

MEASURING HEALTH INFORMATION TECHNOLOGY USE AND EHEALTH LITERACY AMONG AFRICAN AMERICANS

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PRESENTER DISCLOSURE

- Delores James has no relationship to disclose.

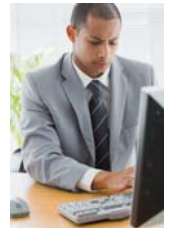
BACKGROUND

- About one-third of Americans have limited health literacy
- “The degree to which people have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions”
 - (Ratzan & Parker, 2000, p. v)
- Consumers now have to perform many of these tasks in a digital environment



BACKGROUND

- eHealth Literacy (EHL) is "the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem"
 - Norman & Skinner, 2006



BACKGROUND

- Understanding and improving EHL among African Americans is an important goal
 - Experience a high prevalence of chronic diseases
 - Have high ownership of smartphones compared to the general population (70% vs. 64%)



BACKGROUND

- eHealth and mHealth education programs and research, especially those delivered via smartphones, may help support behavior change by empowering, encouraging, and educating individuals
- However, online resources and mobile devices are helpful only when consumers are able to access and use them effectively



STUDY GOALS

- To assess the use of information technology among African Americans
- To assess their perceived ability to seek, access, use, and understands online health information (i.e., eHealth literacy)



METHODS

- Convenience sample of 903 African Americans completed a self-administered survey
- \$5 gift card incentive
- Recruitment primarily from community events, churches, and beauty and barber shops



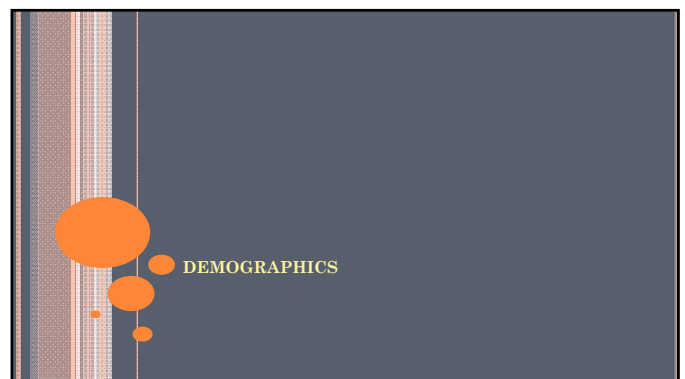
MEASURES: eHEALS

- eHEALS is an 8-item scale that measures consumers' perceived ability to seek, access, use, and understand online health information
 - Norman & Skinner, 2006
- Scores range from 8-40
- With current sample
 - High internal consistency ($\alpha=0.96$)
 - Principal component analysis with a single factor solution had an eigenvalue of 6.26 (which explained 78% of the variance)



MEASURES: eHEALS

- No cut score to classify EHL
- Researchers made a designation for EHL based on the quantiles
 - $\leq 25\%$ quantile = **low**
 - 25%-75% quantile = **adequate**
 - $\geq 75\%$ quantile = **high**



DEMOGRAPHICS

- Females n=592 65%
- Males n=311 35%

- Mean age 37.04±14.66
- Age groups
 - 18-29 41%
 - 30-50 36%
 - 51+ 23%
- 62% employed
- 71% non-homeowners



EDUCATION LEVEL

- Did not finish high school 9%
- High school diploma/ GED 25%
- A.A. or some college credits 38%
- B.S. degree 15%
- Graduate or professional degree 14%



EHEALTH LITERACY, TECHNOLOGY, SOCIAL MEDIA

RESULTS

- Mean eHEALS score = 30.36±7.79
- Women had significantly higher scores than men ($p<.01$)
 - 30.85±7.70 vs. 29.39 ±7.85
- Low EHL 25%
- Adequate EHL 48%
- High EHL 27%
- Women were almost twice as likely as men to be classified with adequate EHL ($OR=1.72, p<.01$)



eHEALS Items	Mean (SD)
I know how to find helpful health resources on the Internet	4.03±1.07
I know how to use the Internet to answer my health questions	4.00±1.08
I know what health resources are available on the Internet	3.73±1.11
I know where to find helpful health resources on the Internet	3.81±1.08
I know how to use the health information I find on the Internet to help me	3.87±1.07
I have the skills I need to evaluate the health resources I find on the Internet	3.73±1.02
I can tell high quality from low quality health resources on the Internet	3.56±1.15
I feel confident using information from the Internet to make health decisions	3.63±1.13
Mean sum score	30.36±7.79

EHEALS BY AGE GROUP

Age Group	n	%	eHEALS±SD
18-29	357	41	31.41±6.63 ^A
30-50	316	36	31.43±7.23 ^A
51+	204	23	26.89±9.39 ^B
F=28.06, $p<.0001^*$			

Device Ownership	Yes n	%	eHEALS±SD	p
Smartphone	625	71	31.65±6.55 vs. 27.23±9.49	<.0001*
Laptop	607	69	31.62±8.99 vs 27.59±6.82	<.0001*
Basic cell phone	347	40	30.20±7.90 vs 30.48±7.71	.60
PC computer	343	39	31.78±6.64 vs. 29.45±8.31	<.0001*
Home phone	320	36	31.30±7.18 vs. 29.84±8.10	<.01*
Tablet computer	312	35	32.47±6.69 vs. 29.21±8.09	<.0001*
eReader	123	14	33.61±6.05 vs. 29.84±7.91	<.0001*

ELECTRONIC DEVICES OWNERSHIP

- Gender differences in device ownership
- Women were:
 - 3 times more likely to own eReaders (OR=2.99, p=.0001)
 - Almost twice as likely to own tablet PC (OR=1.60, p=.004)
 - Slightly more likely to own smartphones (OR=1.40, P=.03)



ONLINE ACTIVITY

- 78% went online daily, spending an average of 3.94 hours±3.31 hours online/day for leisure and fun
- Online health searches were primarily for general health (53%) and nutrition/dieting (52%) information
- 41% reported using a nutrition or fitness app in the past 30 days
 - Significant differences in eHEALS (p<.0001)
 - 32.85±6.13 vs. 29.06±v8.23



Internet Access	Yes n	%	eHEALS±SD	p
Smartphone	639	73	31.46±6.95 vs. 27.66±8.98	<.0001*
Home	628	71	31.45±6.84 vs. 27.51±9.28	<.0001*
Work/school	491	56	32.00±6.16 vs. 28.31±9.04	<.0001*
Public libraries	325	37	30.94±6.96 vs. 30.03±8.21	.09
Someone's home	228	26	31.70±6.63 vs. 29.90±8.10	<.01*
Restaurant WIFI	225	26	32.04±6.67 vs. 29.80±8.05	<.001*
Community Center	86	10	32.60±6.83 vs. 30.15 ±7.85	<.01*

Social Media	Yes n	%	eHEALS±SD	p
Facebook	680	77	31.48±6.93 vs. 26.58±9.22	<.0001*
YouTube	597	68	31.82±6.36 vs. 27.32±9.46	<.0001*
Google+	454	52	31.47±7.00 vs. 27.32±9.46	<.0001*
Instagram	303	34	32.21±6.42 vs. 29.40±8.25	<.0001*
Skype	237	27	32.20±6.17 vs. 29.69±8.20	<.0001*
Twitter	233	26	32.85±6.37 vs. 29.48±8.05	<.0001*
LinkedIn	156	18	33.09±6.09 vs. 29.78±7.98	<.0001*
Pinterest	151	17	32.76±6.46 vs. 29.87±7.94	<.0001*
Snapchat	139	16	31.80±5.51 vs. 30.10±8.11	.02*
WhatsApp	78	9	32.18±6.09 vs. 30.19±7.91	.03*
Blogs	71	8	32.61±6.16 vs. 30.17±7.88	.01*

HEALTH STATUS, SOURCES OF INFORMATION

HEALTH RATING

Health Rating	n	%	eHEALS±SD
Excellent	131	15	34.34±12.90 ^A
Very good	301	34	33.84±9.25 ^A
Good	314	35	29.88±7.47 ^B
Fair	134	15	27.56±6.11 ^C
Poor	18	2	26.71±6.05 ^C

F=21.84; p<.0001*

BODY MASS INDEX

- Mean BMI = 29.35±7.62
- Women had significantly higher BMI than men (p=.004)
 - Women BMI = 29.90±8.05
 - Men BMI = 28.32±6.65



HEALTH STATUS

- 76% reported having a physical exam by a physician within the past 12 months
- Those who had an exam had significantly higher eHEALS scores than those who did not (p<.0001)
 - 30.99±7.67 vs. 28.42±7.71



Source of Health Info	Yes n	%	eHEALS	p
Physicians	542	62	30.53±7.53 vs. 30.12±8.17	.44
Internet	529	60	32.26±6.12 vs. 27.52±9.05	<.0001*
TV	353	40	30.08±7.55 vs. 30.56±7.94	.37
Nurses	324	37	31.10±7.31 vs. 29.94±8.02	.03*
Books	290	33	31.10±7.31 vs. 29.94±8.02	.01*
Friends	262	30	30.74±6.60 vs. 30.21±8.23	.36
Magazines	199	23	30.98±6.93 vs. 30.19±8.01	.21
Newspapers	153	17	30.99±7.23 vs. 30.24±7.89	.28
Radio	126	14	31.86±7.04 vs. 30.12±7.88	.02*
News apps	113	13	32.27±6.20 vs. 30.09±7.95	<.01*
Spouse/partner	87	10	31.02±7.47 vs. 30.30±7.82	.41

CONCLUSION AND IMPLICATIONS

- This sample of African Americans:
 - Had high levels of smartphone ownership
 - Accessed the Internet primarily from smartphones and homes
 - Were highly engaged in Facebook, YouTube and Google+



CONCLUSION & IMPLICATIONS

CONCLUSION AND IMPLICATIONS

- Had functional levels of EHL
 - Ability to engage in telehealth activities
 - Can be targeted for eHealth and mHealth research and interventions, especially weight management
- Those with low levels of EHL can be trained to use mobile devices and to navigate websites and apps



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