

A Social Psychological Perspective on the Role of Knowledge About AIDS in AIDS Prevention

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Widespread ignorance regarding the transmission of HIV in the mid to late 1980s was, at once, a source of despair and optimism. It was discouraging that people knew so little about HIV prevention. At the same time, one could hope that an attack on the ignorance might amount to an attack on the virus itself. Today, many health educators still believe that ignorance is at the root of the spread of the disease and continue to focus on knowledge as a central causal variable in AIDS prevention. Many AIDS interventions are based on the idea that giving people the facts about transmission of HIV will lead to positive attitudes toward preventive behaviors (and ultimately behavior change). In fact, some educational programs measure their success by assessing how much people learn about AIDS rather than by assessing people's changes in attitudes or behavior per se (e.g., Farley, Pomputius, Sabella, Helgerson, & Hadler, 1991; Ganz & Greenberg, 1990).

Recommended Reading

- Brandt, A.M. (1987). *No magic bullet: A history of venereal disease in the United States since 1880*. New York: Oxford University Press.
- Cialdini, R.B. (1993). *Influence: Science and practice* (3rd ed.). Glenview, IL: Scott, Foresman/Little, Brown.
- Eagley, A., & Chaiken, S. (1992). *The psychology of attitudes*. Orlando, FL: Harcourt, Brace, & Jovanovich.

There are a number of philosophical and practical reasons for using information-based approaches to changing health-related behavior. The idea that people will change their behavior when they are informed about the logic of doing so is consistent with the Western worldview, which places individualism, enlightenment, and reason at the center of its value system. Knowledge-based behavior change is, in theory, internalized. Thus, the new behaviors will last longer, display a greater resistance to extinction, and generalize across more situations than will new behaviors arising from other forms of social influence (e.g., reward, coercion, and compliance with authority figures). Behaviors based on these other influences may be relatively situation specific and require surveillance for compliance.

Subscribing to an information-based view, many psychologists (and nonpsychologists) believe that knowledge about disease processes is a fundamental variable in any prevention theory or intervention program. Teaching the facts is seen as essential to changing attitudes or behaviors. For example, the author of one health psychology textbook argued that "health information is the first necessary component and a key ingredient in any attempt to bring about health behavior" (DiMatteo, 1991, p. 88). Similarly, the term "AIDS knowledge" is frequently used synonymously with the term "AIDS pre-

vention" in the public-health literature in general and the AIDS prevention literature in particular.

Unfortunately, the evidence that sex education leads to changes in behaviors intended to prevent AIDS or pregnancy is disappointing. Similarly, the many research efforts aimed specifically at examining the relation between knowledge about AIDS (including how AIDS is transmitted) and preventive behaviors suggest overwhelmingly that this relation is weak or nonexistent. A review of global perspectives on AIDS (Mann, Tarantola, & Netter, 1992) concluded that "the failure of information to lead reliably, regularly, or predictably to behavior change has been documented repeatedly in varying cultures and contexts and underscores the need for a comprehensive approach to prevention" (p. 330). Surprisingly, some of the researchers who themselves have found no effects of knowledge about AIDS on AIDS-related attitudes or behaviors nevertheless have made recommendations suggesting that counselors, physicians, and other health care professionals ought to provide more information about AIDS, develop educational programs, and provide sex education (Freeman et al., 1980). Our point is not that people might not benefit from or need such information (e.g., education might help reduce the stigma against persons with AIDS). Rather, we are saying that disease-related information about AIDS seems not to be an important cause of change in sexual behavior.

Surveys indicate that the absolute level of knowledge about AIDS, transmission routes, and preventive behaviors is quite high in some populations even while the frequency of behaviors that increase the risk of contamination remains high—a fact that would preclude a strong relationship between knowledge and preventive behav-

iors. For example, in one study of injection drug users, participants were randomly assigned to an AIDS education group, an AIDS education group with optional HIV testing, or a wait-list control group (Calsyn, Saxon, Freeman, & Whittaker, 1992). Four months after the intervention, a structured interview could not detect any differences between the groups in either their knowledge about AIDS or their frequency of engaging in risky behaviors. Additionally, the injection drug users were very well informed about AIDS. Between 97% and 99% correctly identified routes of contracting HIV and knew that condoms could prevent its transmission. High absolute levels of knowledge about AIDS have also been found in heterosexual adolescents (e.g., DiClemente, Forrest, Mickler, & Principal Site Investigators, 1990) and gay men (e.g., Aspinwall, Kemeny, Taylor, Schneider, & Dudley, 1991). Thus, one might simply look to these high levels of knowledge to conclude that knowing the facts about AIDS is not sufficient to cause people to change their behavior. If it were, very few people in these populations would be engaging in risky behaviors.

One of the most common reactions to a failure to find a relationship between knowing the facts about AIDS and engaging in risky behaviors is to conclude that information is a necessary, but not a sufficient, condition for behavior change (see J.D. Fisher & Fisher, 1992, for a review). However, as we discuss next, the route to changes in behaviors related to risk of contracting HIV does not (or does not always) pass through the acquisition of knowledge about AIDS.

SOCIAL PSYCHOLOGICAL THEORIES

Within social psychology, a wealth of research on persuasion

and attitude change provides clues as to (a) why and under what circumstances information per se does not necessarily lead to behavior change and (b) why uninformed people nevertheless change their attitudes or behaviors. It is not our purpose to review the literature on persuasion and attitude change here, but we provide three illustrations.

First, consider the elaboration likelihood model of attitude change (Petty & Cacioppo, 1986). In this model, it is not knowledge per se but cognitive reactions to knowledge that cause changes in attitude and behavior. The model proposes that one cannot judge how effective a message is simply by examining the information learned—one must know how the recipient of the message reacts to that knowledge. Thus, the message may be ineffective if the person sees the information as irrelevant (e.g., "I'm young and have a strong immune system, so I need not worry") or reacts negatively rather than positively (e.g., "Condoms are too much trouble, and they make me think of death and disease"). Positive reactions, which are key to an effective message, may result from superficial cues in the message (the peripheral route to persuasion) rather than from elaborate, in-depth, thoughtful analysis of the issues (the central route to persuasion). However, research shows that peripheral routes to persuasion (such as having a famous actress promote condom use) result in attitudes that are relatively temporary, are susceptible to change, and have little impact on behavior. If the central route to persuasion does result in attitude change, such change may be relatively enduring, but the person may not have the necessary skills or self-worth to carry the belief into action (Petty, Gleicher, & Jarvis, 1993).

Ajzen's (1988) theory of planned

behavior provides a second example in which increased knowledge may or may not produce behavior change. The theory of planned behavior—an extension of Ajzen and Fishbein's (1980) theory of reasoned action—suggests that a behavior follows from intention, which in turn follows from a person's attitude toward the behavior, the perceived opinions of other people (norms), and perceived control over the behavior (see W.A. Fisher, Fisher, & Rye, 1995, for an application of the theory of reasoned action to AIDS-related behavior). Based on this theory, one would predict that behavior change can be produced without attitude change if new norms can be created (e.g., "I'll start bleaching my needles, not because I personally believe it's important but because everyone wants me to") or if perceived control over the behavior changes (e.g., "Now that I can easily get condoms in vending machines in the restroom, I'll begin using them"). In sum, the theory of planned behavior and the theory of reasoned action suggest that a change in norms or perceived control might reduce the frequency of risky behaviors even if people do not learn more about AIDS.

Cognitive dissonance theory (Festinger, 1957) is a third example of a social psychological theory that suggests a mechanism for attitude and behavior change in which learning a message is not relevant. According to this theory, cognitive dissonance may be evoked when a person holds inconsistent attitudes or acts inconsistently with held attitudes. To reduce the resulting discomfort, the person is motivated to change an inconsistent behavior or attitude so as to eliminate the inconsistency. Using this paradigm, Stone, Aronson, Crain, and Winslow (1994) had students develop and videotape a persuasive speech about condom use and also asked the students to think about their

own past inconsistent condom use. That is, cognitive dissonance was aroused by reminding students that they were being hypocritical (promoting use even though they had not used condoms consistently in the past). This cognitive dissonance in turn increased students' resolve to use condoms in the future, and more students in this condition (compared with three control conditions) bought condoms following the experiment. The important point here is that the change in intentions (and behaviors) occurred after an apparent inconsistency became clear, not because of new information.

In sum, then, many social psychological theories provide sound theoretical reasons for why information at times does not lead to learning, attitude change, or behavior change, and why attitude and behavior change may occur without new knowledge.

NEGATIVE CONSEQUENCES OF KNOWLEDGE ABOUT AIDS

Some people might argue that even if providing the facts about AIDS is not sufficient (or necessary) to change behaviors, it certainly could not hurt for people to learn more about AIDS as long as the education does not detract from other intervention methods. But in some cases, knowledge about AIDS may inhibit preventive behaviors, such as use of condoms. For example, one study (Berrenberg et al., 1993) measured the degree to which college students felt overwhelmed and irritated by information about AIDS and desired to avoid additional information (called degree of "AIDS information saturation"). The authors found that students with a high

level of AIDS information saturation rated AIDS information that was provided as less valuable, less clear, and less disturbing than did students with a lower level of AIDS saturation. The students with a high level of AIDS information saturation also reported fewer intentions to change high-risk behaviors. This study hints at the possibility that there may be negative consequences of repeatedly telling people what they already know.

Health educators who believe that rational people make rational choices once they have all the information might create interventions in which they teach individuals to use disease information to persuade their partners to use condoms. However, this approach may be problematic for several related reasons. First, the failure to use condoms is more often related to concerns regarding how one appears to other people than to lack of information about the benefits of using condoms (Leary, Tchividjian, & Kraxberger, 1994). That is, people are embarrassed to buy condoms, are embarrassed about introducing the issue to their partners, and worry about the impression they give to their partners (Helweg-Larsen & Collins, 1994). Knowing the rational reasons for using a condom may not overcome these interpersonal concerns. Second, given the powerful images associated with AIDS (e.g., being gay, promiscuous, or "unclean"), AIDS might be exactly the reason one should not use to convince one's partner to use a condom. Research on attitudes and classical conditioning suggests that one should avoid linking a desired behavior (e.g., using condoms) with an image or word (AIDS) that, rightly or wrongly, carries negative connotations.

Third, there is also emerging empirical evidence that introducing disease information in a sexual situation might in fact have ad-

verse effects on a potential partner's perceptions of a person trying to make a good impression (Collins & Karney, 1995). In one study, students who read a scenario about a college student who mentioned to his or her partner that he or she was "worried about AIDS" judged the student as nice (responsible, sincere, clean, and conscientious) but also unexciting (dull, boring, bland, uninteresting, weak, and passive). Even when these effects were controlled statistically (the effects of the nice and exciting dimensions were statistically removed), college students still perceived a person revealing concern about AIDS to his or her partner to be promiscuous, a poor long-term romantic prospect, and less sexually attractive and less heterosexual than a person who did not mention concern about AIDS.

In sum, providing the facts about disease processes might have negative consequences under certain circumstances, especially if the recipients feel they are already overloaded with such information or if they use (or are taught to use) such information to persuade their partners to use condoms or take other precautionary measures.

CONCLUSION

Not only is knowledge about AIDS an unreliable predictor of attitudes or behaviors, but the focus on knowledge-based approaches to behavior change might distract health educators from targeting other factors leading to risky sexual behavior—factors that predict risky behaviors better than does knowledge about AIDS. This is not to say that knowledge might not be important for purposes other than changing attitudes or behaviors. It is to say that researchers should consider a broad array of theories

of behavior change, including those that do not focus on information as a determinant of such change. In addition, several social psychological theories of attitude change provide excellent information about when providing factual information is most likely to lead to changes in attitudes or behaviors. In the midst of the AIDS crisis, it is essential that specialists and non-specialists alike become aware that knowledge is not sufficient, is not always necessary, and may in certain circumstances do more harm than good.

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Note

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Factors Affecting Infants' Use of Featural Information in Object Segregation

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How do we tell where one object ends and another begins? The study of object segregation seeks answers to this question. When considering adults' perceptions, researchers disagree about the extent to which what people know about objects affects how they perceive

objects. Some researchers believe that perception is not influenced by knowledge, either because processing of information contained in the visual image is deemed to be unnecessary (e.g., Gibson, 1979) or because information processing is assumed to take place in individual

modules that are "impenetrable" to background knowledge (e.g., Fodor, 1983). Other researchers argue that the information contained in the visual image is not sufficient

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- Mehler, J., & Dupoux, E. (1994). *What infants know*. Cambridge, MA: Basil Blackwell.
- Spelke, E.S., & Van de Walle, G.A. (1993). Perceiving and reasoning about objects: Insights from infants. In N. Eilan, W. Brewer, & R. McCarthy (Eds.), *Spatial representation* (pp. 132-161). Oxford, England: Basil Blackwell.

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