might suggest that Black immigrants' information behavior includes a range of online and offline tactics along with formal and informal sources. They engage with information based on social norms, such as verbal and community-centered information along with reliance on friends, family, and close networks. It also appears that information access reflects how Black immigrants navigate social typing and the boundaries thereof – for instance, being US residents yet foreign-born, well-established versus settling, and being accustomed versus unfamiliar with information environments. Results suggest that resources that help with upward mobility or building social capital (those involving health or wellness, education,

housing, immigration, or finances) hold higher information value, from the aspect of the theory of information worlds. These and other conditions are critical in understanding Black immigrants' experiences with information in the United States.

When looked at through the lens of the theory of information worlds (Jaeger and Burnett, 2010), the results of this study suggest that some Black immigrants who reside in the United States have adequate access to information, but their information norms are unique to their sociocultural practices and extent to which the individual has experienced social inclusion. Acculturating to the ever-changing US information landscape can be challenging, and information can be both an asset and a hindrance in this dynamic. A significant and perhaps counterintuitive point is that immigrants may not perceive an increase in the availability of information (i.e. volume, complexity, multiple modes of dissemination, diversity) to be beneficial. Along with the provision of information, usability and adaptation are essential. The data from this study can help explain facets of information that are likely to cause stress among not only Black immigrants but immigrants in general, while also highlighting information capabilities or assets. It can also help move the scholarship on immigrant information behavior from what Lor (2019) terms "naïve empiricism" to culturally relevant or e-diasporic insight. The link between information and acculturation must be understood through the social, cultural, and legal realities that dictate the availability and utility of information resources. Especially when it comes to US society, being foreign-born is rendered a salient or superstatus (Ndumu, 2019) that often overrides other intersections of identity. Information providers and researchers must consider the totality of an immigrants' personal background – their information worlds, for example – when addressing their information realities.

5.5 Evaluation of information overload scale

The questionnaire was found to be satisfactory for evaluating information access and information overload from the perspective of immigrants. However, several constructs necessitate further disambiguation. For example, the spatial/temporal (or spatiotemporal) construct was borrowed from cognitive science and was thus understood as navigating and understanding time and space simultaneously. Yet, for the purposes of exploring immigrant acculturation and integration, it is logical to separate geolocate aspects (e.g. space and location such as libraries) from time-adjacent aspects (e.g. time-sensitive or time-consuming) of information. Similarly, though certainly a stressor, scarcity, as a construct did not appear to be relevant to this particular study on information overload given that one of the goals is to probe the abundance of information rather than lack in the immigrant experience; removing it would improve the scale's precision or reliability.

To further explore the relationship between information access, information overload, and acculturative stress among immigrants, the questionnaire can incorporate constructs from tested and refined acculturative stress scales. In the case of Black diasporic immigrants, there is the potential to adapt measurements from Williams Flournoy et

al.'s (1996) acculturative stress scale specifically geared toward Black populations. It was designed to assess the degree of psychological discomfort experienced by Blacks who transition to unfamiliar cultural environments. The scale centers the role of racial identity in acculturation, although care must be taken to avoid conflating variables (i.e. native-born versus foreign-born Black or acculturation to a new city versus acculturation to a new country).

6. Conclusion

The purpose of this study was to explore information access and information overload among Black immigrants. This study was unique in that it:

- (1) helped establish a scale for measuring information overload;
- (2) examined information overload in the everyday lives of participants, as opposed to exclusively information-intense settings such as workplaces, businesses, or higher education; and
- (3) highlighted the perspective of an underresearched population: Black immigrants

There were several limitations to the study. First, it relied on convenience or snowball sampling. Since randomization was not possible, the findings are not generalizable. Second, to achieve a higher response rate (and, in turn, avoid dissuading potential participants), the questionnaire did not solicit information on immigration status. There is, thus, no data on the impact of immigration status (naturalized citizen, permanent residents, asylees, refugees, an undocumented immigrant who has not applied for legal status, an undocumented immigrant who has applied for legal status) on information access or experiences with information overload. Further research is needed to explore this dynamic. This study also relies on participants' memory or recall and is thus reliable only to the extent that respondents accurately portrayed their information experiences.

This study affords evidence that the robustness and prevalence of information profoundly shape the US immigration experience. Though much of LIS literature addresses the ways in which immigrants are disconnected or isolated from information upon settling into a new country, researchers must investigate a new reality: in the twenty-first century, immigrants have considerably greater and perhaps even overwhelming access to information. For many people who relocate to countries such as the United States, the challenge of access rests not with scarcity of resources or skills but with adapting to the voluminous, complex, and urgent nature of the US information environment. Future studies might deconstruct information overload among those who migrated as children or adolescents such as D.A.C.A. recipients or those in fluid immigration status as of 2020. It would be interesting to investigate the cross between childhood experiences with information overload and educational, economic, and family outcomes as adults. As it pertains to those who migrated as adults in the past 10 years when smartphone and mobile Internet access became widespread throughout much of

the world, a possible follow-up study might entail analyzing the role that ICT played in their migration journeys. There is a need for LIS investigations that probe whether portable digital access functions as the modern-day compass, if you will, as is suggested in other fields. Although the study pertains to Black immigrants, it may afford insight pertaining to information overload among other immigrant groups.

The findings of this study can benefit information professionals such as librarians in better comprehending the benefits and threats posed by information along with the role of libraries in immigrant integration and acculturation. It may grant what Lloyd et al. (2010) consider “a critical and evaluative approach to information and the infrastructures by which information is delivered” (p. 44) and what Caidi et al. (2017) deem “a reflection of the frameworks within which libraries operate—especially when it comes to the service provision models that presume information needs and gaps” (p. 403).

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