

## Disparities in attention to HIV-prevention information

Allison Earl<sup>a\*</sup>, Candi Crause<sup>b</sup>, Awais Vaid<sup>b</sup> and Dolores Albarracín<sup>c</sup>

<sup>a</sup>Department of Psychology, University of Michigan, 530 Church Street, Ann Arbor, MI, USA; <sup>b</sup>Champaign-Urbana Public Health District, 201 W. Kenyon Road, Champaign, IL, USA; <sup>c</sup>Department of Psychology, University of Illinois, 630 E. Daniel Street, Champaign, IL, USA

(Received 3 September 2014; accepted 23 June 2015)

Compared to European-Americans, African-Americans have greater probability of becoming infected with HIV, as well as worse outcomes when they become infected. Therefore, adequate health communications should ensure that they capture the attention of African-Americans and do not perpetuate disadvantages relative to European-Americans. The objective of this report was to examine if racial disparities in attention to health information parallel racial disparities in health outcomes. Participants were clients of a public health clinic (Study 1  $n = 64$ ; Study 2  $n = 55$ ). Unobtrusive observation in a public health waiting room, message reading times, and response-time on a modified flanker task were used to examine attention to HIV- and flu-information across racial groups. In Study 1, participants were observed for the duration of their time in a public health clinic waiting room (average duration: 31 min). In Study 2, participants completed tasks in a private room at the public health clinic (average duration: 21 min). Across all attention measures, results suggest an interaction between race and information type on attention to health information. In particular, African-Americans differentially attended to information as a function of information type, with decreased attention to HIV- versus flu-information. In contrast, European-Americans attended equally to both HIV- and flu-information. As such, disparities in attention yielded less access to certain health information for African- than European-Americans in a health setting. The identified disparities in attention are particularly problematic because they disadvantage African-Americans at a time of great effort to correct racial disparities. Modifying the framing of health information in ways that ensure attention by all racial groups may be a strategy to increase attention, and thereby reduce disparities in health outcomes. Future research should find solutions that increase attentional access to health communications for all groups.

**Keywords:** health disparities; attention to health information; HIV-prevention; African-Americans; perceived threat

Of the many conditions for which health disparities exist, HIV is one of the most devastating. In the USA, African-Americans comprise 14% of the population yet account for approximately 50% of new HIV diagnoses (Centers for Disease Control and Prevention, 2012). From a public health perspective, the existence of health disparities mandates research to ensure that *all* people receive needed health care. Access to health care entails, first and foremost, attention to health information. Addressing attention to programs designed to improve health is central to the wellbeing of all people in general, and African-Americans in particular. As such, the objective of this report is to examine if there are systematic differences in attention to health information across racial groups.

One explanation for differences in health outcomes across groups is that differences in attention to health communications parallel differences in health outcomes. In particular, recent meta-analytic evidence suggests that studies with higher versus lower proportions of African-Americans show higher levels of behavior change (Albarracín & Durantini, 2010).

However, African-Americans are less likely to complete preventive interventions than members of other racial groups (Albarracín & Durantini, 2010). This discrepancy between behavior change and intervention exposure thus suggests that ensuring reception to health messages may effectively reduce HIV risk among African-Americans. Up to this point, however, little work has been done to examine how people of different racial backgrounds handle information, particularly threatening health communications, when it is freely available in a public clinic, without the offer or incentives of a structured intervention program. This research aims to address this gap.

Ensuring message reception by target audiences may be difficult, because people can selectively attend to information. For instance, no matter how many times an intervention program is offered or prevention messages are played in a health clinic, clients can always ignore the information (Earl et al., 2009). Having high prevalence as a group, African-Americans often have more up-close experience with HIV, including an increased probability of knowing someone who is

\*Corresponding author. Email: [anearl@umich.edu](mailto:anearl@umich.edu)

infected with HIV, and witnessing the devastating consequences of living with HIV (Gerbert, Sumser, & Maguire, 1991; Washington Post/Kaiser Family Foundation, 2012). In addition, African-Americans are over five times more likely than European-Americans to report concern about personally becoming infected with HIV (Washington Post/Kaiser Family Foundation, 2012). Furthermore, Americans report that the HIV epidemic has had a greater impact on African-Americans compared to other groups in the USA (Washington Post/Kaiser Family Foundation, 2012). Thus, the heightened threat of HIV may foster less attention to HIV-prevention communications (Earl & Albarracín, 2007), particularly among African-Americans compared to European-Americans.

Although past work has been done to address health disparities at a system level, comparatively little has been done to examine how individual-level psychological factors may contribute to these differences (Albarracín, Rothman, DiClemente, & del Rio, 2010). To address this issue, we examined attention to health information by clients of a public health clinic. Across two studies, our measures of attention varied in an attempt to address a large and complex problem from multiple angles. Study 1 used unobtrusive observation of attention to a health video in the waiting room of a public health clinic (Webb, Campbell, Schwartz, & Sechrest, 1966). In contrast, Study 2 used reading time for paragraphs about HIV- and flu-prevention, as well as performance on a modified flanker task as a measure of attention capture (Eriksen & Eriksen, 1974).

### **Study 1: Unobtrusive observation of attention in a public health clinic waiting room**

One contributing factor to the existence of health disparities across racial groups may be parallel gaps in attention to health information. To test this hypothesis, unobtrusive observation was used in a health clinic waiting room to examine participants' overt actions while a health video was playing. Coded attention was analyzed as a function of video content (HIV- vs. flu-prevention) and participants' observed race, controlling for time spent in the waiting room and baseline level of alertness. The University of Illinois Institutional Review Board (UI-IRB) approved the study protocol. Informed consent was waived, because the study consisted of observation of public behavior.

## **Method**

### **Participants and design**

Participants were 64 clients of the Champaign-Urbana (Illinois) Public Health District (C-UPHD), and were

demographically diverse (34 men, 30 women; 30 African-Americans, 34 European-Americans).<sup>1</sup> The study design was a 2 (Observed race: African-American vs. European-American)  $\times$  2 (Communication type: HIV-prevention vs. flu-prevention) with covariates (duration of time in the waiting room and baseline alertness).

### **Procedure**

Participants were unobtrusively observed while they visited the Adult Sexual Health Clinic of the C-UPHD. During this time, participants had the opportunity to watch a video about HIV- or flu-prevention. Both videos were standard-of-care at the health clinic; however, video selection was controlled by the research team, and was randomized by day. Coders recorded the amount of attention to the video, as well as demographic variables and features of the visit, including participant alertness and time spent in the waiting room. Participants were observed throughout their time in the waiting room.

### **Videos**

#### *HIV-prevention video*

The HIV-prevention video, "Safe in the City", is a soap-opera style video about HIV- and STI-prevention, designed to be culturally sensitive to African-Americans, and validated by prior research (Warner et al., 2008). The video was approximately 20-min long and ran on loop in the waiting room.

#### *Flu-prevention video*

The flu-prevention video, "GermBusters" discussed prevention, symptomology, and treatment of the flu, including H1N1. The video was approximately 20-min long and ran on loop in the waiting room.

### **Unobtrusive observation and behavioral coding**

Two demographically diverse and extensively trained senior research assistants did behavioral coding.<sup>2</sup> Once coders were in agreement ( $\kappa > 0.80$ ), the study commenced, and to minimize obtrusion, only one coder was present in the waiting room at a time. The coding sheet included a three-level measure of attention (0 *ignoring the video* 1 *casually looking/glancing at the video*, and 2 *paying attention to the video*). The coding sheet was validated by previous research, which suggests that the attention measure predicts recall from the video as well as performance on a post-

exposure quiz (Albarracín, Leeper, Earl, & Durantini, 2008; Bruder, Albarracín, & Earl, 2008). Coders also recorded participants' demographic information including gender and race<sup>3</sup> and features of the situation. Baseline level of alertness was operationalized as a holistic assessment of participants' alertness and ranged from 1 *extremely bored/tired* to 7 *extremely alert/lagitated*. Baseline alertness was normally distributed, with most participants receiving an alertness score of 4, *average alertness* ( $M_{\text{alertness}} = 3.99$ ,  $SD_{\text{alertness}} = 0.89$ ). To measure duration, the total amount of time participants were in the waiting room was recorded ( $M_{\text{duration}} = 30.88$ ,  $SD_{\text{duration}} = 24.71$ ).<sup>4</sup>

## Results and discussion

We used ANCOVA to analyze attention to a video as a function of observed race (African-American vs. European-American) and communication type (HIV-prevention vs. flu-prevention), including baseline alertness and duration as covariates. As predicted, the two-way interaction between observed race and communication type was significant (see Table 1 and Figure 1). African-Americans exhibited less relative attention to the HIV-versus flu-prevention communication. However, there was no difference in attention across communication type for European-Americans. In addition, for HIV- but not flu-prevention communications, attention differed by observed race. African-Americans were significantly less likely than European-Americans to attend to an HIV-prevention communication. However, there was no difference in attention across race for a flu-prevention communication. There was no main effect of either observed

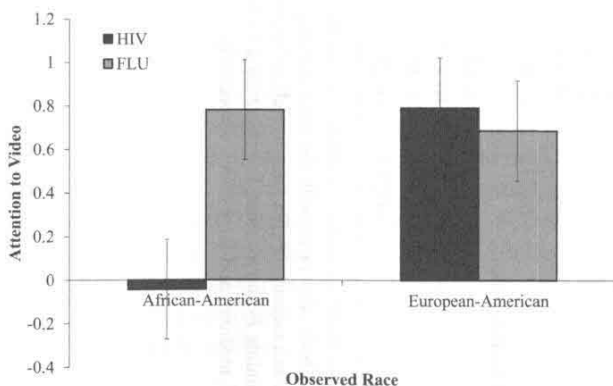


Figure 1. Mean observed attention to health information as a function of information type (HIV vs. flu) and observed race (African-American vs. European-American), adjusted for duration of time spent in the waiting room and baseline alertness. Error bars are pooled standard errors. Higher numbers indicate higher levels of attention to the video.

race or communication type. As such, this study offers preliminary evidence that health disparities in HIV may be perpetuated, in part, by differences in relative attention to HIV-prevention information across racial groups. However, in this study, the HIV-prevention, but not flu-prevention, video was culturally sensitive. Hence, tailoring could have produced an iatrogenic effect of HIV messages for African-Americans. Therefore, in Study 2, messages were not tailored.

## Study 2: Attention to written HIV- and Flu-prevention messages

As a conceptual replication of Study 1, African-American and European-American clients of the C-UPHD were offered the opportunity to read messages about HIV and flu on a computer in a private room. Study 2 took place approximately 1 year after Study 1. The messages contained information about HIV and flu. Following the messages, participants completed a modified Eriksen flanker task (Eriksen & Eriksen, 1974). Trials appeared on the screen to participants as a target arrow flanked by two distractor arrows (one on each side) and a word (HIV or FLU; e.g., congruent: HIV >>> HIV or incongruent: FLU <<< FLU). Participants were instructed to respond only to the central, target arrow by pushing the left arrow key (←) if the target arrow pointed to the left (<) and the right arrow key (→) if the target arrow pointed to the right (>). Information type (HIV and FLU), trial type (congruent and incongruent), and direction of target arrow (left and right) were fully crossed within-subjects, yielding a total of eight possible trial types. Because the flanker task is a measure of response conflict, if words from the categories of interest (HIV and FLU) are capturing attention, then participants should be slower to respond to the target arrow. This prediction follows from the structure of the task itself, which indexes conflict in attention between stimuli as a function of response-time (Eriksen, 1995; Eriksen & Eriksen, 1974). UI-IRB approved study protocol and participants gave Informed Consent prior to commencement.

## Method

### Participants and design

Participants were 57 clients of the C-UPHD, who were paid \$10 ( $n = 30$ ) or \$40 ( $n = 27$ ) for participating in the study.<sup>5</sup> Participants were racially diverse and of both genders (31 African-Americans (16 men; 15 women), 26 European-Americans (15 men; 11 women). The design of the study was a 2 (Race: African-Americans

Table 1. Three measures of attention across two studies as a function of race and information type.

	HIV		Flu		Simple effects			Main effects						Interaction				
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	Odds Ratios (95% CI)	<i>d</i>	<i>F</i>	<i>p</i>	<i>d</i>	Race			Information			$\eta_p^2$	<i>F</i>	<i>p</i>		
								<i>d</i>	<i>F</i>	<i>p</i>	<i>d</i>	<i>F</i>	<i>p</i>					
Study 1 ( <i>n</i> = 64)																		
Observation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
African-American	-0.04 (0.91)	0.78 (0.89)	5.21 (5.16-5.26)	0.91	8.64	0.01	0.40	2.41	0.13	0.39	2.36	0.13	0.07	4.03	0.049	-	-	-
European-American	0.79 (0.88)	0.69 (0.89)	1.22 (1.17-1.27)	0.11	0.20	0.69	-	-	-	-	-	-	-	-	-	-	-	-
Study 2 ( <i>n</i> = 55)																		
Reading Time	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
African-American	15.63 (9.29)	18.09 (11.01)	1.55 (1.09-2.00)	0.24	4.97	0.03	0.11	0.32	0.58	0.13	3.26	0.08	0.08	4.37	0.041	-	-	-
European-American	15.72 (6.21)	15.54 (5.65)	1.06 (0.57-1.54)	0.03	0.13	0.73	-	-	-	-	-	-	-	-	-	-	-	-
Log-transformed response-time	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
African-American	6.62 (0.23)	6.63 (0.23)	2.57 (2.55-2.58)	0.52	3.62	0.07	0.83	9.02	0.004	0.02	0.72	0.40	0.14	8.37	0.006	-	-	-
European-American	6.42 (0.28)	6.40 (0.29)	2.92 (2.90-2.93)	0.59	4.62	0.04	-	-	-	-	-	-	-	-	-	-	-	-

Notes: Three measures of attention across two studies as a function of race and information type. Values in the first two columns are means and standard deviations for each of the conditions. Simple effects are presented as both odds ratios with the corresponding 95% confidence interval and Cohen's *d* as measures of effect size, as well as the corresponding *F*- and *p*-values. Main effects are presented as Cohen's *d* as a measure of effect size, as well as the corresponding *F*- and *p*-values. The race by information type interaction is presented with partial eta-squared as a measure of effect size, as well as the corresponding *F*- and *p*-values. For reference, a Cohen's *d* of 0.20, 0.50, and 0.80 indicates a small, medium, and large effect, respectively, whereas a partial eta-squared of 0.02, 0.13, and 0.26 indicates a small, medium, and large effect, respectively.

vs. European-Americans)  $\times$  2 (Information type: HIV vs. FLU) with Race as a between-subjects factor and Information type, as a within-subjects factors. There were also task-specific factors, 2 (Trial type: Congruent vs. Incongruent) and 2 (Arrow direction: Left vs. Right). The dependent measures of attention were duration of time spent reading the paragraphs and reaction time to a modified flanker task (Eriksen & Eriksen, 1974).

### Procedure

First, to familiarize participants with the task, they completed practice trials with "DOG" or "CAT" as flankers rather than the categories of interest. Next, participants completed five blocks consisting of one paragraph about each of the information types (HIV, FLU, and BOX) matched on readability, followed by 36 trials of the flanker task (three of each trial type) per block (180 trials total; 15 of each trial type).<sup>6</sup>

### Materials

#### HIV paragraphs

The HIV-prevention paragraphs discussed symptoms, treatment, prevalence, and prevention of HIV.

#### Flu paragraphs

The flu-prevention paragraphs discussed symptoms, treatment, prevalence, and prevention of the flu.

### Measures of attention

Attention was measured by (a) time spent reading information and (b) flanker response-time. Time spent reading was the total time in seconds participants spent reading paragraphs on each topic. Flanker response-times were log transformed, with inaccurate trials set as missing values, and values trimmed at three standard deviations above and below the mean (Bargh & Chartrand, 2000). Subsequently, response-times for each trial type were averaged (HIV congruent, HIV incongruent, FLU congruent, FLU incongruent).

### Results and discussion

We used repeated-measures ANOVA to predict amount of time spent reading the paragraphs and response-times during the flanker task.

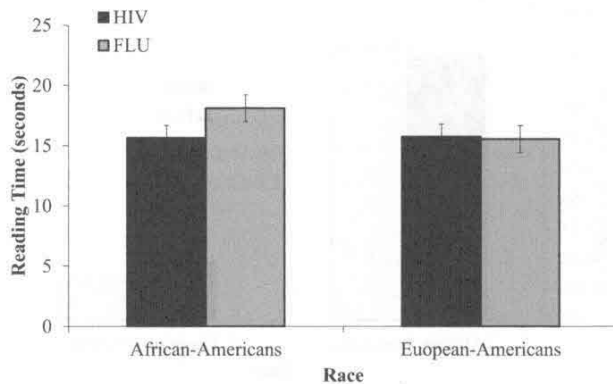


Figure 2. Adjusted reading time (in seconds) as a function of information type (HIV vs. flu) and race (African-Americans vs. European-Americans). Error bars are pooled standard errors. Higher numbers indicate higher levels of attention to the communications.

### Attention to paragraphs

First, reading time (in seconds) was analyzed as a function of race and information type. The interaction between information type and race was significant (see Table 1 and Figure 2). Paralleling the results from Study 1, African-Americans spent less time reading HIV versus flu communications. However, there was no difference in attention across communication types for European-Americans. Furthermore, across racial groups, there was a marginal main effect of information such that participants spent more time reading flu- compared to HIV-information. The main effect of race was non-significant.

### Reaction time to the flanker task

Next, flanker response-time was examined as a function of race and information type. There was a significant two-way interaction between information type and race (see Table 1 and Figure 3). In particular, African-Americans were marginally faster to HIV versus FLU trials. Although the  $p$ -value did not reach traditional levels of significance, the Cohen's  $d$  suggests a medium effect size. In contrast, European-Americans were significantly slower to HIV versus FLU trials.

In addition, there was a significant main effect of the method factor, trial type, such that participants were slower to respond to the incongruent versus congruent trials ( $M_{\text{Incongruent}} = 6.58$ ,  $SD_{\text{Incongruent}} = 0.27$ ,  $M_{\text{Congruent}} = 6.45$ ,  $SD_{\text{Congruent}} = 0.27$ ;  $F_{1,53} = 80.20$ ,  $p < .001$ , Cohen's  $d = 2.46$ ). However, the three-way interaction between information type, trial type, and race was non-significant ( $F_{1,53} = 0.05$ ,  $p = .83$ , partial  $\eta^2 = 0.001$ ). Furthermore, there was no difference in



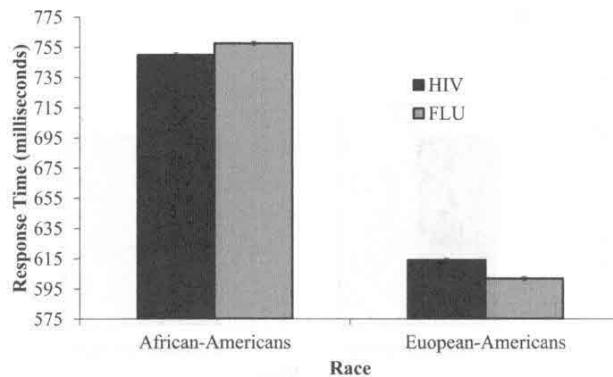


Figure 3. Response-time (in milliseconds) to a modified flanker task as a function of flanker type (HIV vs. FLU) and race (African-Americans vs. European-Americans). Error bars are pooled standard errors. Higher numbers indicate slower reaction time to the target task, and thus, higher levels of attention to the flanker word (HIV vs. FLU).

the direction of the target arrow (left vs. right;  $F_{1,53} = 0.01$ ,  $p = .94$ ). Finally, the main effect of race was significant such that, overall, African-Americans were slower to respond to all trials. Taken together, Study 2 replicates and extends Study 1 by demonstrating relative attention to HIV-prevention information across racial groups using two additional measures of attention.

### General discussion

Health disparities in HIV may be perpetuated, in part, by differences in relative attention to HIV-prevention communications across racial groups. Using unobtrusive observation, reading time, and flanker response-time, the behavior of African-Americans and European-Americans was recorded when health communications were freely available at a public health clinic. Results suggest that African-Americans showed differential attention to HIV- versus flu-information. In contrast, there were no differences in attention across information type for European-Americans. These results parallel data on health disparities across African-Americans and European-Americans (Centers for Disease Control and Prevention, 2005; Centers for Disease Control and Prevention & National Center for Immunization and Respiratory Disease, 2011), as well as increased perceived threat of HIV for African-Americans compared to European-Americans (Schröder, Hobfoll, Jackson, & Lavin, 2001; Washington Post/Kaiser Family Foundation, 2012). Importantly, there were no main effects of race on either attention to the video or time spent reading paragraphs, ruling out the possibility that African-Americans simply do not attend

to health information. However, the presence of an interaction with information type suggests that African-Americans are responding differently to information about HIV compared to flu.

No measure of attention is perfect and there are limitations to each approach used in these studies. For instance, unobtrusive observation captures overt, but not covert attention to information (Webb et al., 1966). As such, clients in Study 1 could have been listening to the video without directly watching, thus receiving the information while being coded as low attention. Furthermore, reading times used in Study 2 could be confounded by differences in education level or socio-economic status, independent of race. Thus, faster reading times could be indicative of literacy rather than increased attention. Finally, the flanker task used in Study 2 is a response-time measure, and as such, is also sensitive to any factor that may influence response-time independent of race or information content (e.g., familiarity with computers, caffeine intake, age, etc.). Although we had only these data for a subset of participants in Study 2, neither age, education level, nor income varied systematically with information type to predict attention (all  $ps > .36$ ). Future work may be designed to more thoroughly rule out the role of any of these, or other, potential covariates. However, the same pattern of findings replicates across vastly different measures of attention. Taken together, this multi-method approach can overcome weaknesses associated with any one methodology.

We have interpreted decreased attention to HIV-prevention information as a function of threat. This interpretation is consistent with meta-analytic evidence that fear decreases learning and behavior change following HIV-prevention interventions (Earl & Albarracín, 2007). Although fear may initially attract attention to threatening stimuli (Williams, Watts, MacLeod, & Matthews, 1988), fear may also inhibit message processing (McGuire, 1968, 1972). Future work may address the time-course of attention versus disengagement to HIV-prevention information by African-Americans, perhaps by utilizing psychophysiological measures (e.g., electroencephalogram). Alternatively, African-Americans may have simply been more likely to see information about HIV-prevention before, and as such, find the information less novel or informative. Although not tested presently, data from the Kaiser Family Foundation (2011) suggest that 73% of African-Americans compared to 37% of European-Americans want *more* information about HIV. Clearly, health communication designers must do a better job at ensuring messages are received by target audiences, perhaps by considering non-threatening HIV-prevention messages.

These findings contribute to a burgeoning literature on the role of attention to health information in disease prevention (Albarracín, Durantini, Earl, Gunnoe, & Leeper, 2008; Albarracín, Leeper et al., 2008; Bruder et al., 2008; Earl et al., 2009; Kessels, Ruiters, & Jansma, 2010). One tacit assumption in the health intervention literature is that audiences who most need messages will pay attention to intervention content. However, these studies, in concert with the present report, suggest that this assumption is faulty. Perhaps relevance is beneficial up until the point that information becomes too threatening to process, at which point audiences may disengage attention. Future work may directly test this hypothesis.

In documenting racial differences in attention to HIV-prevention communications, our findings offer a compelling and feasible intervention point to balance access to health care. We posited that when a disease is highly prevalent in one's group, individuals may also have greater fear of contracting it and thus withdraw attention to relevant information as a way of managing anxiety. Future work should be designed to assess various motives as a way of reducing barriers to attention to health communications, and ultimately reducing health disparities. Furthermore, additional work should be aimed at decreasing perceived threat as a way of increasing attention to HIV-prevention information, particularly for African-Americans. One strategy may be the use of *meta-interventions*, which are supplemental programs designed to increase intervention participation (Albarracín, Durantini, et al., 2008). Meta-interventions have increased acceptance of HIV-relevant videos and counseling sessions (Albarracín, Durantini, et al., 2008), so could target decreasing perceived threat to increase attention to HIV information. Thus, our work provides a critical first step to reduce barriers to attention to HIV-relevant information as a way of ultimately reducing health disparities for African-Americans.

### Acknowledgements

We thank Dov Cohen, Sonya Dal Cin, Monica Fabiani, Jesse Preston, and the members of the Health, Attitudes, and Influence Lab (HAILab) at the University of Michigan for detailed comments on an earlier version of this article. Earlier versions of some of the analyses described here were presented as part of a doctoral dissertation by Allison Earl, conducted under the direction of D. Albarracín.

### Disclosure statement

No potential conflict of interest was reported by the author(s).

### Funding

This study was supported in part by research grants F31 MH086324 (Earl) and K02 MH075616 (Albarracín) from the National Institute of Mental Health, as well as funding from the Loan Repayment Program of the National Institute on Minority Health and Health Disparities (Earl).

### Notes

1. Because the study was designed to examine health disparities between African-Americans and European-Americans, participants of other races were excluded from analyses ( $n = 15$ ). Furthermore, eight participants (four African-Americans and four European-Americans) were excluded, because no information about duration was reported. As such, although data were recorded for 87 participants, the total sample included is  $n = 64$  (30 African-Americans and 34 European-Americans). Although the clinic typically serves low-income and low socio-economic status clientele, these data were not directly collected from participants.
2. Although coders were privy to the content of the video being played, they had no knowledge of the specific hypotheses regarding attention as a function of information type, or the predicted interaction between race and information type.
3. Pilot testing with 41 clients confirmed that coder's observed race and participant's self-reported race are highly related ( $\chi^2 = 41.00, p < .001$ ).
4. In addition to alertness and duration, one related concern might be whether different racial groups varied in the degree to which they were accompanied by friends or family versus being alone, although we do not have a direct measure of whether or not participants brought others with them, there are two proxy measures that may shed light on this issue. First, coders recorded the total number of other people in the waiting room. However, neither information type nor race were related to this variable (all  $ps > .19$ ), and the number of other people in the waiting room did not moderate the interaction between information type and race on attention to the video ( $p = .18$ ). Second, coders also noted if participants talked to other participants in the waiting room at the same time. However, there was no difference in this measure across racial groups ( $p > .50$ ). Taken together, these results suggest that other participants in the waiting room did not reliably influence the observed interaction between information type and race.
5. Participants who were paid \$40 participated in a larger study that included the measures of interest, but also included additional measures that are not included in this report. All analyses presented below were also run including study group as a factor. However, neither the main effect of study group nor any higher-order interactions with the factors of interest were significant, so the study group factor was dropped from the analyses presented. Two African-American participants (one man and one woman) were excluded from analyses, because technical difficulties prevented recording of some data. Thus, all analyses presented are with a final sample size of 55 (29 African-Americans, 26 European-Americans).

6. The study initially included trials with a non-health control condition ("BOX"). However, the letter "x" differentially interfered with the flanker task across trial types, with more interference in the right-congruent and left-incongruent trials (e.g., BOX >><>> BOX and BOX >>>> BOX versus BOX <<<<< BOX and BOX <<><< BOX). As such, the BOX condition was dropped from analyses, because the response-times are uninterpretable in these conditions.

## References

- Albarracín, D., & Durantini, M. R. (2010). Are we going to close social gaps in HIV? Likely effects of behavioral HIV-prevention interventions on health disparities. *Psychology, Health, & Medicine, 15*, 694–719.
- Albarracín, D., Durantini, M. R., Earl, A., Gunnoe, J. B., & Leeper, J. (2008). Beyond the most willing audiences: A meta-intervention to increase exposure to HIV prevention interventions by vulnerable populations. *Health Psychology, 27*, 638–644.
- Albarracín, D., Leeper, J. L., Earl, A., & Durantini, M. R. (2008). From brochures to videos to counseling: Exposure to HIV-prevention programs. *AIDS & Behavior, 12*, 354–362.
- Albarracín, D., Rothman, A. J., Di Clemente, R., & del Rio, C. (2010). Wanted: A theoretical roadmap to research and practice across individual, interpersonal, and structural levels of analysis. *AIDS & Behavior, 14*, 185–188.
- Bargh, J. A., & Chartrand, T. L. (2000). The mind in the middle: A practical guide to priming and automaticity research. In H. Reis & C. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 253–285). New York, NY: Cambridge University Press.
- Bruder, L., Albarracín, D., & Earl, A. (2008, March). *Medical waiting rooms: Patients' motivation, interest, and recall of educational materials*. Poster presented at the annual meeting of the Southeastern Psychological Association, Charlotte, NC.
- Centers for Disease Control and Prevention. (2005). *Health disparities for American Americans*. Retrieved from <http://www.cdc.gov/omhd/Populations/BAA/BAA.htm>
- Centers for Disease Control and Prevention. (2012). *New HIV infections in the United States*. Retrieved from <http://www.cdc.gov/nchstp/newsroom/docs/2012/hiv-infections-2007-2010.pdf>
- Centers for Disease Control and Prevention & National Center for Immunization and Respiratory Disease. (2011). Seasonal influenza (flu). Retrieved from [http://www.cdc.gov/flu/professionals/vaccination/coverage\\_1011estimates.htm](http://www.cdc.gov/flu/professionals/vaccination/coverage_1011estimates.htm)
- Earl, A., & Albarracín, D. (2007). Nature, decay, and spiraling of the effects of fear-inducing arguments and HIV counseling and testing: A meta-analysis of the short- and long-term outcomes of HIV-prevention interventions. *Health Psychology, 26*, 496–506.
- Earl, A., Albarracín, D., Durantini, M. R., Gunnoe, J. B., Leeper, J., & Levitt, J. (2009). Participation in counseling programs: High-risk participants are reluctant to enroll in HIV-prevention counseling. *Journal of Consulting and Clinical Psychology, 77*, 668–679.
- Eriksen, B. A., & Eriksen, C. W. (1974). Effects of noise letters upon identification of a target letter in a non-search task. *Perception and Psychophysics, 16*, 143–149.
- Eriksen, C. W. (1995). The flankers task and response competition: A useful tool for investigating a variety of cognitive problems. *Visual Cognition, 2*, 101–118.
- Gerbert, B., Sumser, J., & Maguire, B. T. (1991). The impact of who you know and where you live on opinions about AIDS and health care. *Social Science and Medicine, 32*, 677–681.
- Kaiser Family Foundation. (2011). *2011 survey of Americans on HIV/AIDS*. Retrieved from: <http://kff.org/report-section/hiv-aids-at-30-section-2/>
- Kessels, L. T. E., Ruiters, R. A. C., & Jansma, B. M. (2010). Increased attention but more efficient disengagement: Neuroscientific evidence for defensive processing of threatening health information. *Health Psychology, 29*, 346–354.
- McGuire, W. J. (1968). Personality and susceptibility to social influence. In E. F. Borgatta & W. W. Lambert (Eds.), *Handbook of personality theory and research* (pp. 1130–1187). Chicago, IL: Rand McNally.
- McGuire, W. J. (1972). Attitude change: The information-processing paradigm. In C. G. McClintock (Ed.), *Experimental social psychology* (pp. 108–141). New York, NY: Holt, Rinehart & Winston.
- Schröder, K. E. E., Hobfoll, S. T., Jackson, A. P., & Lavin, J. (2001). Proximal and distal predictors of AIDS risk behaviors among inner-city African American and European American women. *Journal of Health Psychology, 6*, 169–190.
- Warner, L., Klausner, J. D., Rietmeijer, C. A., Malotte, C. K., O'Donnell, L., Margolis, A. D., ... for the Safe in the City Study Group. (2008). Effect of a brief video intervention on incident infection among patients attending sexually transmitted disease clinics. *PLoS Medicine, 5*, e135.
- Washington Post/Kaiser Family Foundation. (2012). *2012 Survey of Americans on HIV/AIDS*. Retrieved from <http://kaiserfamilyfoundation.files.wordpress.com/2013/01/8334-f.pdf>
- Webb, E. J., Campbell, D. T., Schwartz, R. D., & Sechrest, L. (1966). *Unobtrusive measures: Nonreactive research in the social sciences* (Vol. 111). Chicago: Rand McNally.
- Williams, J. M., Watts, F. N., MacLeod, C., & Matthews, A. (1988). *Cognitive psychology and emotional disorders*. Chichester, UK: John Wiley.