Chapter 2

FEAR OR DANGER THREAT MESSAGING: THE DARK SIDE OF SOCIAL MEDIA

Fay Cobb Payton and Cherie Conley

North Carolina State University, North Carolina, US

ABSTRACT

Social media is said to be one way to disseminate health information. With the proliferation of social media tools, such as Facebook, Twitter, Tumblr, and YouTube, more millennials are engaged in health information seeking and discovery.

To develop targeted health messages to this demographic, web-based applications and social media tools informed by millennials' perceptions can be effective. Prior research has shown that social media can be effective in dampening the stigma associated with health conditions, such as HIV, even in cases where consumers simply engage in health information seeking behaviors.

We use the Extended Parallel Process Model (EPPM) of behavior change communication to examine specifically how Black college-aged and matriculating women perceive the threat of HIV and their ability to prevent transmission.

The purpose of this study is to assess perceived threat and perceived efficacy via the EPPM in order to inform the ongoing social media development of HIV prevention messages for myHealthImpact Network.org, an online experience targeting Black women.

A convenience sample of 49 Black women was recruited and invited to complete both paper and pencil, and online surveys. Overall, the

sample had positive EPPM scores, meaning that the participants perceived HIV as a severe threat to which they feel mildly susceptible, but very capable of preventing.

The sample respondents' positive EPPM scores indicate that messages targeting this group should continue to stress the severity of HIV and their susceptibility to the disease as well as strategies to prevent its transmission. Thus, tailored fear appeals can offer an effective messaging approach to communicating the threat of HIV to this population. These results offer insights into how social media can be used, consumed and perceived among diverse populations.

INTRODUCTION

In the United States, Black women share a disproportionate burden of HIV/AIDS [2, 7]. The rate of HIV diagnoses for Black women is 20 times the rate for White women [7]. Young Black women living in the South are the most impacted by the disease [2].

Prior studies have shown that interventions aimed at preventing HIV among low income Black women, those with substance abuse conditions, and Black youth, had some long-term success [14, 20]. Few studies, however, have addressed HIV risk among college-educated and matriculating Black women [10, 16]. College students, in general, are more susceptible to HIV due to increased risk taking in undergraduate years of matriculation [1, 2], specifically as it relates to the use of drugs and alcohol as well as engaging in unsafe sexual practices [1, 11].

Black women may be particularly vulnerable to HIV for several reasons. First, with fewer Black men on college campuses than Black women [3], "man sharing" and adherence to sexual preferences of male partners results in a higher risk for HIV infection [7, 10]. This is especially important given that Black men are less likely than men from other racial groups to identify as being homosexual, while engaging in sexual relationships with both women and men.

The purpose of this study is to use the Extended Parallel Process Model (EPPM) to better understand perceptions of HIV threat and efficacy to help determine the types of social media messages needed to increase HIV awareness among college-educated and matriculating Black women.

BACKGROUND

EPPM

Multiple studies have assessed and attempted to address the factors that may influence health behaviors. Interventions shown to be the most effective are based on established behavior change theories [13]. One such theory is the Extended Parallel Process Model (EPPM) which is a behavior change communication strategy that utilizes fear appeals, when necessary, to encourage behavior change [24]. In the 1980s, when HIV first became a public health issue and little was known about the disease, prevention and public awareness campaigns often relied on fear appeals - messages designed to frighten people into making better lifestyle choices to elicit behavior change [19]. Fear appeals can show pictures or describe scenarios in graphic or even gruesome details about what may happen as a consequence of not heeding the advice presented in the messages. As more information has been learned about the disease process and medical technology has produced accessible treatment options, fear appeals have been used less frequently.

Conversely, the relatively high rates of HIV among Black women, especially in the context of high rates of testing and level of knowledge, and the fact that fear appeals are often more effective among youth as opposed to adults [9], raises the question whether or not fear appeals can again be of use to address this health issue. The EPPM [8, 24] assesses perceived susceptibility and seriousness of a health condition, collectively conceptualized as 'threat', as well as perceived efficacy in avoiding that particular health condition. According to the framework, there are two response pathways that individuals or groups can have when confronted with a threat, such as HIV. These two response pathways are either 'Fear' or 'Danger'. When creating social media prevention messages, it is important to know which response pathway characterizes the priority population because depending on the pathway, certain types of messages are recommended for maximum effectiveness.

EPPM: Fear and Danger Messaging

When individuals see HIV as a threat, but score *low* on the efficacy scale, they have a 'Fear' response. The fear response reflects an internal emotion that leads those individuals to reject messages that focus on increasing awareness

of the disease threat because they are already aware of and afraid of the threat. Instead of developing messages that heighten their fear of the disease, it would be more valuable to develop HIV prevention messages that clearly define and emphasize ways to prevent the disease [24]. It would be most important to clearly explain the specific methods to avoid transmission and to present them in a way that makes it clear that these methods will be effective. They should also boost the audience's confidence that they can perform the suggested action. For example, messages to increase efficacy might provide statistics that show just how effective the methods are to avoid HIV. They may also present individuals who appear to be in the priority audience modeling desired behavior, such as negotiation skills in sexual decision making or correct condom use. Role-play is also encouraged [22].

On the other hand, when individuals see HIV as a threat, but score *high* on the efficacy scale, it indicates that while they feel that the disease is severe and that they may be susceptible to it, they are fully capable of preventing infection. This is the 'Danger' response and individuals who are in this category would respond most positively to messages that reiterate the threat of HIV as well as prevention methods [24]. Messages can be very straightforward and possibly disturbing. The fearful situation that is displayed in the message, however, must reflect the specific fears and interests of the priority audience. For instance, an HIV awareness message aiming to improve awareness among youth might show the social isolation of a young person diagnosed with HIV because that is one of the biggest fears of youth. It is essential that the messages also show ways to prevent HIV to address efficacy. Both fear and efficacy components should be featured equally in social media and other forms of messaging [22]. Since being introduced by Witte in 1992, the EPPM has been used in several studies to address a variety of health issues [6]. However, there has been limited, if any, use of the EPPM to explore how college-educated and matriculating Black women perceive the threat of HIV as well as their own sense of efficacy in preventing the transmission of the disease.

Impacts of Social Media

Among young adults specifically, a recent study [22] showed that 62% get all of their news online, and 75% use social media sites daily. Further, there is widespread use of cellular phones and other mobile devices, computers, web based technologies, and social media for accessing and disseminating health

information [12]. While a higher percentage of Whites than Blacks use the web, Black college students access the internet at about the same rates of White college students. Further, Black youth are slightly more likely than their White counterparts (96% vs. 90%) to use social media sites and Twitter, in particular [21]. Yet, it has been discovered that some organizations and individuals online engage in anti-social, flaring and narcissistic behaviors. This is considered the dark side of social media [4]. Thus, although there seems to be buy-in and enthusiastic use of the internet and social media for information exchange, in order for that to continue or improve, there is certainly a need to continue to build trust among members of certain groups who may already be marginalized because of their medical conditions, race, religion or any other intersectional characteristics [11].

While information and communication technology (ICT) has not yet been the magic bullet to curb all health disparities, ICT is a promising tool in the field of health behavior change [18]. Studies have shown that people suffering from stigmatized conditions often delay visiting health care workers for fear of judgment, feelings of guilt or shame, and outright discrimination [5]. The internet, however, may be a place where people can disconnect themselves from the stigma of their disease and, with some anonymity, engage in penalty-free health information seeking. In fact, this is exactly what researchers found when they conducted a study which compared the online health-information seeking behaviors of two groups- those with chronic conditions and those with stigmatized illnesses, such as depression and HIV. Those with stigmatized conditions were found not only to be more likely than the chronic condition group to use the internet to seek out information, but also were more likely to seek follow-up treatment or care afterwards [5].

For instance, Payton, et al. [17] conducted focus groups of Black female college students between 18 and 24 years old. These sessions concentrated on online health information seeking and HIV messaging imparted by existing ICT platforms to discern the participants' perceptions of cultural identity, language and spirit (e.g., technology designers, medical jargon). This research resulted in the creation of the myHealthImpactNetwork.org experience. MyHealthImpactNetwork.org was developed initially to motivate healthy sexual behavior choices, and increase knowledge and awareness of HIV among Black women, especially those young and college matriculating.

Though the MyHealthImpactNetwork.org platform had already been developed by the timing of this study, herein, and is currently being utilized with a growing following of users, there remains a need to reassess the priority audience's perceptions of HIV in order to evaluate current social media

prevention messages and implement strategies to better address users' needs. To this end, the assessment of the prevention messages is critical as the myHealthImpactNetwork.org team uses an iterative design methodology to continuously improve the user experience for its target group.

Due to multiple factors that increase Black women's susceptibility to HIV, there is a need for targeted health behavior change campaigns to address HIV prevention among this group. The purpose of this study is to use the EPPM framework to assess perceptions of threat and efficacy. This enables an evaluation of the potential social media effectiveness of MyHealthImpact Network.org, and can suggest revisions to the website messaging strategy based on the following results.

METHODS

Sample and Research Design

Participants were recruited onsite from one historically Black college and university (HBCU) and one a predominantly White institution (PWI). Onsite recruitment was done at a university community health fair, a community festival, and health information forum. Informational booths and a short presentation about @myHealthImpactNetwork were provided to potential participants at these events. Each event where participants were recruited involved Black college-educated or matriculating students, particularly women. Participants also were recruited online through the myHealthImpactNetwork.org website. After receiving institutional review board (IRB) approval, recruitment took place from March 2013 to April 2013.

Procedure

Online and onsite recruitment scripts were developed and approved by the IRB and presented to potential participants. After agreeing to volunteer, participants were presented with a consent form to sign. The consent form mentioned the purpose of the study, explained that it was both anonymous and confidential, and that participation was voluntary and could be stopped at any time. Onsite respondents were asked to complete the survey privately. Each completed survey was placed into a sealed box. Volunteers who agreed to take the survey online were emailed a website URL which featured the survey link.

Online respondents' survey answers were immediately loaded into a data storage file. Upon completion of the survey, as roughly verified by a check of completed surveys by the second author, onsite respondents were given the opportunity to win a $10 gift certificate as an incentive for completion by completing raffle tickets. Online participants were not asked to provide contact information, and therefore were not included in the incentive due to the inability to contact them after survey completion. Recruitment efforts resulted in an initial convenience sample of 56 women, self-identifying as Black, who completed the survey. Seven of the surveys were removed due to incompletion (i.e., blank items) - thus, leaving a total of 49 participants for the sample. The term 'Black' is used to describe the women in the study who self-identify as African-American, Caribbean, African or multiethnic Black.

Information on demographic characteristics, including age, relationship status, educational level, and income, was also collected to ensure that the sample population surveyed represented the study's priority group. Table 1 shows the demographic characteristics of the participants. Ages ranged from 19 to over 36. All of the women were either enrolled in college or had graduated at the time of the study. Most of the women (71%) reported that they were not currently in a relationship.

Research Questionnaire

We used Witte's EPPM, a validated survey instrument, to assess perceptions of HIV threat as well as efficacy within the sample population. The survey has twelve items: six to assess perceptions of disease threat, as measured by perceptions of disease severity and personal susceptibility, and six items to assess efficacy, as measured by perceived self-efficacy and response efficacy. Table 2 includes the survey items [24].

Threat Measures – Susceptibility and Severity

The first six items of the survey scale assess respondents' perceptions of HIV threat - three examine perceptions of severity of the illness itself and three focus on personal susceptibility to contracting HIV. Each response is scored from 1(low) to 5 (high) via a Likert scale. Scores for all six questions are added to provide one score for the threat scale.

For this study, individual participants' scores for each question are averaged to provide a single total representing the entire sample as shown in Table 2.

Efficacy Measures – Self and Response

The last six items on the survey assess efficacy, which has two subcategories – response efficacy and self-efficacy. Questions for the response efficacy portion of the scale focus on how much a respondent feels that there are reliable tools (e.g., condoms) available to help prevent the condition,which in this case is HIV.

The self-efficacy subcategory is captured by a respondent's perceptions about her own ability to access and use those tools. As with the threat scale, each response is scored from 1 (strongly disagree) to 5 (strongly agree), and individual participants' scores for each question are averaged to provide a single total that is shown in Table 2.

Critical Values

The critical value is obtained by subtracting the sum of the values for the six threat items from the sum of the values for the six efficacy items. A positive critical value indicates a 'danger' response while a negative critical value indicates a 'fear' response [8].

Data Analysis

Data were entered into an Excel spreadsheet and imported in SAS for data analysis. Descriptive statistics were used to summarize demographic data. Responses to perceptions of HIV severity and personal susceptibility as well as efficacy were examined in aggregate.

RESULTS

Response Pathway of Sample Respondents

The EPPM survey instrument assesses respondents' perceptions of threat and efficacy and yields a critical value based on their responses. The respondents in this study scored positively when asked about both perceptions of the threat of HIV (average = 3.3, sum = 19.8), and efficacy (average = 4.2, sum =25.1). The sum scores of the two categories yielded a positive critical value score of +5.2 for the entire sample. The positive critical value indicates that the sample can be classified as having a 'Danger' (as opposed to 'Fear') response to HIV and is suggestive of the types of potentially effective social media messages that would be associated with a 'Danger' response.

Table 1. Demographics of Study Population and Mean EPPM Scores Stratified by Demographic Characteristics

N	%	Demographic characteristics of the respondents (N =49)	Mean (S.D.)	F score	p value
		Age			
32	65%	19-25	5.2 (7.12)		
13	27%	26-35	5.6 (3.64)	0.32	0.731
4	8%	35<	7.8 (3.59)		
		Education Completed			
29	59%	Some college	5.6 (6.12)	1.74	0.159
10	20%	Completed college	3.5(8.02)		
4	8%	Some graduate school	9 (4.08)		
6	12%	Completed graduate school	9 (0.89)		
		Relationship Status			
1	2%	Married	8 (-)	0.63	0.607
7	14%	Long term	6.9 (4.06)		
6	12%	New relationship	7.8 (3.19)		
35	71%	Not currently in a relationship	4.7(6.79)		
		Personal Income			
28	57%	$<15,000	5.8(6.39)	0.64	0.636
5	10%	$15000-24,999	6.2(2.95)		
4	8%	$25,000-34,999	2.25(12.23)		
5	10%	$35,000-49,999	3(3.46)		
7	14%	$50,000 and above	7.1(3.02)		

Table 2. EPPM Scores: Threat and Efficacy Scores

Threat Scale		Average Survey response (Strongly disagree=1 Strongly agree=5)	Efficacy Scale		Average Survey Response (Strongly disagree=1 Strongly agree=5)
SEVERITY Measures	I believe that HIV/AIDS infection is severe	4.9	SELF-EFFICACY Measures	I am able to wear condoms to prevent getting HIV/AIDS	4.4
	I believe that HIV/AIDS infection has serious negative consequences	4.8		Wearing condoms is easy to do to prevent getting HIV/AIDS	4.2
	I believe that HIV/AIDS infection is extremely harmful	4.8		Wearing condoms to prevent HIV/AIDS is convenient	4.1
Threat Scale		Average Survey response (Strongly disagree=1 Strongly agree=5)	Efficacy Scale		Average Survey Response (Strongly disagree=1 Strongly agree=5)
SUSCEPTIBILITY Measures	I am at risk for getting HIV/AIDS	2.0	RESPONSE EFFICACY Measures	Using condoms works in preventing HIV/AIDS	4.0
	It is likely that I will contract HIV/AIDS.	1.5		Using condoms is effective in preventing HIV/AIDS	4.0
	It is possible that I will contract HIV/AIDS.	1.9		If I use condoms, I am less likely to get HIV/AIDS	4.4
Threat Response Average:		3.3	Efficacy Response Average:		4.2
Threat Response Sum:		19.8	Efficacy Response Sum:		25.1
Critical Value for Sample Population (Σ Efficacy - Σ Threat) =+5.2					

Comparing the respondents' average score for the two HIV threat measures and two HIV efficacy measures illustrates the perceptions of the priority population more specifically. According to Witte and Cho [8], mean scores between 4 and 5 indicate very strong feelings of agreement in the particular category being measured. In this study, the mean scores of participants' perceptions of severity, response efficacy and self-efficacy were all between 4 and 5. Only the susceptibility measure scored low at 1.8.

DISCUSSION

In this study, we used the Extended Parallel Process Model (EPPM) to assess perceptions of HIV threat and efficacy to help guide the development and revision of HIV prevention messages for myHealthImpactNetwork.org, an online health awareness platform, targeting college-aged and matriculating Black women. The positive EPPM critical value score of the sample group illustrates that the respondents perceive HIV as a threat and also feel that they have the tools necessary to combat the disease. Hence, the study's results inform the development of social media messages to create the @myHealth ImpactNetwork experience.

Low Feelings of Susceptibility

Results of the study were consistent with previous studies focusing on Black women who showed high levels of awareness of HIV and belief of the severity of the disease, while also having low feelings of susceptibility. Using Witte's model, results also show a high level of self-efficacy and response efficacy, indicating that this particular group is aware of how to prevent HIV transmission and feels very confident in their ability to do so. While this study did not aim to research reasons why susceptibility beliefs are low among this group, it is possible that strong feelings of efficacy may mitigate some of the perceptions of personal susceptibility and should be taken into account when designing social media messages.

In an effort to better inform the priority audience, we are aware that the dark side of social media and vigilant messaging must be taken into account. The threat and efficacy social media messages should not assume that one is infected with the stigmatized condition, particularly when the experience is messaging prevention and awareness. Further, social media messaging should

not include judgmental or stereotypical tendencies as Black women are not a monolithic group. As pointed out in Payton and Kvasny (under review), "*…this is the stigma of being publicly associated with and participating in the HIV prevention discourse. The participants offered insights about digital participation and the negative assumptions that the broader society, and even some in their own social networks, would have about them personally.*"

Study Limitations

The main limitation of this study is the small sample size. While some patterns may be observed, without a larger sample, results can only tentatively be generalized to the larger population of college-educated and matriculating Black women in the United States. Another limitation in this study is the possibility of selection bias given that about half of respondents were recruited from events with health-related themes. It is possible that the students who chose to attend these events may have perceptions of HIV that are different from the general population. Another possible limitation is social desirability bias. Although surveys were anonymous and confidential, it is possible that participants may have felt social pressure to respond in a manner perceived as socially acceptable as opposed to providing honest answers.

CONCLUSION

The goal of this study was to better understand perceptions of HIV among college-educated and matriculating Black women, a subpopulation of a group that is disproportionately affected by HIV. The purpose was to better understand this group's perceptions of threat and efficacy in order to create effective HIV prevention social media messages. In order to craft the most accurate messages, there has to be an accurate and thorough understanding of the target audience. The better the audience's perceptions are understood, the better and more specific the social media messages that can be crafted [22]. According to the EPPM, the responses of the sample of women surveyed in this study reflect the EPPM's 'Danger' response (as opposed to the 'Fear' response) pathway with regard to their perceptions of HIV threat and efficacy.

Although the study focused on assessing perceptions of threat and efficacy, and did not look at the possible causes or factors that may contribute to those perceptions, results can still provide some guidance on what types of

prevention messages should be promoted to reach the priority audience of college-educated and matriculating Black women. The positive critical value score of the study sample suggests that messages emphasizing *both* threat and efficacy would be most effective. Thus, it is recommended that online platforms and social media outlets, such as MyHealthImpactNetwork.org and others targeting this group, not only continue to share information about the most effective methods of prevention, and boost confidence in individuals' ability to use those methods, but also provide specific information on disease severity and how it affects college-educated and matriculating Black women.

For example, the platform should provide statistics, which refer to the specific risk of college-educated and matriculating Black women. Digital content featuring those affected and infected by HIV would resonate with this younger audience, but it is critical to see images reflective of the same demographic. It is, likewise, important to reduce stereotypes, which were often heard while recruiting participants at their college events. According to Witte [24], "To increase perceived susceptibility to a health threat, messages need to emphasize or illustrate how the health threat occurs to people who are demographically, psychographically, and in any other way possible, identical to your intended audiences or clients." Thus, the messaging recommended to address threat overall, would also be particularly useful in addressing the especially low susceptibility scores of the target population [1, 8]. Future research should include exploration and better understanding of what drives perceptions of low HIV susceptibility among college-educated or matriculating Black women.

REFERENCES

[1]   Adefuye, A. S. et. al., (2009). HIV sexual risk behaviors and perception of risk among college students: implications for planning interventions. *BMC Public Health,* 9, 281-294.

[2]   Alleyne, B. and Wodarski, J., (2009). Psychosocial factors that contribute to HIV/AIDS Risk behaviors among young Black college women. *Journal of Human Behavior in the Social Environment,* 19(2), 142-158. Retrieved from: http://dx.doi.org/10.1080/10911350802687117

[3]   Alleyne, B. and Gaston, G. (2010). Gender disparity and HIV risk among young Black women in college: a literature review. *Journal of Women and Social Work,* 5(2), 135-145.

[4]   Basulto, D., (2014). The emerging dark side of social media. The Washington Post. Retrieved from: http://www.washingtonpost.com/ blogs/innovations/wp/2014/04/08/the-emerging-dark-side-of-social-networks/

[5]   Berger, M., Wagner, T. H. and Baker, L. C. (2005), "Internet use and stigmatized illness", *Social Science and Medicine*, Vol. 61, pp. 1821-1827.

[6]   Campo, S., Askelson, N. M., Carter, K. D., and Losch, M., (2012). Segmenting audiences and tailoring messages: using the extended parallel process model and cluster analysis to improve health campaigns. *Social Marketing Quarterly*, 18(2) 98-111.

[7]   Centers for Disease Control, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of HIV/AIDS Prevention. Fast Facts: HIV Among African-Americans. February 2013.

[8]   Cho, H. and Witte, K., (2005). Managing fear in public health campaigns: a theory-based formative evaluation process. *Health Promotion and Practice*, 6(4), 482-490.

[9]   Ferguson, G. and Phau, I., (2013). Adolescent and young adult response to fear appeals in anti-smoking messages. *Young Consumers: Insight and Ideas for Responsible Marketers*, 14(2), 155 – 166.

[10] Freeman, C. (2010). The missing element: incorporating culturally-specific clinical practices in HIV prevention programs for African-American females. *Journal of Cultural Diversity*, 17(2), 51-55.

[11] Ho, L. A., Kuo, T. H., and Binshan, L. (2012), "How social identification and trust influence organizational online knowledge sharing", *Internet Research*, Vol. 22, No. 1., pp. 4-28.

[12] Jones, R. and Lacroix, L. J., (2012). Streaming weekly soap opera video episodes to smartphones in a randomized controlled trial to reduce HIV risk in young urban African American/Black women. *AIDS Behavior*, 16, 1341–1358. doi 10.1007/s10461-012-0170-9

[13] Lyles, C. M., Kay, L. S., Crepaz, N., Herbst, J. H., Passin, W. F., Kim, A. S., Mullins, M. M., (2007). Best-evidence interventions: findings from a systematic review of HIV behavioral interventions for us populations at high risk, 2000–2004. *American Journal of Public Health*, 97*(1)*, 133-143.

[14] Nunn, A., (2011). Low perceived risk and high HIV prevalence among a predominantly African American population participating in Philadelphia's rapid HIV testing program. *AIDS Patient Care and STDS*, 25(4), 229-235. doi: 10.1089/apc.2010.0313

[15] O'Leary, A., Goodhart, F., Jemmott, L. S., Boccher-Lattimore, D., (1992). Predictors of safer sex on the college campus: a social cognitive theory analysis. *Journal of American College Health.* 40(6), 254-263.

[16] Painter, J. E. et.al., (2012). College graduation reduces vulnerability to STIs/HIV among African-American young adult women. *Women's Health Issues,* 22(3), e303–e310.

[17] Payton, F. C., Kiwanuka-Tondo, J. and Kvasny, L. (2012). Black Female Voices: Designing an HIV Information Artifact, 4th International Conference on the Applied Human Factors and Ergonomics, Taylor and Francis Group Publisher, San Francisco, CA.

[18] Payton, F. C., (2009). Beyond the IT magic bullet: HIV prevention education and public policy. *Journal of Health Disparities Research and Practice,* 3(2). 13-33.

[19] Perloff, R. M., (2001). Persuading people to have safer sex. Lawrence Earlbaum Associates, Inc: Mahwah, NJ., pp. 75-77.

[20] Romer, D., Sznitman, S., DiClemente, R., Salazar, L. F., Vanable, P. A., Carey, M. P., Hennessy, M., Juzang, I., (2009). Mass media as an HIV-prevention strategy: using culturally sensitive messages to reduce HIV-associated sexual behavior of at-risk African-American youth. *American Journal of Public Health,* 99(12), 2150–2159.

[21] Smith, A., (2014). African-Americans and technology use. *PEW Research Internet Project.* Retrieved from: http://www.pewinternet.org/ 2014/01/06/african- americans-and- technology-use/

[22] Thesenvitz, J. (2000). Fear appeals for tobacco control. Council for a Tobacco Free Ontario, February 2000. Retrieved from: http:// www.thcu.ca/infoandresources.cfm

[23] Vahlberg, V. (2010). Fitting into their Lives: A Survey of three studies about youth media usage. Newspaper Association of America Foundation. Retrieved from: http://www.americanpressinstitute.org/wp-content/uploads/2013/09/NIE_Fitting_into_their_lives.pdf

[24] Witte, K. et al., (1996). Predicting risk behaviors: development and validation of a Diagnostic scale. *Journal of Health Communication: International Perspectives,* 1(4), 317-342.