

When a Celebrity Contracts a Disease: The Example of Earvin “Magic” Johnson’s Announcement That He Was HIV Positive

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This meta-analysis summarizes the available data concerning the impact that the public announcement that Earvin "Magic" Johnson, a National Basketball Association All-Star, had tested positive for HIV. The results demonstrate that the announcement increased the level of accurate knowledge in persons, the number of persons getting tested for HIV, and the desire to obtain more information about HIV and AIDS. For adults the impact of the announcement was to increase the perception of vulnerability while for children/adolescents the announcement diminished the perception of risk.

Earvin "Magic" Johnson's announcement in 1991 that he had tested positive for HIV created a small sensation across the United States. As a heterosexual African American and a legendary sports hero, Magic Johnson provided a new image of the HIV-infected person to the American public (Payne & Mercuri, 1993). A well-liked and amiable celebrity, Johnson captured the attention of the media and public alike with his personal disclosure in what Pollack (1994) termed a "critical moment" in redefining public opinion on AIDS-related issues. In this vein, Johnson kept HIV and AIDS issues on the media and public agendas for several weeks, acting, in his own words, as a "spokesman for the HIV virus" (Magic Johnson's statement, November 8, 1991, *The Washington Post*, p. C5). He found numerous opportunities to communicate about the disease, how it is transmitted, and how to prevent becoming infected. Mr. Johnson's celebrity status, in combination with a controversial social issue, kept him in the focus of national attention. Mr. Johnson clearly found the American public attentive to his statements. However, the outcomes of attention to his disclosure and the surrounding discourse are not clear. This work seeks to synthesize the research on the influence of Magic's public announcement to determine the impact of the event on individuals' HIV-related knowledge, attitudes, beliefs and behaviors. Moreover, this work strives to uncover the lessons to be learned regarding a "celebrity disclosure" of a health-related condition or disease as a persuasive event.

Americans embrace the renowned, and the notorious, and many a celebrity has harvested this admiration to effectively champion social causes and organizations concerned with disease eradication. For example, Jerry Lewis has become inextricably associated with the Muscular Dystrophy Association and Mary Tyler Moore is known as an advocate for the American Diabetes Association. Similar to celebrity advocacy, celebrity disclosure of a disease is likely to focus attention on a particular affliction, perhaps to a greater extent than advocacy since the social issue has become "personal" to the celebrity and he or she is considered to be a credible source on the issue given direct experience. The recent case of Michael J. Fox's disclosure suggests the extent of influence that a celebrity disclosure may produce and extend. In late 1998, actor Michael J. Fox disclosed that he has Parkinson's disease. Subsequently, he has become a spokesperson for the disease and founder of a private foundation focused on the prevention and treatment of the disease, and has petitioned Congress to earmark funds for research into the treatment and prevention of the disease (Kenen, May 23, 2000). Presumably, Mr. Fox's celebrity and appeal to the American public via his health disclosure contributes to his access to media, public and policy agendas, and in turn, ability to effect change in these arenas. Anecdotally, Mr. Fox's disclosure proved to be an effective persuasive event to stimulate prosocial change. In this vein, Magic Johnson's disclosure should stimulate desirable change. More specifically, it is expected that Magic's story should elicit an increased awareness of the disease and perhaps an increased desire to protect oneself, and others, from contracting the disease by acquiring and utilizing knowledge about its prevention (Kalichman, 1998). Unlike other celebrity disclosures, the announcement by Magic Johnson spawned a relatively large body of research that can be used to examine celebrity influence.

Over 30 published articles have explored the influence of Magic Johnson's disclosure, either empirically or theoretically, on a number of variables of interest to communication scholars and health communication practitioners. These variables include, for instance, helping behavior (Penner & Fritzsche, 1993), attributions and emotional responses (Graham, Weiner, Giuliano, & Williams, 1993), news diffusion patterns (Basil & Brown, 1994), HIV-related knowledge (Bruce, Pilgrim, & Spivey, 1994; Ehde, Holm, & Robbins, 1995) and intention to obtain an HIV test (Langer, Zimmerman, Hendershot, & Singh, 1992). One way to frame this story is as a series of health communication messages. The focus of interest in the present analysis is placed on outcomes generated by this attention on HIV-related knowledge, attitudes, and behaviors.

There are three key persuasive elements to address in the instance of Mr. Johnson's disclosure that may influence the outcomes of these messages. These three elements have been selected as they are perceived to be both necessary and influential aspects of persuasive communication based on extant research and theorizing and thus may prove to be useful tools for organizing and interpreting the results of this study. The first element is issue salience, an element deemed necessary to increase public awareness of heterosexual transmission of HIV, but not sufficient to lead to cognitive, affective, or behavioral change. The second element is the process of identification, a social influence process dependent on the "relationship" between a celebrity and individual members of society. The third element involves the use of narrative both by Mr. Johnson and those publicly discussing the disclosure.

From a political science perspective, Pollack (1994) found that Johnson's disclosure, more specifically, the pronounced heterosexual symbolism of his message, sparked the association of the value of heterosexuality with AIDS-related issues and opinions. Following the announcement, AIDS was not as strongly associated with homosexuality, thereby prompting greater cognition regarding AIDS-related issues—the identification of any AIDS issue as a homosexual, often marginalized, issue was no longer a useful heuristic for those who associated Magic with AIDS (Pollock, 1994; Pollack, Lilie, & Vittes, 1993). The work of Pollack and others illustrates the power of Magic and the ethnic, social, cultural, and behavioral characteristics he brought to bear on his messages (Flora, Schooler, Mays, and Cochran, 1996; Pollack, 1994; Pollack et al., 1993). Clearly, Mr. Johnson's disclosure enhanced the attention directed to HIV and AIDS and the saliency of AIDS-related issues to a broader public.

The identification construct originated from Kelman's (1961) typology of social influence processes. Kelman's conceptualization frames identification as a process wherein influence is accepted in order to establish or maintain a desirable self-definition as a member of a group central to one's self-image or identity. Empathic expression, modeling behavior and acceptance of attitudes displayed by the source of identification, are means by which the identification process is manifested (Kelman). This powerful social influence process has taken a variety of forms and played a central role in many theories of social influence and behavior change, such as behavioral modeling in social cognitive theory (Bandura, 1986), and homophily in diffusion of innovations (Rogers, 1983). Advertisers have long utilized celebrities as effective spokespersons for consumer goods, recognizing their persuasive appeal to consumers. While both forms depend on the identification process as the influential mechanism, it is important to distinguish between Johnson's "celebrity disclosure" and a celebrity endorsement as a persuasive appeal. The effectiveness of an endorsement is likely contingent on the presentation of the professional or celebrity persona, not the personal or intimate side of the celebrity's life. Persona, not person, is the persuasive aspect of the endorsement (McCracken, 1989).

In Mr. Johnson's case, both his persona and personal story are felt to be critical persuasive elements in his disclosure.

As Basil and Brown (1997) propose, "a person's identification with a character is the mechanism that determines whether a dramatic depiction determines personal concern," (1997, p. 395). Identification is the process via which personal salience or concern may be heightened, however, it is the narrative form that brings the "person" and his or her story to the audience. Narration or the narrative form is considered to be the fundamental structure of human communication, a structure that we learn in infancy and that underlies the development of seemingly more sophisticated discourse and formal argument (Fisher, 1987). It is through narratives that we learn about and make sense of our world, reify our history, values and traditions, reveal our attitudes and emotions and create communities. Beck (2001) asserts that public presentations of personal narratives, such as the celebrity disclosure of a health issue, spur public dialogues which function in a number of ways to: (a) establish a connection with similar others by communicating that "IT could happen to you" (p. 240) or by influencing perceived susceptibility to a disease, and (b) reaching out to offer assistance or support those similarly affected or to appeal for legislation, accountability, research, or preventive efforts. Beck (2001) clarifies the relationship between identification and narrative as such (p. 241):

For individuals or organizations who ultimately want to step beyond the public sharing of personal traumas or to promote some sort of awareness or prevention outreach . . . , a critical mid-step involves identification, illustrating a clear connection between the stricken person/people and others and their respective behaviors, in order to construct a coherent and consistent narrative.

The combination of issue transformation and saliency, identification, and use of narrative, creates a potent and favorable environment within which individuals should be prompted to consider their personal risk, feelings of vulnerability, information adequacy, and general attitudes regarding HIV and those infected and affected. Johnson's disclosure clearly made the case that HIV is not just a homosexual issue, thus making it more difficult for the heterosexual population to perceive that they were not at-risk. In essence, Mr. Johnson's statement communicated that HIV is a threat to the heterosexual population. This is not to assert that individuals will necessarily perceive that they are at-risk (even if they engage in risk behaviors) or that they are similar to Magic and are thus at-risk, rather it is being asserted that his disclosure and the pursuant media coverage and, possibly, interpersonal discussions of Mr. Johnson or HIV, would lead to heightened personal saliency and would cue an appraisal of related knowledge, attitudes, beliefs, and/or behaviors.

The publicity surrounding the announcement, by its very nature, set the media agenda on HIV infection and AIDS for a period of time. This spotlight on Johnson and the disease should minimally result in heightened public awareness and likely increased knowledge of this disease. The effect of Mr. Johnson's announcement may not be uniform for all possible outcomes. One expectation for knowledge acquisition is once that salient knowledge is gained, it is not lost. If, as a result of any event, a person obtains more information about an illness, the knowledge would be something that the person would be likely to retain. However, engaging in risk reduction behaviors or seeking out an HIV test involve a more complex set of factors that

may be influenced by Johnson's disclosure. Unlike knowledge acquisition, risk reduction behaviors must be undertaken not once, but must be replicated with each occasion in order to protect against infection. For example, a behavior, such as using a condom during sex, requires ongoing support for the individual and reinforcement and repetition of the behavior. Further, the impact of Magic Johnson's disclosure on behavior may only be transitory, eliciting a temporary change rather than something that becomes part of a permanent or expected behavioral repertoire.

In 1991, Johnson's face was a novel one to associate with HIV/AIDS. As a professional basketball player much admired for his athletic ability, an African American, an affluent individual, and a married heterosexual, Johnson represented an individual who had achieved the "American Dream" and a population of individuals who may not have previously considered themselves at risk for HIV infection. The research dealing with the impact of his disclosure provided a unique opportunity to examine the influence of a contemporary celebrity's story of contracting a disease. This analysis seeks to unveil the overall persuasive impact of Magic Johnson's announcement.

Methods

Literature Search Method

This investigation began with a search of the available literature using a variety of existing indexes (i.e., AIDSLINE, COMINDEX, ERIC, Medline, Psychlit, SocInfo) in order to find relevant data. Existing reviews of the literature (Basil & Brown, 1994; Biddle, Conte, & Diamond, 1993; Hollander, 1993; Kalichman, 1994) were examined to find additional data points. Given the event under consideration (the impact of the announcement of the HIV status of Magic Johnson) it is unlikely that additional studies on this issue will be published. The retrospective nature of meta-analysis to combine the existing investigations provides, in this case, the chance of a relatively exhaustive analysis of the extant literature.

To be included in this review a study had to:

1. provide a means of analyzing the impact of the Magic Johnson announcement by either using awareness of Johnson's HIV status or through a pre-and post-test design;
2. use a quantitative analysis that permitted estimation of an effect size;
3. measure at least one of the following variables: knowledge of HIV transmission, perception of vulnerability to HIV infection, perceptions of persons infected with HIV, the desire to obtain more information about HIV, intention to change or actual change in risk behavior or HIV testing behavior.

Some studies were excluded for a variety of reasons: (a) statistical information that did not permit the estimation of an effect (Basil, 1996; Basil & Brown, 1997; Gellert, Weismuller, Higgins, & Maxwell, 1992; Moskowitz, Tedlie, & Binson, 1997; Pollock, 1994), (b) examined outcomes other than those of interest in this review (Flora et al., 1996; Graham et al., 1993), or (c) used nonquantitative methods of data collection and analysis (Palmer, Boardman, & Bauchner, 1996). Brief descriptions of the studies included in the analysis are presented in Table 1.

TABLE 1 Brief Description of Each Study

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- Boekeloo et al., 1993—Compares persons at an STD clinic before and for a 14 week period after the announcement. The comparison involved a report of a number of risk behaviors ($r = .144$, $N = 172$)
- Brown & Basil, 1995—Surveyed 391 college students in the Western United States 10 days after the announcement. The results examine how knowledge of the announcement is related to vulnerability to HIV infection ($r = .184$, $N = 391$) and risk behaviors engaged in ($r = .112$, $N = 391$).
- Brown et al., 1996—Participants from four adolescent clinics were surveyed four months after the announcement about the level of vulnerability felt to HIV infection ($r = .083$, $N = 96$) and the level of risk behavior ($r = .197$, $N = 96$).
- Bruce et al., 1994—Interviewed college students before and after the announcement asking them about the level of vulnerability ($r = .126$, $N = 214$), knowledge about HIV/AIDS ($r = .144$, $N = 214$), attitudes towards persons with AIDS ($r = .132$, $N = 214$), and the level of risk behaviors ($r = .008$, $N = 214$).
- Cohn et al., 1992—This was a pre/post announcement survey (20 days after) of persons at a Denver counseling center examining the impact on the number of HIV tests ($r = .305$, $N = 1194$).
- Ehde et al., 1995—This study employed a pre- and post-test design using college students 100 days after that examined the perception of vulnerability ($r = .123$, $N = 558$), knowledge about HIV/AIDS ($r = .101$, $N = 558$), attitudes towards person with HIV/AIDS ($r = .051$, $N = 558$), and level of risk behaviors ($r = .000$, $N = 558$).
- Herek & Capitano, 1997—Employed a national survey sample before and after (6 days) the announcement about attitudes towards persons with HIV/AIDS ($r = .080$, $N = 940$).
- Kalichman & Hunter, 1992—Survey in Chicago of persons riding the elevated train before and six days after the announcement dealing with vulnerability ($r = .154$, $N = 361$) and interest in obtaining more information about HIV/AIDS infection ($r = .214$, $N = 361$).
- Langer et al., 1992—Persons surveyed at a public health clinic both prior and after (time frame for the interviews is not provided) about the vulnerability to HIV infection ($r = .085$, $N = 276$), the intention to get an HIV test ($r = .452$, $N = 93$), and the desire to get more information ($r = .117$, $N = 276$).
- Quadango et al., 1997—300 days after the announcement, grade school children (grades 1, 3, 5) were asked about their perception of vulnerability to HIV ($r = -.195$, $N = 566$), attitudes towards people with AIDS ($r = .073$, $N = 566$), and knowledge about HIV/AIDS ($r = .334$, $N = 566$).
- Sigelman et al., 1993—Adolescents (average age 14) were asked before and 60 days after the announcement about their perception of vulnerability to HIV/AIDS ($r = .037$, $N = 66$), level of knowledge about HIV infection ($r = .023$, $N = 66$), and attitudes towards people with HIV/AIDS ($r = .073$, $N = 66$).
- Sumser et al., 1992—College students were interviewed in a pretest, and 21 days after the announcement in a posttest, about their perceptions of vulnerability to HIV infection ($r = .048$, $N = 106$) and the level of knowledge about HIV infection ($r = -.071$, $N = 106$).
- Tesoriero et al., 1995—This was a test of the number of persons obtaining an HIV test at clinics compared prior to the announcement and after the announcement ($r = .781$, $N = 1000$).
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(Continued)

TABLE 1 Continued.

Whalen et al., 1994—This study compared 6th graders using a pre- and post-test 45 days after the announcement on the level of vulnerability felt to HIV infection (study I, $r = .064$, $N = 244$, study II, $r = -.167$, $N = 73$, Study III, $r = .113$, $N = 84$).
Zimet et al., 1993—Surveyed adolescents before and 30 days after the announcement about their perception of vulnerability ($r = -.184$, $N = 425$), knowledge about HIV/AIDS transmission ($r = .248$, $N = 425$) and attitudes towards persons testing positive for HIV ($r = .174$, $N = 425$).

Note. When multiple measures for any variable were used in the study, the effect provided in this table is an average across those measures. When data sets appeared in multiple published works, the data are entered only once in the analysis because the unit of analysis is the data set and not the published manuscript. Nevertheless, the reference list includes all known uses of the data.

Coding for Potential Sources of Variability

Several different dependent outcomes were considered in this analysis: (a) how vulnerable a person feels towards contracting HIV, (b) knowledge about HIV as a disease, (c) attitudes towards persons with AIDS, (d) intentions to get tested or diminish risk behaviors, (e) reports of actual diminished risk behaviors, (f) changes reported in the number of persons being tested for HIV, and (g) desire to find out more about HIV/AIDS. The impact of the announcement by Magic Johnson may influence the various outcomes in an inconsistent manner.

Several potential features of the sample or the methodology may be related to the particular size of the effect observed. For example, males, persons younger in age, and African Americans may find Magic Johnson's medical condition more relevant and react more strongly to the announcement. Therefore, whenever the information was available, separate effects were estimated for samples based on demographic features. Due to a lack of available data, no separate analysis could be conducted on the basis of gender for any of the dependent measures.

The impact of time is important when considering the effect of any single event. Time of the data collection may serve as a potential moderator that could indicate the existence of an outcome that covaries with time. The impact of a celebrity announcement may be permanent for some features (like knowledge) but generate less permanent effects for other outcomes (intentions to diminish risk behavior, number of HIV tests, and attitudes toward persons with HIV/AIDS). The "learning" of medical information about HIV would probably not be forgotten once learned, however, actions that require constant practice (safer sex practices such as the use of a condom, diminished number of sexual partners, or regular HIV testing) may be greater immediately following the event and then diminish over time. Therefore, the length of time between the announcement and the measurement of the dependent variable was assessed.

Description of Statistical Analysis

This meta-analysis uses the variance centered analysis procedures as outlined by Hunter and Schmidt (1990). The statistical method involves essentially four steps: (a) conversion of estimates to a common metric, (b) correction of effects for various sources of artifact and bias, (c) averaging the available effects, and (d) assessment of variability among the estimates for the associations. This last step requires at least three studies to provide the minimum number of estimates for the test to be valuable.

The conversion to a common metric (in this case the correlation) is accomplished using standard formulas. The polarity (positive or negative) of the correlation was coded in terms of the desirability of the announcement producing a positive impact. For the dependent variables considered, the impact of the announcement should: (a) increase perceptions of vulnerability, (b) increase knowledge, (c) diminish negative perceptions of persons testing positive for HIV, (d) increase intentions to diminish risk behaviors, (e) diminish risk behaviors, (f) increase the number of persons testing for HIV, and (g) generate a desire for persons to get more information about HIV. A positive correlation indicates that the outcomes were in the expected direction.

The assessment of variability is conducted using a chi-square test that compares the observed variability in the observed data to theoretically the amount of variability that would exist due to random sampling error. A significant chi-square indicates that the level of variability is more than would be expected due to random chance and the average effect should be interpreted cautiously.

Results

Type of Outcome Measured

Vulnerability to HIV Infection

Thirteen studies examined the impact of the announcement of Magic Johnson on perceptions of vulnerability to HIV infection. The average effect was essentially zero (*average* $r = -.017$, $k = 13$, $N = 3460$, *var.* $r = .022$) but based on a heterogeneous sample of observed correlations, $\chi^2 = 76.88$, (12 , $N = 3460$), $p < .05$. The significant chi-square provides evidence for the possible existence of a moderator variable and any interpretation of the average effect requires caution.

One potential moderator variable was examined to explain the heterogeneity among the various estimates. The sample of 13 estimates was split on the basis of age into seven studies that included adult (older than 18) samples and six studies dealing with children (adolescents and younger). The seven studies using adult samples demonstrated a positive relationship (*average* $r = .130$, $k = 7$, $N = 2002$, *var.* $r = .001$) that was homogeneous $\chi^2 = 2.81$, (6 , $N = 2002$), $p > .05$. This finding indicates that for adults, the impact of the announcement demonstrates an increased perception of vulnerability to HIV infection that is consistent among the seven investigations.

The data considering adolescents and children demonstrates a different outcome. The six studies examining the effect of the announcement provide a *negative* association (*average* $r = -.120$, $k = 6$, $N = 1458$, *var.* $r = .013$) based on a heterogeneous set of outcomes $\chi^2 = 19.33$, (5 , $N = 1458$), $p < .05$. The results, although requiring some caution in interpretation due to the inconsistency among effects, demonstrate a sample of effects inconsistent with the data dealing with adults.

A comparison of the mean effect for adults and children demonstrates that the two effects are statistically different ($z = 7.23$, $p < .05$). This indicates a difference between the studies that examined the effect of the Magic Johnson announcement on adults and those studies that looked at the impact on children. For adults, the announcement increased the level of vulnerability felt, while adolescents and children experienced a diminished sense of vulnerability to HIV infection.

Knowledge About HIV/AIDS

Six studies examined the impact of the announcement of Magic Johnson on changes in the accuracy of knowledge about HIV. The average effect was positive (*average*

$r = .194$, $k = 6$, $N = 1919$, $var. r = .014$) but based on a heterogeneous sample of observed correlations, $\chi^2 = 26.62$, $(5, N = 1919) p < .05$. Again, the significant chi-square provides evidence for the possible existence of a moderator variable.

The impact of age on the outcomes was considered. Three of the six studies incorporated adult samples and the average effect is positive (*average* $r = .144$, $k = 3$, $N = 558$, $var. r = .010$) which was significantly less than ($z = 2.71$, $p < .05$) the association demonstrated by children (*average* $r = .280$, $k = 3$, $N = 1041$, $var. r = .006$). These findings indicate that while adults improved in accuracy of the level of knowledge of HIV infection after the announcement, the gain was less than the gain in knowledge accuracy for children and adolescents. This finding does indicate that both groups improved levels of knowledge after the announcement.

Attitudes Towards Persons With HIV/AIDS

Six studies examined the impact of the announcement on changes in participant's attitude towards people testing positive for HIV or with AIDS. The average effect was positive (*average* $r = .092$, $k = 6$, $N = 2767$, $var. r = .002$). The examination of variability indicates a homogenous sample of observed correlations, $\chi^2 = 4.33$, $(5, N = 2767) p > .05$. The nonsignificant chi-square indicates that the average across the six studies is based on a sample of effects that differ individually on the basis of sampling error.

Intention to Reduce Risk Behaviors

Two studies examined the impact of Magic Johnson's announcement on changes in the intention of a person to either reduce risk behaviors or get an HIV test. The average effect was positive (*average* $r = .176$, $k = 2$, $N = 484$). The existence of only two estimates prevents the use of an examination of the variability for a test of homogeneity. Given the small number of studies this should be interpreted with some caution, however the direction of the effect is in the expected direction. The announcement generated more stated intention to reduce risk behaviors and get a test for HIV.

Reduction of Risk Behaviors

Four studies examined the impact of the announcement of Magic Johnson on changes in the report of subsequent risk behavior (sharing needles, number of sexual partners, unprotected sexual encounters). The average effect was positive but small (*average* $r = .044$, $k = 4$, $N = 1040$, $var. r = .005$). The examination of variability indicates a homogenous sample of observed correlations, $\chi^2 = 5.21$, $(3, N = 1040) p > .05$. The nonsignificant chi-square indicates that the average across the four studies is based on a sample of effects that differ individually on the basis of sampling error.

Number of Tests for HIV

Magic Johnson's announcement impact on the number of persons seeking HIV tests was examined in two studies. The average effect was positive and large (*average* $r = .522$, $k = 2$, $N = 2194$). The existence of only two estimates prevents the use of an examination of the variability for a test of homogeneity. Given the small number of studies this should be interpreted with some caution, however the direction of the effect is in the expected direction and large. These two studies demonstrate a large increase in the number of persons going to clinics for an HIV test.

Desire to Obtain More Information About HIV

Two studies examined the impact of the announcement of Magic Johnson on changes in the desire to obtain more information about the HIV virus. The average effect was

positive (average $r = .171$, $k = 2$, $N = 637$). The existence of only two estimates prevents the use of an examination of the variability for a test of homogeneity. Given the small number of studies this should be interpreted with some caution, however the direction of the effect is in the expected direction. Both effects demonstrated an increase in the desire of persons to learn more about the HIV virus.

Analysis Considering the Impact of Time

The impact of the delay of measurement was assessed for three of the dependent variables: (a) vulnerability, (b) knowledge, and (c) attitudes towards persons testing positive for HIV. The analysis considers whether the length of time after the announcement demonstrates changes in the size of the effect. A positive correlation indicates that the size of the effect is becoming larger, while a negative correlation indicates that the size of the effect is diminishing.

The studies dealing with vulnerability have to consider the data generated from adults and adolescents/children separately because the direction for the two estimates differ. The impact of the announcement for children/adolescents was to diminish the perception of vulnerability while for adults the impact of the announcement was to increase the perception of vulnerability. The adult data demonstrates a negative correlation or slope ($r = -.380$) as does the adolescent/children data ($r = -.434$). What the two data sets indicate is that as the time from the announcement grows, the size of the effect diminishes. This is not surprising because the feeling of vulnerability is something that can change over time as confidence grows or wanes about the probability of becoming infected with the disease.

The data examining the impact of time on knowledge demonstrates a larger effect as the time interval after the announcement increases. Adults ($r = .257$) and children/adolescents ($r = .639$) both demonstrate positive effects for knowledge as time passes. This should not be surprising since the celebrity announcement may have created a desire to obtain more knowledge about the disease. Alternatively, the effect may also include the impact of simple maturation because, in addition to the Magic Johnson announcement, other sources of information and learning existed in the environment. The knowledge in these investigations reflect the level of understanding about the means of transmission for HIV. Once learned, one would not expect that this information would be forgotten or that the information would itself change. This finding may not generalize to other sets of knowledge that change over time or with circumstance (e.g., treatment techniques and effectiveness of treatment) or knowledge of a very technical nature.

The final dependent variable was attitudes towards person testing positive for HIV. The effect for time is negative ($r = -.422$) or the original attitude of tolerance gained by the announcement shows signs of decay. The result of the announcement on this attitude is transitory rather than permanent.

Discussion

Earvin Magic Johnson's disclosure of his HIV serostatus placed him on the media and public agendas, enabling a wide dissemination and discussion of HIV-related topics. As revealed in this analysis, Magic's story generated some public health implications. For some outcomes (change in risk behaviors) the available data essentially demonstrate little effect, while for knowledge, the effect demonstrated a significant increase in the level of accurate knowledge of HIV transmission modes. Further, this pool of research provides

lessons about the nature and efficacy of a celebrity disclosure as a persuasive event, and perhaps as a tool for addressing public health issues. Discussion of outcomes for HIV-related knowledge, attitudes, beliefs, and behaviors will be addressed, followed by an articulation of lessons for health promotion and disease prevention efforts, and a discussion of the persuasive elements deemed necessary to achieve the desired outcomes of the disclosure.

A limitation exists regarding sample size for both the number of participants and the number of studies. The problem of examining a “real-world” and “real-time” set of circumstances that are unpredictable means that the number of studies are small. The impact of the various limitations have received discussion elsewhere (Hale & Dillard, 1991; O’Keefe, 1991). The fact remains that the amount of data is relatively small and limited to a single historical incident. However, the importance of single events (as demonstrated on September 11, 2001 in New York City) can generate both immediate and longterm repercussions. In statistical terms this indicates that confidence intervals for the average estimates are larger and generalization limited. But the combined set of findings can provide some evidence and insight about theoretical issues deserving consideration. This historical incident, when compared to data from other events can serve to evaluate overall theories and therefore should not simply be ignored.

Outcomes Related to HIV Issues

Moderate increases in knowledge of the virus transmission followed Magic’s disclosure. However, this impact on the level of knowledge was moderated by the age of the respondents. Younger persons (adolescents and children) demonstrate larger gains in knowledge in contrast to older persons (adults). The differential effect given age held over time as adolescents and children continued to amass knowledge of HIV at a greater rate than adults. As acquiring and understanding accurate knowledge of HIV transmission entails knowledge of the nuances of sexual and drug-related behaviors, it follows that adults have more knowledge of “adult” behaviors than children under the age of eighteen. While Mr. Johnson’s disclosure contributed to the acquisition of HIV-related knowledge for all ages, children and adolescents clearly learned more, as they likely had more to learn.

Perceptions of vulnerability to HIV infection correspond to the same kind of variability found with knowledge gain that differentiates the two age groups. When considering age, adults demonstrated an increase in the perception of vulnerability while children indicated diminished perceptions of vulnerability. At the core of this differentiation is the receiver’s perception of the need to adapt to the potential health threat. Messages designed to weigh the impact of health threats often consider the combination of: (a) severity of the threat and (b) the probability of the threat applying to the person. For instance, the efficacy of fear appeals, particularly those regarding health messages, demonstrates a relationship to the individual’s perception that she or he is vulnerable to the threat (see Witte & Allen, 2000 for a meta-analytic summary of research on these issues). In this case, the threat of HIV/AIDS is a severe threat but the question remains as to whether the receiver believes that he or she is “at risk” for contracting the virus. Outcomes from Johnson’s disclosure likely reflect whether the individual hearing or discussing the announcement believes that Johnson’s exposure to the disease reflects the probability of personally contracting the disease.

Given that Johnson became infected as a result of unprotected heterosexual sex, he went to some lengths to explain that casual contact did not spread the disease. For those under age eighteen who are not sexually active, the knowledge that HIV is spread through

sexual contact rather than any type of casual contact serves to reduce the feeling of vulnerability. Palmer, Boardman, and Bauchner's (1996) qualitative assessment of sixth and eighth grade students' HIV-related knowledge, beliefs, and feelings concurs with this finding, in essence, that children/adolescents regarded AIDS as "an adult disease" to which they were not vulnerable. However, for the adults, the recognition and reinforcement that unprotected heterosexual acts can result in infection may work to elevate the sense of vulnerability. Unlike children/adolescents, adults may engage in "at-risk" behavior and the increase in knowledge about infection (this is not something that only gay males get) should result in a feeling of increased vulnerability (if it can happen to him, it can happen to me).

The net effect of Magic's disclosure was most marked by a sharp increase in the number individuals obtaining HIV tests immediately following the announcement of Magic Johnson's HIV status. However, the data demonstrates that, similar to perceptions of vulnerability and attitudes towards persons with HIV/AIDS, the strength of this effect diminishes over time. Regardless, this increase is beneficial since persons testing positive earlier have more effective treatment options available to them and can reduce the risk of others' contracting the disease through precautions. However, a major dependent variable, reducing participation in risk behavior was not demonstrated. Since the primary risk behavior reduction requires the use of a condom, the announcement may not simply impact on that particular behavior. Sexual conduct may not be subject to change, regardless of the celebrity announcement.

The findings for knowledge, personal vulnerability, and testing indicate that a celebrity's disclosure of a disease can focus public attention on a disease and effect change while awash in the media. Is this due to an affinity for and identification with this celebrity or to increased issue saliency given time on the media agenda? It could be either and it may be both. However, the slight increase in positive affect toward persons with HIV/AIDS may reflect issue transformation and suggests that Magic as a person, not a persona, may be influential in his own right. While this effect does diminish over time, it does add credence to the notion that identification with an individual can be influential in a person's contemplation of beliefs about a disease and its personal relevance.

General Lessons for Health Promotion and Disease Prevention

The evidence in this summary indicates that a famous person contracting a disease can increase issue saliency and cue individuals to revisit some assumptions, attitudes, and behaviors about the disease. This assumes that the celebrity generates admiration and a desire for emulation. While implications and caveats are noted later, one characteristic of this situation may have influenced perceptions and outcomes of Mr. Johnson's disclosure. The means to prevent infection were under Mr. Johnson's volitional control—he chose to engage in overt (and socially chastised) risk behaviors. It should be noted that this perception may have influenced the outcomes of his disclosure and may prove an important distinction from other celebrity disclosures (for example, Michael J. Fox did not "choose" to have his disease). Based on the studies analyzed within and related research, four lessons learned from Magic Johnson's disclosure are offered.

First, celebrity disclosure can affect disease-related knowledge, attitudes, beliefs, and behaviors. Johnson's disclosure appears to function, briefly, as bone-fide health communication campaign—a series of messages intended to increase awareness, enhance knowledge or the desire to obtain knowledge, influence attitudes, beliefs, and behavioral intentions, and possibly influence behavioral choices. However, the ability to achieve these outcomes depends on an appropriate match between the attributes of the celebrity,

the message, and the intended audience. While celebrity disclosures can affect prosocial change, the limitations of such disclosures resemble those of mass-mediated campaigns that typically fail to solely sustain behavior change (Rice & Atkin, 1989).

Second, celebrities capture and focus the attention of the media and the public. Celebrity status confers *entrée* to the media and media attention. Gaining the media agenda, extensive exposure will elevate an "issue" to the public agenda and establish a public discourse. In this case, celebrity in conjunction with controversy heightened Magic's story to "issue" status. The power of the ensuing value transformation in public opinion cannot be underestimated; it is the transformation that kept Johnson and HIV/AIDS on the media, public, and policy agendas. Magic Johnson may be one of a few special cases because the social controversy or value conflict involving HIV transmission may have made Mr. Johnson's story unique and newsworthy. Celebrity status can capture the attention of the media, but it is the "loudness" or "contentiousness" of the story that will keep it on the agenda (Dearing & Rogers, 1996). A caveat is that extensive media coverage can exaggerate or inaccurately portray a social issue. Biddle et al. (1993) criticize the exposure that Magic Johnson's disclosure received, arguing that "medical infotainment" or the overexposure of celebrity AIDS cases (Rock Hudson, Kimberly Bergalis, Earvin Johnson) misrepresents the afflicted and leads to the dissemination of inaccurate and unclear information. Dearing and Rogers (1996) make a similar point in noting the occurrence of significant increases in HIV testing behaviors following celebrity disclosures, particularly Mr. Johnson's, as reported by Gellert et al. (1992). They highlight that the increases in number of blood tests did not lead to the identification of more HIV-infected individuals, rather, "the celebrity announcements mainly motivated the 'wrong' [low risk] people to come forward for HIV blood tests" (p. 83).

Third, from a public health perspective, the direct effects of a celebrity disclosure may be positively or negatively valenced. Valence can be determined in one of three ways; (1) persons can accept or reject the disclosure message (advocated attitudes, beliefs, and behaviors), (2) the message of the disclosure may be socially responsible or irresponsible (healthful or harmful), and (3) persons can accept or reject the celebrity (as person or persona) as a target of identification. A critical influence on the impact of Magic Johnson's disclosure on perceptions of HIV and those affected by HIV is the degree to which he continued to serve as a role model for emulation or a target of ridicule. When individuals positively identify with a celebrity and regard him or her as similar enough to view the messages as relevant and positively enough to emulate, the audience may be motivated to revisit assumptions, attitudes, and risk behaviors. Conversely, sexually active individuals could emphasize the dissimilarity between themselves and the celebrity in order to avoid confronting his or her own risk. Individuals could focus on Mr. Johnson's professed promiscuity as an influential distinction between themselves and him, rather than on the characteristic of heterosexual behavior they may have in common. In this case, an individual like Magic could be labeled as someone now paying for a lifestyle involving indiscriminant and unsafe sexual encounters and who is now the subject of ridicule, not admiration. (See Payne & Mercuri, 1993, and Biddle et al., 1993, for examples of ridicule and rejection of Mr. Johnson by members of the media.)

The data find that children/adolescents rejected the message of personal vulnerability, a decision that may or may not be appropriate, depending on risk behaviors. Palmer et al. (1996) found young adolescents rejected the message of vulnerability to HIV infection and, that boys, but not girls, found Magic to be a credible source of information. Further, based on McCracken's (1989) concept of meaning transfer, a test of Flora et al.'s (1996) symbolic social communication model revealed that

African-American men differed in their perceptions of Magic as a credible source on a number of messages in association with their own level of sociocultural identity. Flora et al. (1996) concludes that:

symbolic meanings embedded in celebrities and message topics are important and enduring influences on message effects. The images and ideas that a source represents are transferred to the advocated behavior, attitude or knowledge change and thus shape how messages are interpreted and received. (p. 353)

Thus, in order to be maximally effective, the attributes of the celebrity persona should confer desirable and consonant attributes toward the behavior advocated.

Fourth, celebrity disclosure can affect the social implications of a disease. The perceptions of a disease exert more influence on relevant attitudes and behavior than the actual scientific and medical information available. The association of a familiar and positively regarded person with an issue perceived as unfamiliar, stigmatized and/or frightening may help to personalize the issue. HIV may no longer be conceived to be about "them" but rather as about "all of us." The research lead by Pollack (Pollack, 1994; Pollack et al., 1993) clearly illustrates the shift in "value-coloration" of HIV/AIDS issues given Mr. Johnson's disclosure. More importantly, the slight increase in positive affect towards persons with HIV suggests a lessening of stigmatization of those infected with the virus. Magic Johnson, like Patty Duke (mental illness) and Betty Ford (alcoholism) before him, sparked public discourse enabling individuals to communicate with others about a socially tainted, perhaps personal, issue without prohibitive embarrassment or shame.

Persuasive Elements Necessary for a Desired Outcome

Get the attention of your audience, create a common context, provide support for your claims, and motivate your audience to the desired outcome. These classic rhetorical principles are taught in introductory public speaking classes as unfettering and necessary strategies to employ in persuasive communication. These same principles characterize the structure of Mr. Johnson's celebrity disclosure, namely, via issue salience, identification, and narrative. Recent theorizing by Slater (1999) explains the relationships between these three elements as applied to communication campaigns seeking to strategically move low involvement individuals from precontemplation (awareness) to contemplation (increased interest and processing) for an advocated behavior.

...messages intended to build initial awareness should be very simple and use credible sources, while being dramatic enough to attract attention Research into the availability heuristic (Tversky & Kahneman, 1973) has implied that salience can be increased in two ways. The first is quite obvious: Maximize exposure to the message through widespread dissemination, repetition, and use of novel or vivid message elements, so it is more likely to come to mind The second is to include exemplars, or testimonials or anecdotes, that may be more likely to be accessed as indicative of the severity or relevance of the campaign issue. (p. 342) (Baesler & Burgoon, 1994; Brosius & Bathelt, 1994)

A celebrity disclosure is effective relative to saliency in two ways: (1) celebrity association with a social issue is a valid and recognized manner in which to persuade

individuals with low issue saliency/involvement via peripheral processing, and (2) celebrity status prompts sufficient exposure to increase public and personal saliency. Similarly, Slater (1999) portrays the role of narrative as easily accessed and memorable evidence intended to connect the campaign objective with the message receiver. A public narrative, such as a celebrity disclosure, engages the receiver through personalization and visualization and provides a source of commonality between communicators as the "story" is passed along and discussed. A celebrity narrative becomes more influential than a non-celebrity narrative because identification with the celebrity mediates the effects of the disclosure, particularly in relation to personal concern about the issue (Basil, 1996; Brown & Basil, 1995).

The impact of the announcement of Earvin Magic Johnson illustrates the potential of a celebrity to impact public health discourse by revealing a diagnosis. The impact takes on relevant affective, cognitive, or behavioral forms sometimes with longlasting effects and other times with transient outcomes. The impact of celebrities on the perception of a disease and the need to seek treatment remain an important part of public health campaigns that continues to require attention.

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