

The Message Design Logics of Responses to HIV Disclosures

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Abstract

This manuscript uses the theory of message design logics to investigate the relative sophistication of responses to disclosure of HIV status. In Study 1, 548 college students imagined a sibling revealing an HIV-positive diagnosis. Their responses to the HIV-disclosures were coded as expressive ($n = 174$), conventional ($n = 298$), or rhetorical ($n = 66$). Type of message produced was associated with gender and HIV aversion. In Study 2, 459 individuals living with HIV rated response messages that were taken verbatim from Study 1. Expressive messages were rated lowest in quality, and rhetorical messages were rated highest. The discussion focuses on the utility of message design logics for understanding responses to HIV disclosures and the implications for message design logics.

The Message Design Logics of Responses to HIV Disclosures

Issues surrounding the disclosure of an HIV-positive status have become prominent concerns in the health communication literature (for a review, see Greene, Derlega, Yep, & Petronio, 2003). People often fail to disclose that they are living with HIV because of the stigma associated with the illness and concerns about how others will react (e.g., Alonzo & Reynolds, 1995; Herek, Capitano, & Widaman, 2002), but keeping the diagnosis a secret can lead to a lack of social support, unsafe sexual behavior, and failure to seek treatment or to take medications as needed (e.g., Chesney & Smith, 1999). Stigma and lack of disclosure of HIV status are such important health concerns that they warrant counseling programs to help these individuals manage the psychological, social, and health aspects of their illness (Rintamaki, Davis, Skripkauskas, Bennett, & Wolf, 2006).

Much HIV disclosure research has examined how people living with the disease decide whether to divulge their status (e.g., Derlega, Winstead, & Folk-Barron, 2000; Derlega, Winstead, Greene, Serovich, & Elwood, 2004; Sullivan, 2005). Some research also has examined disclosers' perceptions of the responses they receive when telling others about their HIV-positive diagnosis (Greene & Faulkner, 2002; Serovich, Kimberly, & Greene, 1998). Greene and Faulkner, for example, interviewed 10 female African American adolescents, who described how people responded when told about their HIV diagnosis. The responses varied considerably and included treating the participants unfavorably, having negative emotional reactions, telling others, and providing support.

Understanding how people respond to disclosures about HIV-positive status is important for numerous reasons. For instance, people living with HIV often experience uncertainty about how others will react (Brashers et al., 2003). If this uncertainty contributes to anxiety about revealing the information, research describing reactions to HIV disclosures can be useful by illuminating “the issues and dilemmas that may be encountered when disclosing” (Serovich et al., 1998, p. 15).

Research on responses to HIV disclosures from the perspective of the responder is also important. People who disclose an HIV-positive test result may hope for various sorts of responses from the recipient, including offers of social support (Derlega, Lovejoy, & Winstead, 1998; Greene & Faulkner, 2002), assurances that others will not be told (Greene & Faulkner, 2002), and a chance for catharsis (Derlega et al., 1998). Presumably, at least some recipients of HIV disclosures want to provide high quality responses, but it is not entirely clear what counts as “high quality” in this context. The current literature provides some general guidance about competent responses, such as not dismissing the HIV disclosure as unimportant (Barbee, Derlega, Sherburne, & Grimshaw, 1998). Still, there has been little systematic attention on how to conceptualize the competence or quality of responses to HIV disclosures.

Thus, the primary objective of the present research is to proffer a theoretical means of conceptualizing message sophistication in responses to disclosures of HIV-positive test results. Our discussion is rooted in O’Keefe’s (1988, 1990, 1991) theory of message design logics. The second objective is to extend research on message design logics, illustrating how this research can be applied to novel research contexts. The majority of research on message design logics to date has focused on interpersonal influence situations, but the current research demonstrates that the theory can be applied usefully to responses to important disclosures – in this instance, the disclosure of an HIV-positive test result. We pursued these objectives in the two studies described below, with the first focusing on developing the model for classifying message sophistication and the second testing the model.

Message Design Logics Perspective

Numerous scholars have noted that communicators often encounter situations in which they have multiple goals or aims (e.g., Clark & Delia, 1979; Dillard, 1990; Goldsmith, 2004; Wilson, 2002). The obvious commonality among various multiple goals perspectives is the recognition that communicators typically have multiple objectives when interacting. For instance, even when communicators’ most overt aim is to persuade, their messages also shape how they are viewed and have implications for their

relationship with the other person (Clark & Delia). The theory of message design logics is a particular multiple goals perspective that is associated with a specific set of theoretical propositions. First, the message design logic theory posits that various messages can be viewed as means of addressing communicative goals. In this view, goals are “the central elements in socially codified representations of situations” (O’Keefe, 1988, p. 82). The “design logic” is what connects goals to messages (i.e., messages are designed in ways that support the logic of how to accomplish various goals).

O’Keefe (1988) conceptualized goals as being implicit in social structures. That is, certain goals normatively are accepted as relevant to particular situations; there is a conventional understanding that such objectives should be pursued and met. Brown and Levinson (1987), for instance, argued that the concerns about the other person’s identity are an inherent risk of making requests. In particular, asking someone to comply with a request inevitably threatens that person’s negative face, which refers to the aim of remaining unfettered by impositions on one’s autonomy. Different goals are relevant to other situations: Refusing another individual’s request can interfere with one’s identity goals, such as seeming cooperative -- or at least not difficult (Saeki & O’Keefe, 1994); people run the risk of appearing nosey if they give advice (Goldsmith & Fitch, 1997; Kunkel, Wilson, Olufowote, & Robson, 2003); and offers of social support can leave the recipient feeling a loss of control over his or her circumstances (Brashers, Neidig, & Goldsmith, 2004).

Because goals are conceptualized in terms of their relevance to particular situations, the relevance of goals is not dependent on whether specific individuals identify with those goals (O’Keefe, 1988, 1992). Indeed, “individuals sometimes do fail to adopt and pursue goals that are intrinsically relevant to a situation” (O’Keefe, 1988, p. 82), but such cases can illustrate the conventional relevance of the goals. If a person does not attend to the risk of appearing nosey while giving advice, for example, the target of the advice may take offense and evaluate the advice-giver negatively (Goldsmith & Fitch, 1997). It is

normatively expected that advice-givers will attempt to meet the identity goal of not being overly intrusive, and this goal remains pertinent whether or not any single communicator meets it.

The most distinctive feature of the message design logics theory is that it posits that there are at least three separate means by which objectives can be pursued in communicative situations. These different means are not simply strategies; instead, they reflect three distinct sets of premises regarding how one attempts to meet communicative goals (O’Keefe, 1988). The most elementary design logic is called *expressive*. The basic principle of the expressive design logic is “*language is a medium for expressing thoughts and feelings*” (O’Keefe, 1988, p. 84). Messages reflecting an expressive logic focus on openness, honesty, and clear self-expression. Expressive messages also tend to focus on responding to the preceding events rather than orienting toward meeting intrinsic objectives of the situation; that is, by focusing on expressing prominent thoughts and feelings, expressive messages may fail to attend to certain normatively salient communicative goals. Expressive messages also may contain insults, unconditional threats (i.e., ones without contingencies for the recipient to avoid the threatened behavior), substantial redundancies, and other inappropriate comments (O’Keefe, 1988).

The next design logic, *conventional*, is rooted in the premise that “*communication is a game played cooperatively, according to socially conventional rules and procedures*” (O’Keefe, 1988, p. 86). Like the expressive view, conventional messages involve expressing propositions, but unlike the expressive view, messages with conventional design logic do not always involve expressing whatever thoughts and feelings are prominent to the speaker. Conventional messages instead prioritize doing what is appropriate within the current social circumstances; thus, speakers utilizing a conventional design logic attend to the normatively relevant goals, and they may use various politeness strategies to mitigate any potential inappropriateness. Conventional messages treat social structures, such as role positions and obligations, as fixed. In short, conventional messages attempt to meet the normative goals in a given social situation, and they attempt to do so in conventionally appropriate ways.

The third design logic, *rhetorical*, has the premise that “*communication is the creation and negotiation of social selves and situations*” (O’Keefe, 1988, p. 87). The rhetorical design logic includes the social knowledge inherent in the conventional logic, but it does not treat social situations as fixed. Instead, the rhetorical logic presumes that the context is constituted through communication and that communicators can renegotiate the social situation. Messages using the rhetorical design logic utilize various features of communication that suggest certain identities and relationships for the interactants. Producers of rhetorical messages seek to foster a desirable interpersonal consensus about the social situation. Because such negotiations require consensus to be successful, rhetorical messages seek harmony; thus, they do not include conflict resolution techniques like enforcing power relations or blaming the other. Instead, “rhetorical message producers tend to join the partner’s project or counter with their own rather than simply giving a conventionally appropriate response” (O’Keefe, 1988, p. 88).

The three design logics are ordered developmentally with expressive being the least sophisticated and rhetorical being the most (O’Keefe, 1988). This ordering is based on theoretical grounds: The ability to utilize an expressive logic is required before one can master conventional usage, and thorough mastery of conventional communication is needed before one can successfully renegotiate identities and situations (O’Keefe, 1988). There also has been ample evidence that the same order generally corresponds to competence. O’Keefe and McCornack (1987), for instance, asked undergraduates to evaluate persuasive messages and found that rhetorical ones were rated highest in effectiveness and competence, and expressive ones were rated the lowest. Similar results have been found in health communication contexts: Lambert and Gillespie (1994) found that hypertension patients who received messages about complying with blood pressure medication regimens rated rhetorical messages as most effective and attractive. Message design logics also have been linked to other known indicators of communicative competence; for example, Peters (2005) found that sophistication of design logic in comforting messages was associated with the message producer’s cognitive complexity. In short, there are compelling theoretical

and empirical grounds for considering the design logics to be ordered in level of sophistication, from expressive (least) to rhetorical (most).

Suggesting that rhetorical messages are the most sophisticated does not imply that they are always necessary or desirable. The general superiority of rhetorical messages over conventional ones (and conventional ones over expressive ones) is limited to “complex communicative situations” (O’Keefe, 1988, p. 91). Such situations involve multiple pertinent goals, including competing goals that are difficult to achieve simultaneously. There are many fairly simple communicative situations (e.g., normative conversations with the grocery store cashier) in which one would not expect great variety in the design of messages. In comparatively simple situations, the advantage of using more sophisticated strategies would not be realized because the situational objectives may not conflict. One would not expect there to be a particular advantage to sophisticated design logics, for example, if the scenario were calling a friend just to “kill some time” (see Hullman, 2004).

To date, the theory of message design logics usually has been applied to situations in which the message producer attempts to regulate the other person’s behavior (e.g., Lambert & Gillespie, 1994; O’Keefe, 1988, 1990). Regardless of whether the behavior involves taking medication (Lambert & Gillespie) or getting a group member to do a fair share of work (O’Keefe, 1988), such regulative situations are inherently complex because asking for another person’s compliance is a threat to his or her autonomy (Brown & Levinson, 1987). Peters (2005) recently applied message design logic theory to scenarios in which women and their spouses coped with breast cancer, but even this research involved a number of scenarios involving attempts to influence the other's behavior (such as the wife asking the husband to do more housework). However, because Peters also included scenarios in which comforting was clearly warranted (e.g., some husbands were asked how they would respond if their wife was feeling unattractive due to cancer treatments), his research demonstrates that message design logics can be

applied usefully beyond regulative situations, to a broader range of scenarios of interest to communication researchers. One such communicative situation is being told of an HIV-positive test result by a sibling.

Relevant Goals in HIV-Disclosure Situations

Because the message design logics vary in the extent to which (and means by which) they attend to normatively relevant goals, applying message design logics to a new social circumstance should begin with a consideration of the goals that are relevant to that type of scenario (see O’Keefe & Shepherd, 1987). The literature on HIV disclosures provides a detailed account of the types of aims and concerns people have when considering whether to reveal their HIV-positive status (e.g., Derlega et al., 2000; Derlega et al., 2004; Greene et al., 2003; Serovich, Mason, Bautista, & Tovissimi, 2006; Sullivan, 2005).

One prominent reason that people consider withholding information about an HIV-positive status is they are worried about being thought of negatively, because of the stigma often associated with the disease. Individuals considering disclosing their HIV-positive status may expect negative emotional reactions (Greene & Faulkner, 2002) or even feel ashamed themselves (Derlega et al., 1998; Derlega et al., 2004). In the vernacular of multiple goals theories, people deciding whether to disclose HIV-positive test results often are concerned about maintaining a positive identity. This implies that people who do reveal their HIV-positive status would have the goal of minimizing any loss of positive identity.

Relational goals are also important to people considering whether to disclose HIV-positive test results. In one study, the most frequently cited reason for not disclosing was fear of rejection, including concerns that the target would no longer like the discloser (Derlega et al., 1998). Thus, maintaining a positive relationship with the disclosure recipient (or at least not worsening the existing relationship) is likely a salient goal when revealing an HIV-positive status. Persons living with HIV also sometimes balk at telling others due to privacy issues (Derlega et al., 2000; Derlega et al., 2004). If one is concerned that “people have big mouths and they might go running around telling other people” (Derlega et al., 2000, p.

68), he or she may hesitate divulging information about HIV status. And, if one does disclose, he or she may be interested in minimizing the chances of subsequent disclosures.

There are also some common factors that impel people toward disclosure. Based on the research by Derlega and his colleagues (2004), the two most salient reasons for disclosing are probably feeling a duty to inform the other (e.g., not wanting the person to be surprised by the information later) and having a close and supportive relationship. Disclosing because one has a supportive relationship implies that people often disclose an HIV-positive test result because they expect that “the other person would be understanding, consoling, concerned, and supportive” (Derlega et al., 1998, p. 153). That is, receiving emotional support is a common expectation of those who would disclose, and it is reasonable to infer that soliciting support is a common goal for people disclosing.

The general goals relevant to disclosing HIV, which are summarized above, need to be understood within a particular social context. The reasons for revealing an HIV-positive status differ depending on the relationship with the target. For instance, divulging an HIV-positive status due to loyalty appears to be more prominent with family members than with relational partners, but a desire for honesty and a need to protect the other’s health are cited more frequently with revelations to relational partners than to family members (Derlega et al., 1998).

There are reasons to believe that HIV disclosures to family members may have complexities and risks not evident in disclosures to friends or even romantic partners. Family relationships typically are nonvoluntary, and often are viewed as particularly difficult to replace (Vangelisti, 1993). Also, people are more likely to regret revealing their HIV-positive status to family members than they are to regret revealing to friends (Serovich et al., 2006). Such findings indicate that disclosing to family members is a complex and potentially risky situation that warrants investigation. In the present study, we focused on disclosures to a particular family member, siblings. Our decision to ask participants about siblings was based on the need to have participants think about a relationship that would be salient to most of them.

Also, although disclosing to siblings is often a particularly important challenge for people living with HIV, disclosures in that relationship are not well understood (Greene et al., 2003). Moreover, because siblings are in the same generation, the power discrepancies tend to be less than those of some other family relationships, like parent-child relationships. Avoiding large power discrepancies between the participant and discloser was important because power differences could create overly strict constraint on how participants might respond. People might feel compelled to withhold negative evaluations of a parent, for instance, but sibling relationships are likely less subject to such response constraints.

Our discussion of goals to this point has focused on the types of goals that are likely relevant to people disclosing HIV-positive test results. This reflects the research literature, which has focused more on the person disclosing than recipients of such disclosures. Nevertheless, it is possible to infer likely goals for people whose sibling divulges an HIV-positive test result to them. Recipients of a sibling's HIV disclosure may have a variety of idiosyncratic goals in that situation. Some, for instance, may wish to avoid their sibling due to feeling anxious about HIV (e.g., Le Poire, 1994), but the nonvoluntary nature of the sibling relationship may make such avoidance difficult or undesired. Moreover, research examining the conversational dynamics of painful self-disclosures suggests that such conversations necessarily entail complex and problematic responsibilities for recipients, including whether and how to enable or inhibit additional disclosive talk (Coupland, Coupland, & Giles, 1991; Coupland, Henwood, Coupland, & Giles, 1989). Coupland and colleagues (1991, 1989) analyzed the variety of conversational "next moves" a recipient might make in response to a personal and sensitive revelation and concluded that recipients themselves face competing and potentially contradictory goals, such as responding in a sympathetic and appropriate manner without escalating talk about an uncomfortable topic (e.g., how can recipients express sympathy, yet simultaneously make it clear that they do not want to discuss this topic anymore?).

Regardless of their personal goals, however, there are also some conventionally relevant goals in a scenario in which one's sibling reveals an HIV-positive test result. Such information certainly is

considered “bad news,” and having one reveal such information typically constitutes a scenario in which providing emotional support is expected. That is, having a sibling divulge that he or she has HIV is a situation that would be normatively recognized as one calling for comforting. As the literature on comforting makes clear, this does not mean that every individual will recognize the situational objective of comforting and act in a suitably supportive manner (see, e.g., Burleson, 1994). Indeed, the failure to provide emotional support in situations that are conventionally understood to require it partly defines what constitutes poor or incompetent emotional support. One necessary characteristic of a conventionally competent response to having a sibling disclose an HIV-positive test result, therefore, would be some act that would normatively be understood as comforting.

Study 1

The primary objective of the first study was to provide a theoretically derived means for conceptualizing the competence and sophistication of responses to HIV disclosures. There were theoretical reasons to expect that O’Keefe’s (1988) theory of message design logics could serve as a useful way of classifying the sophistication of responses. Yet, because the situation in the present study is so distinct from the bulk of research using message design logics, it was important to ask two very basic research questions:

RQ1: Will the responses to siblings' HIV disclosures vary in sophistication as defined by the use of message design logics?

RQ2: If the responses do vary in sophistication, can those variations be described in a manner to allow for reliable ratings of the variations?

Examining whether the response messages varied in design logics and whether those variations could be reliably rated was the first step in the first study. The second step involved making predictions about how the messages with different design logics would be related to other constructs. First, previous research on message design logics has shown that women overall produce messages with more

sophisticated design logics than do men (O'Keefe, 1988). There is also evidence that, on average, women are more skillful at providing emotional support than are men (e.g., MacGeorge, Gillihan, Samter, & Clark, 2003). Thus, we expected

H1: Compared to men, women will construct messages with more sophisticated design logics.

Also, one of the defining characteristics of HIV-disclosure situations is the stigma often associated with the virus (Alonzo & Reynolds, 1995; Herek et al., 2002). Recipients of HIV disclosures certainly vary in the extent to which they endorse that stigma, with some finding the disease so distasteful that they are averse to interacting with people who have HIV and others not sharing such concerns (e.g., Le Poire, 1994). Some people find HIV so aversive that they even fear touching someone who is HIV-positive. Such individuals likely would experience fear for their own health if a sibling would disclose an HIV-positive test result. Whereas some individuals who experience HIV aversion may be able to overcome those emotions and produce comforting responses to HIV disclosures, severe aversion to HIV may make people focus on their own emotional state, likely increasing the chances that they would produce expressive messages and decreasing the chances that they would produce anything more sophisticated than a conventionally appropriate response. Being averse to HIV also may inhibit one's motivation to provide an appropriate and effective comforting response. In short, there were several theoretical reasons to expect that

H2: The extent of HIV aversion will be related inversely to the sophistication of the messages constructed.

The message design logics perspective also suggests that variations in HIV disclosure messages may influence how recipients of those messages respond. O'Keefe (1988) argued that some messages can redefine the social situation, including the identities of those involved. Thus, different disclosure messages may create or constitute slightly different situations that may elicit varying responses.

Obviously, the number of possible HIV disclosure messages is potentially infinite, but the aforementioned

research on HIV disclosures (e.g., Agne, Thompson, & Cusella, 2000; Derlega et al., 2004; Schrimshaw & Siegel, 2002) suggests a number of common goals to such disclosures, including (a) disclosing the information, (b) seeking social support, (c) avoiding negative evaluation or stigma, (d) preventing subsequent disclosure to a third party, (e) maintaining the relational bond with the other person, and (f) telling because the other person had a right to know the information. Attending (or not attending) to such goals could change the tenor of an HIV disclosure, potentially influencing the sophistication of the response. Consequently, we posed the following research question:

RQ3: Do HIV disclosure messages that vary in their attention to particular goals elicit responses that differ in sophistication?

Method

Participants. We enlisted 581 participants from communication courses at a large Midwestern university to complete questionnaires. Due to the focus of the investigation (i.e., sibling disclosure of HIV status), we asked interested participants if they had at least one sibling before distributing questionnaires. If participants had more than one sibling, they were instructed to complete the questionnaire with their oldest sibling in mind. Thirty-three participants reported having no siblings, and those individuals completed a separate questionnaire about a cousin. Because the sample reporting on cousins was not large enough for systematic examination, the questionnaires concerning cousins were excluded from the analysis, leaving a sample size of 548.

Of the final sample, 299 (54.6%) were female, 239 (43.6%) were male, and 10 (1.8%) provided no information on their gender. Participants averaged 19.72 years of age ($SD = 1.85$, minimum = 18, maximum = 39). The majority of the sample was non-Hispanic White ($n = 392$, 71.5%), with the remainder reporting as African American ($n = 56$, 10.2%), Asian American ($n = 40$, 7.3%), and Hispanic ($n = 30$, 5.5%). Seventeen participants (3.1%) reported other ethnic origins.

Procedures. Each participant was given a sheet of paper with a single, open-ended question and an envelope containing a longer questionnaire with a variety of closed-ended items. The open-ended question read, “Imagine you are alone talking with your sibling. (If you have more than one sibling, pick your oldest sibling.) After a few minutes of small-talk, your sibling says, ‘Well, I have something to tell you...’” This statement was followed by 1 of 24 disclosure messages indicating that the sibling had HIV. After the disclosure statement, participants were asked, “If this were to occur, what would you do or say in response? If you would say something, write down exactly the words you would use.” Participants wrote their responses on the single sheet of paper containing the open-ended question and, when finished, put the sheet of paper in the envelope provided. Then they completed a series of closed-ended questions relevant to the HIV-disclosure scenario. The primary purpose of the envelope was to prevent participants’ responses on the open-ended question from being influenced by the closed-ended items in the questionnaire. The measures relevant to the present manuscript are described below.

Questionnaires and coding. Each questionnaire began with a hypothetical situation in which a sibling revealed an HIV-positive test result to the participant. The 24 specific disclosure messages were grouped into six conditions, which reflected the common disclosure goals summarized above. The four messages, which focused only on disclosing the information, served as a kernel condition (Jackson, 1992); that is, in addition to forming their own conditions, these messages were embedded as part of the larger messages for the other five conditions. In addition to including a kernel message, the messages in each of the remaining conditions explicitly referred to one additional goal. For the second through sixth conditions, respectively, these goals were seeking support, avoiding negative evaluation, preventing subsequent disclosure, maintaining the relationship with the recipient, and honoring the recipient's right to know the information. More details about these conditions, including a list of the exact messages, can be found in Caughlin et al. (in press).

The assessment of message design logic was based on the open-ended responses to the disclosures. Of the 548 participants, 539 completed the open-ended response to the disclosure. The response messages were examined in a holistic manner to determine whether there were meaningful variations in design logic. All six of the authors read subsamples of the responses and agreed that the messages could be described usefully using O'Keefe's (1988) message design logics.

Prior to coding, all of the authors collaborated on adapting the message design logic categories to the current research problem; for instance, based on the argument that the goal of providing social support is inherently relevant when a sibling reveals a positive HIV status, messages that did not include at least a minimal attempt at social support were said to fail at engaging an important goal that is inherently relevant to the situation. Such failures are one of the diagnostic hallmarks of expressive messages (O'Keefe, 1988).

After the adaptation phase, four of the authors coded each of the messages into one of three categories: *expressive* (i.e., messages that treat communication as medium for conveying thoughts and feelings, often without attending to a conventionally relevant situational goal), *conventional* (i.e., messages that treat communication as a rule-based system that is followed in a normative manner), and *rhetorical* (i.e., messages treat communication as an activity that constitutes the social situation, often attempting to define or redefine identities or relationships). Reliability among the coders was assessed with an intraclass correlation (Fleiss, 1981), and it was excellent: .91. Discrepancies in the coding were resolved in meetings with at least five of the authors present. The coding rules can be found in the Appendix.

The closed-ended questionnaires included assessments of demographic information. Additionally, *HIV aversion* was assessed with a series of 7-point Likert-type items asking participants how they generally would react to people with HIV. The four items for this measure were taken from Le Poire's (1994) study of nonverbal stigmatization of people with HIV/AIDS, in which the measure demonstrated

adequate reliability and validity. This HIV tolerance measure taps the participants' fearful and stigmatizing reactions toward individuals with HIV/AIDS. Sample items include: "I would not eat with a person who has HIV" and "I would touch someone who has HIV." Positively phrased items were recoded, so that higher scores on the four items indicated a tendency toward HIV aversion. After examining the scale reliability ($\alpha = .75$), all four items were retained ($M = 2.15$, $SD = 1.39$).

Also, a subsample ($n = 325$) of the participants were asked to rate the realism of the disclosure message. Two items tapped the realism of the disclosure scenario (e.g., "Think about how your sibling disclosed in the hypothetical situation described above. To what extent was this similar to how somebody with HIV might disclose this to a sibling?"), and each ranged from 1 to 7 with higher scores being more realistic ($\alpha = .77$). On average, participants reported that the messages were fairly realistic, with a mean of 4.65 ($SD = 1.38$), which was significantly greater than the scale midpoint, $t(324) = 8.50$, $p < .001$.

Results

In overview, our results demonstrate that responses to illness disclosure can be categorized as predicted by the theory of message design logics. That is, the answers to the first two research questions were both affirmative: The responses varied in the sophistication of the message design logics (*RQ1*), and it was possible to adapt the message design logic theory to reliably classify the variations in design logics (*RQ2*). As shown in Table 1, conventional messages were most common, followed by expressive and then rhetorical responses (differences between the categories of design logics were all statistically significant using the binomial test, $p < .001$). The following sections briefly overview the main themes of the different types of messages and report results of our hypothesis tests.

Although our analysis of message design logics was based on the whole response messages, the examples presented below are subdivided into thought units (Hatfield & Weider-Hatfield, 1978). The divisions provide a means for commenting on specific parts of the messages. Also, the quotation marks

that appear with some examples indicate where participants wrote quotations marks as part of their response.

Expressive design logic. Expressive messages revealed the emotions and thoughts of the respondent, but typically lacked comforting or offers of social support (which were more common in conventional responses -- see the following section). These messages revealed the disclosure recipient's emotional or cognitive state, such as sadness, disbelief, or need to elicit more information about the disclosure, as shown in Examples 1 and 2.

Example 1

- 01: “Oh my God!
- 02: Are you serious?
- 03: I cannot believe this.
- 04: How did this happen?
- 05: Are you sure?
- 06: You’ve been to the doctor and everything?!”

Example 2

- 01: What?
- 02: How’d you get it?
- 03: How long have you known?
- 04: So what’s this mean?
- 05: Well...that fuckin’ sucks.

Other expressive messages represented explicitly negative responses, as in Example 3, which reflects the respondent’s anger at the discloser (line 1), and includes blame (lines 2 and 3) and stigmatizing remarks about contagion (line 4). Example 4 has similar features, but also includes an additional hurtful comment about the harm that disclosure will do to others (line 4).

Example 3

- 01: You are fucking kidding me!
- 02: What the hell did you do?
- 03: If it was your own fault, then I have no pity.
- 04: Be careful when you are around me.

Example 4

- 01: Are you fucking kidding me?
- 02: Who have you told yet?
- 03: Well you better go tell Mom and Dad.
- 04: You know you are going to break mom’s heart.
- 05: When did you get tested?
- 06: Well you should get tested again to make sure.

If expressive messages did have an attempt at comforting or support, they had some element that negated it, such as explicit blame. Example 5 below contains minimal comforting and an offer of assistance (line 5), but that follows blame for the infection (lines 2 and 3) as well as questions about the

relationship (line 4). This message also reveals the respondent's own emotional state, another expressive act (line 1).

Example 5

- 01: First of all, I would probably start crying.
- 02: Then I would ask her, "how did this happen?"
- 03: I didn't even know you were participating in such risky behavior!
- 04: I thought we told each other everything!"
- 05: But I would make sure she knew I love her and would do anything to help her.

Conventional design logic. Conventional responses represent a baseline for normative behavior. For example, the typical response for a self-disclosure of illness would be comforting and offering support (i.e., these would be "intrinsically relevant" goals, see O'Keefe, 1988). Comforting or support messages may be more or less sophisticated (see Goldsmith, 2004), but conventional messages should, as a minimum, contain an attempt to console, calm, reassure, or offer assistance to the discloser. Example 6 explicitly addresses comforting as a goal of the message (line 1) and an attempt to offer help (line 3) and elicit the emotional state of the discloser (line 4).

Example 6

- 01: I would ask my brother questions to better understand his condition and to help comfort if he is upset.
- 02: I would first ask, "Have you told Ann?" (his wife)
- 03: I would also ask, "In what ways can I help you most in this time?"
- 04: and "How are you doing emotionally with this news?"

In both example 6 and example 7 (below), the offers of support are general (e.g., what can I do to help?), rather than specific plans (which are more indicative of rhetorical responses – see the following section).

Example 7

- 01: Oh my gosh!
- 02: When did you find this out?
- 03: Is there anything I can do to help?
- 04: I'm very sorry that this happened to you.

Rhetorical design logic. Rhetorical messages typically were marked by attention to multiple goals. Example 8 shows efforts to comfort (lines 1 and 2), followed by contextualizing the situation (lines 4 through 7).

Example 8

- 01: My initial response would be to say “I’m so sorry” and just hug my sister.
- 02: We are not a very physical family, so this act of physical support would be important.
- 03: Then, I would say, “Well, this is really a shock,
- 04: but life will go on.
- 05: Focus as much as you can about making the best out of this situation.
- 06: You’ve been such a positive person all your life.
- 07: I have confidence that you will make this a positive situation as well.
- 08: Just have faith that God will help you and guide you.”
- 09: Past that, I would definitely ask a lot of questions,
- 10: and figure out medically and emotionally how she is doing.

Rhetorical responses sometimes also included signifiers of a “communal coping” orientation (Lyons et al., 1999), including the use of “we” statements (e.g., line 8 “we’ll get through this...”). Such statements suggest an attempt to redefine the circumstances as a joint project (see O’Keefe, 1988).

Example 9

- 01: I support you, John.
- 02: You can count on me.
- 03: I’ll encourage you to take your medications,
- 04: doctor’s appointments you need to go to.
- 05: If your physical condition requires it, I’ll take care of your chores.
- 06: I just want you to concentrate on following your medical treatment to strengthen your health first.
- 07: Remember, we are a family
- 08: & we’ll get through this because I care & love you.

In summary, the three design logics were represented in our data, and we were able to reliably code messages into these categories. Expressive messages simply reflected the thoughts and feelings of the respondent (e.g., convey sadness, shock, anger), conventional messages attended to socially normative behavior (e.g., offer comforting and support), and rhetorical messages attended to context and planning (e.g., understand context and make specific plans for coping with the problem).

Hypotheses and third research question. The first hypothesis predicted that women overall would produce messages with more sophisticated design logics than would men. The relevant frequencies for this hypothesis are summarized in Table 1. An initial chi-square test suggested that there likely was some association between messages with different design logics and the sex of the message producer, $\chi^2(2) = 4.98, p = .08, \phi = .10$. To determine if any differences were consistent with the hypothesis, we conducted tests for significant differences between the proportions of each message logic for men versus women. Such tests of differences in proportions are distributed as z (see Brunig & Kintz, 1997), and the specific percentages are listed in Table 1. Overall, men were more likely than women to produce expressive messages, $z = 1.99, p < .05$. Women were more likely than men to produce conventional messages, $z = -2.17, p < .05$. Both of these significant findings are consistent with the hypothesis; however, there was not a significant difference between men and women with respect to rhetorical messages, $z = 0.46, ns$.

The second hypothesis involved the expectation that participants' level of HIV aversion would be related inversely with the sophistication of their message. This hypothesis was examined with a one-way analysis of variance, comparing people who produced messages with different design logics on HIV-aversion, $F(2, 322) = 2.43, p = .09, \eta^2 = .01$. Consistent with the hypothesis, post hoc analyses indicated that people who wrote expressive messages ($M = 2.37, SD = 1.49$) were higher than people with conventional messages ($M = 2.00, SD = 1.26$) in terms of HIV-aversion, $p < .05, \eta^2 = .02$. Those with expressive messages were also higher in HIV-aversion than people who fashioned rhetorical messages ($M = 2.11, SD = 1.54$), but this difference was not significant.

To determine whether the six disclosure message conditions influenced the sophistication of responses (RQ3), we examined the message design logics of the responses for each disclosure condition (see Table 2). Because the message design logics are ordered in terms of sophistication, a series of Mann-Whitney U tests was conducted. Generally, the condition asking to prevent subsequent disclosure to a third party received the least sophisticated responses, and this condition was significantly lower than the

kernel ($U = 3015, z = 2.89, p < .01$), seeking-support ($U = 3191, z = 1.97, p < .05$), avoiding-negative-evaluation ($U = 3241, z = 2.00, p < .05$), and maintaining-relationship ($U = 3041, z = 2.24, p < .05$) conditions.

These overall differences between the prevent-subsequent-disclosure condition and other conditions were explored further by comparing the proportions of the three design logics for each of the conditions. Messages involving preventing subsequent disclosure elicited more expressive messages than did any other type of message, and the proportion of expressive design logics was significantly higher for the prevent-subsequent-disclosure condition than for the kernel ($z = 2.56, p < .05$) and the maintain-relationship conditions ($z = 2.16, p < .05$). There was also evidence that prevent-subsequent-disclosure messages elicited expressive replies more than did seeking-support messages ($z = 1.95, p = .05$). The prevent-subsequent-disclosure condition was about average in terms of conventional messages and was not significantly different from any other condition in conventional responses. Prevent-subsequent-disclosure evoked the fewest rhetorical messages, with two conditions, the kernel ($z = 1.97, p < .05$) and messages about honoring the right to know ($z = 2.04, p < .05$), significantly higher. Also, there was some evidence that the condition concerning avoiding negative evaluation elicited more rhetorical responses than did the messages about preventing subsequent disclosure ($z = 1.91, p = .06$).

As summarized in Table 2, there were three additional significant differences in the proportions of design logics. Specifically, the kernel messages had fewer expressive responses than did the right-to-know messages ($z = 2.12, p < .05$), and the right-to-know condition had fewer conventional responses than did the seeking-support ($z = 2.22, p < .05$) or maintain-relationship ($z = 2.23, p < .05$) conditions. Because these findings do not reflect any overall differences in the aforementioned Mann-Whitney U-tests, they should be interpreted with caution. Indeed, although the right-to-know condition was fairly high in expressive responses, it also elicited rhetorical replies as frequently as any other condition (and more frequently than the prevent-subsequent-disclosure condition).

Discussion of Study 1

The current study provides an important conceptual advance in our understanding of what counts as a sophisticated response to an HIV disclosure. This research demonstrates that it is possible to reliably classify response messages using O'Keefe's (1988) message design logics. Our adaptation of the message design logics theory provides a useful description of what competent and incompetent messages look like. Because this classification system is rooted in a hierarchical ordering that has been confirmed in several studies (e.g., O'Keefe & McCornack, 1987; Peters, 2005), it provides a coherent way to classify and assess the sophistication of responses.

The utility of the current adaptation of O'Keefe's (1988) model is supported by the findings pertaining to the hypotheses in the present investigation. Consistent with previous research on message design logics (O'Keefe, 1988), we found that men were more likely to produce relatively unsophisticated messages than were women. Replicating the finding that women are more prone to produce relatively sophisticated messages provides evidence of the validity of our adaptation: Given that past research has shown such systematic sex differences, valid new assessments of message sophistication would be expected to generate similar differences as well.

It also should be noted that O'Keefe's (1988) findings indicated that women produced more rhetorical messages than did men, whereas in our study, men produced more expressive messages than did women and women produced more conventional messages than did men. One should be cautious about interpreting such discrepancies between studies too finely because some of the apparent differences are based on comparing a significant result in one study to a null finding in the other. It is unclear whether the null results really indicate no meaningful sex differences; for instance, O'Keefe's study included only 20 expressive messages, and even though men and women produced expressive messages in "roughly equal numbers" (p. 95) the proportion of men producing expressive messages was 28% compared to only

18% of the women. Nevertheless, the differences in the studies with respect to sex suggest that the specific task in the current study is somewhat different from that used by O'Keefe.

Such differences are not surprising. O'Keefe (1988) argued that different types of tasks may require more or less sophisticated design logics (e.g., simple requests like asking someone to pass the salt may require less attention to face needs). In addition to the slightly different results pertaining to sex, our distribution of design logics was significantly different than O'Keefe's (1988), $\chi^2(2) = 24.78, p < .001, \phi = .04$. Her data yielded 22% expressive, 46% conventional, and 33% rhetorical messages (compared to 32%, 55%, and 13% respectively in our data). It is likely that differences in the type of task (i.e., regulative situation versus response to an HIV disclosure) or the nature of the task (e.g., explicitness of goals) could account for such differences. For example, it may be that the disclosure of an HIV-positive diagnosis calls so strongly for comforting, that conventional messages are more common. On the other hand, people may have such a strong negative reaction (e.g., anger or anxiety) that expressive messages also are more common. Designing a rhetorical message in this situation may be the most challenging, because of the simultaneous needs such as managing stigmatized identities, protecting vulnerable family relationships, supporting a sibling with a life-threatening illness, and processing bad news.

Also, the findings pertaining to the varying sophistication of responses to different disclosure messages (*RQ3*) differed from previous work on message design logics. Previous work on message design logics has tended to highlight the individual differences in message design that are evident in particular complex situations (e.g., Lambert & Gillespie, 1994; O'Keefe, 1988; O'Keefe, Lambert, & Lambert, 1997). Message design logics theory, however, explicitly states that situations can influence the messages produced; for instance, in a routine context, everyone may produce routine messages (O'Keefe, 1988). In the current study, responses to the prevent-subsequent-disclosure messages tended to evoke comparatively frequent expressive responses and comparatively infrequent rhetorical ones. This suggests

that explicitly asking the recipient to withhold subsequent disclosures helps constitute a context that is not conducive to eliciting responses with sophisticated design logics (see Table 2).

It is not clear from these data why the prevent-subsequent-disclosure condition would evoke relatively unsophisticated responses. Other analyses from the same data, however, provide some clues about this finding (see Caughlin et al., in press). Participants who responded to prevent-subsequent disclosure messages were particularly likely to make statements blaming the sibling for acquiring HIV. This suggests that asking the recipients not to divulge the information may heighten judgments of responsibility and may make participants particularly cognizant of the stigma associated with HIV. Drawing attention to perceived responsibility or stigma may diminish respondents' willingness or capacity to make a well-developed response.

Also, we found that people responding to the prevent-subsequent-disclosure condition were less likely than people responding to other conditions to report that they would feel closer to their sibling as a result of such a disclosure (Caughlin et al., in press). Being told explicitly to not reveal the diagnosis could threaten the recipient's identity because it implies that the recipient is untrustworthy. It also implies a lack of trust in the relationship. Recipients may believe that their trustworthiness as a confidant should be unquestioned, and explicit instructions not to divulge the information may imply that the discloser does not take the recipient's trustworthiness for granted. Such a threat to their identity could make recipients less motivated to respond in a sophisticated manner. There clearly are other explanations, but regardless of the particular reason why prevent-subsequent-disclosure messages evoke unsophisticated responses, these results are important because they draw attention to the situational component of message design logics, which has not often been highlighted in previous research.

The most obvious limitation to the first study is that it cannot provide direct evidence that the hierarchical ordering of the message categories reflects the relative quality of the categories. Based on the theory of message design logics (O'Keefe, 1988), expressive messages are least sophisticated (and

rhetorical messages are most sophisticated) in terms of addressing the multiple goals of the situation; however, the first study cannot demonstrate that messages of greater sophistication are more effective or appropriate for the particular context of responding to a sibling's HIV disclosure. This is an important limitation because previous research has provided only mixed and indirect evidence for the notion that sophisticated design logics enhance message quality in comforting situations (Peterson & Albrecht, 1996).

To address this limitation in the first study, the goal of the second study was to examine whether the message categories differed in terms of perceived quality or competence. Competence often is conceptualized as having effectiveness and appropriateness components (e.g., Canary & Spitzberg, 1987). Given the normative salience of comforting to a scenario in which a sibling discloses an HIV-positive test result, perceived effectiveness likely is based on the extent to which a response is viewed as comforting (i.e., helpful, supportive, and sensitive; Goldsmith, McDermott, & Alexander, 2000). The hypotheses for the second study were:

H3a: Expressive messages will be rated as lower in comforting and appropriateness than both conventional messages and rhetorical messages.

H3b: Conventional messages will be rated as lower in comforting and appropriateness than rhetorical messages.

Method

Participants. Because they would be uniquely positioned to judge the quality of responses to HIV disclosures, we recruited participants who are HIV-positive. Specifically, we posted information about the study on HIV-related Internet bulletin boards, and we mailed flyers to many of the HIV/AIDS service organizations listed on www.thebody.com. A total of 459 individuals completed the study. Participants who were willing to provide contact information were entered in a lottery to win 1 of 10 \$75 prizes. Participants resided in all regions of the US, including 41 states plus Washington DC. The average age in

the sample was 43.15 ($SD = 9.22$, minimum = 19, maximum = 74). Most of the participants reported being non-Hispanic White ($n = 244$, 53.2%), African American ($n = 150$, 32.7%), or Hispanic ($n = 43$, 9.4%). The ethnic backgrounds of the remaining individuals varied considerably, with the largest single group being Native Americans ($n = 14$, 3.1%). There were 325 men (70.8%), 122 women (26.6%), and 12 people (2.6%) who did not report gender or listed another descriptor of gender. Almost all ($n = 453$, 98.7%) of the respondents had at least one sibling. On average, participants reported first testing positive for HIV 12.30 years ago ($SD = 6.85$, minimum = 1, maximum = 28). About half ($n = 229$, 49.9%) of the respondents had been diagnosed with AIDS, and the average time since diagnosis was 9.81 years ($SD = 5.38$, minimum = 1, maximum = 25).

Procedures. Potential participants were directed to a webpage that contained information about the study, including the pertinent information regarding informed consent. An Internet study was selected because findings from Internet research are generally consistent with more traditional methods, but web-based studies typically attract more diverse samples (Gosling, Vazire, Srivastava, & John, 2004). Those choosing to participate selected a link to a secure survey site (www.surveymonkey.com). The link between the consent page and the survey website was designed to direct participants randomly to one of thirty different versions of the survey. To prevent large discrepancies in the number of people completing the various versions of the survey, we monitored the number of people completing each version and closed versions after 20 participants had completed them. At least 13 participants completed each version of the questionnaire.

Questionnaires. The initial questions asked participants how long ago they first tested positive for HIV and whether they had been diagnosed with AIDS. The participants then were asked to imagine that they had just told a sibling that they were HIV-positive for the first time and to "imagine that your brother or sister reacts in the way described below." The reactions that participants were asked to imagine were taken from responses to the kernel messages in Study 1. We focused on responses to kernel messages

because many of the responses to the other disclosure messages included explicit references to the disclosure content; for example, one person who was asked to ensure privacy wrote, "Of course I will keep it quiet." Each respondent was asked to imagine one particular reaction out of a total of 30. The 30 reaction messages were selected by randomly picking 10 expressive responses, 10 conventional responses, and 10 rhetorical responses. Other than the specific reaction message, the 30 versions of the questionnaire were identical.

After being asked to consider the reaction message, participants rated the quality of the messages using 16 semantic differential items with 5-point scales. The first 12 items were taken from Goldsmith et al.'s (2000) comforting measure, which has three subscales: *helpfulness*, *supportiveness*, and *sensitivity*. The reliabilities in the current sample were .89, .92, and .94, respectively. The remaining four items ("appropriate- inappropriate," "rude-decent," "respectful-disrespectful," and "proper-improper") assessed *appropriateness*, and Cronbach's alpha was .92.

The respondents were also asked to rate the realism of the response message using a semantic differential scale from unrealistic (1) to realistic (5). The average realism rating was 3.49 ($SD = 1.01$). This was significantly greater than the scale midpoint, $t(455) = 10.30, p < .001$.

Results

Although participants generally found the scenarios to be realistic, it seemed prudent to make sure that the primary results of the study could not be attributed to variations in perceived realism. Before examining the hypotheses, we tested whether perceived realism was influenced by the message design logics. Specifically, we conducted an ANOVA that treated the specific messages as a random factor within the three messages design logics. This design accounts for variations that may occur because of differences in messages within a particular category, and it makes it possible to generalize the findings beyond the specific response messages examined to the larger categories of message design logics (Jackson, 1992; Jackson & Brashers, 1994). Overall, there was not significant evidence that the message

design logics influenced the ratings of realism, $F(2, 27) = 1.74, p = .19$. There were, however, some small associations between realism and the measures of message quality. The correlations between realism and ratings of helpfulness, supportiveness, sensitivity, and appropriateness, respectively, were .12 ($p = .01$), .12 ($p = .01$), .09 ($p = .06$), and .13 ($p < .01$). Although these correlations represent small effect sizes, it is conceivable that such associations could influence the primary analyses of the study; thus, perceived realism was controlled in all subsequent analyses.

The tests of the hypotheses also involved treating the response messages as a random factor within the three design logic categories. Additionally, perceived realism was added as a covariate, and we included planned contrasts to test whether conventional messages were rated as more comforting and appropriate than were expressive messages (*H3a*) and whether rhetorical messages were rated as more comforting and appropriate than were conventional messages (*H3b*). The first comforting measure was the helpfulness subscale, and there was an overall significant difference among the three message design logics, $F(2, 27) = 22.85, p < .001$, partial- $\eta^2 = .63$; $\eta^2 = .22$. Because a covariate was included in the model, the planned contrasts were based on estimated marginal means (EMM). Consistent with *H3a*, the planned contrasts indicated that messages with an expressive logic (EMM = 2.89, $SE = .07$) were rated lower in helpfulness than were messages with a conventional logic (EMM = 3.82, $SE = .07, p < .001$). Although rhetorical messages (EMM = 3.95, $SE = .07$) were rated higher in helpfulness than conventional messages, this difference was not statistically significant ($p = .18$), meaning *H3b* was not confirmed.

There was also an overall significant effect for design logics on ratings of supportiveness, $F(2, 27) = 32.64, p < .001$, partial- $\eta^2 = .71$; $\eta^2 = .24$. The planned contrasts were consistent with both parts of the third hypothesis. Expressive messages (EMM = 2.92, $SE = .07$) were rated significantly lower in supportiveness than were conventional messages (EMM = 3.89, $SE = .07, p < .001$), and conventional messages, in turn, were significantly lower than rhetorical ones (EMM = 4.09, $SE = .07, p = .05$).

The results pertaining to sensitivity were also consistent with both parts of the third hypothesis. The overall effect of the message design logics was significant, $F(2, 27) = 23.28, p < .001$, partial- $\eta^2 = .63$; $\eta^2 = .19$. The planned contrasts indicated that expressive messages ($EMM = 3.02, SE = .07$) were lower in sensitivity than were conventional messages ($EMM = 3.83, SE = .07, p < .001$) and that conventional messages were rated as less sensitive than were rhetorical messages ($EMM = 4.07, SE = .07, p = .02$).

Finally, there was a significant overall effect for message design logic on ratings of appropriateness, $F(2, 27) = 24.47, p < .001$, partial- $\eta^2 = .64$; $\eta^2 = .20$. The planned contrasts showed that expressive messages ($EMM = 3.02, SE = .07$) were lower in appropriateness than were conventional messages ($EMM = 3.87, SE = .07, p < .001$). There was not, however, a significant difference between conventional messages and rhetorical ones ($EMM = 4.02, SE = .07, p = .11$).

Discussion

The primary goal of Study 2 was to test the model from Study 1 that was developed to rank the sophistication of messages responding to a sibling's disclosure of an HIV-positive test result. Although the proposed hierarchy of messages design logics from Study 1 was rooted in O'Keefe's (1988) theory of message design logics, Study 1 could not provide direct evidence that messages of greater sophistication would be viewed as more comforting and appropriate. The results from Study 2, however, generally confirmed that more sophisticated messages are rated as higher in quality. In particular, the participants rated conventional messages as significantly more helpful, supportive, sensitive, and appropriate than expressive messages. Additionally, rhetorical messages were rated higher than conventional ones on all four measures, and these differences were statistically significant for supportiveness and sensitivity. In short, the results from Study 2 confirm that the theory of message design logics provides a useful means of conceptualizing and categorizing the quality of responses to a sibling's disclosure of a positive HIV test result.

General Discussion

It is important to understand what constitutes effective and appropriate responses to disclosures of HIV-positive test results. Disclosing a positive HIV status can be important for seeking support, managing health, and numerous other reasons. Yet there are often significant barriers to disclosure (e.g., Derlega et al., 2004). Poor (unsophisticated) responses may stifle disclosure even more: When a person gets a bad response, he or she may choose not to reveal certain details about the diagnosis (e.g., specific needs for assistance). Moreover, poor responses from one person can lead people living with HIV to withdraw and be less likely to tell others. Patients even report stigmatizing responses from health care providers, which diminishes their trust and confidence in the health care system (Brashers, Hsieh, Neidig, & Reynolds, 2006).

The research presented here provides an important advance in our understanding of what constitutes a high quality response to the disclosure of an HIV-positive test result. Consistent with O'Keefe's (1988) theory of message design logics, messages that show greater sophistication in how they attend to the relevant goals generally were rated as higher in quality by participants in Study 2. These findings confirm that differences in message design logics are a useful way of understanding what makes response messages more or less effective and appropriate in general.

This is not to suggest that the more sophisticated messages will always be evaluated most favorably; it is axiomatic that messages are interpreted and evaluated in context. Thus, many factors may moderate the overall tendency for more sophisticated messages to be viewed as higher quality. For instance, O'Keefe et al.'s (1997) research suggests that individuals who strongly value open expression may disapprove of message features associated with a rhetorical logic, such as attempts to renegotiate social identities. Clearly, future research should examine such potential moderators as they could provide caveats to our findings, which focus on providing a framework for understanding which type of messages are viewed most favorably in general.

In addition to providing a general framework for understanding what constitutes better responses to HIV disclosures, the message design logic perspective highlighted a number of specific message elements that can be translated into concrete advice about how to respond to HIV disclosures. Developing coding guidelines for the response messages (see the Appendix) involved specifying particular message features that were characteristic of the three design logics. These specific features imply specific advice for constructing effective response messages. For example, given that expressive messages were rated lowest in quality, individuals wishing to respond appropriately to someone's HIV disclosure would do well to avoid message features that are invariably associated with an expressive design logic, such as noncontingent threats, insults, explicit blame, or explicit criticism.

Although the primary purpose of the research reported here was to offer a theoretically grounded procedure for understanding the relative sophistication of responses to HIV disclosures, the current studies also have implications for our understanding of message design logics. Most past research on message design logics has focused on interpersonal influence situations such as gaining compliance (O'Keefe, 1990) or workplace conflicts (O'Keefe et al., 1997). The current investigations demonstrate that message design logics can be applied to a very different social situation: responding to a sibling's disclosure of an HIV-positive test result. The applicability of the message design logics framework to such a markedly different context implies that the framework has much broader utility than might be suggested by the relatively narrow applications heretofore.

There were also some theoretically interesting differences between the current research and previous work on message design logics. Findings from the first study, for example, demonstrated that the nature of the disclosure message can influence the sophistication of the response. Given that the second study confirmed that message sophistication is related positively to perceived comforting and appropriateness, this has important applied implications. People disclosing potentially stigmatizing

information, such as an HIV-positive test result, should be aware that the message used to divulge that information can influence the other person's response.

The current study demonstrates that the sophistication of responses is influenced by features of disclosure messages. Moreover, in other analyses, we found that different disclosure messages have different effects on other aspects of participants' responses, such as the extent to which they would evaluate the sibling negatively and the extent that they would feel closer to their sibling because of the disclosure (Caughlin et al., in press). The findings are complex in that no single disclosure message type is the most effective across all dimensions, but consistent with the current results, prevent-subsequent disclosure messages were rated low on a number of dimensions (as were messages that honored the recipient's right to know the information). Taken together, these results strongly suggest that the quality of response messages is diminished by disclosures that explicitly request that there be no subsequent disclosure.

Additionally, the findings presented here suggest that there were some important differences between HIV disclosure situations and the situations examined in most previous research on message design logics. In the first study, the proportion of rhetorical messages was smaller than that found in previous work by O'Keefe (1988). In the second study, although the findings were generally consistent with the hierarchy proposed by O'Keefe (1988), the differences in quality ratings between expressive messages and conventional messages were more pronounced than those between conventional messages and rhetorical messages (e.g., conventional messages were rated as superior to expressive ones on all four indicators of comforting and appropriateness whereas rhetorical messages were rated as significantly superior to conventional ones on only two indicators). Taken together, these findings suggest that the situation of responding to an HIV disclosure is different from the previously examined interpersonal influence situations. Given that the current situation elicits fewer rhetorical messages than the influence situation and that rhetorical messages appear to confer only a slight advantage in quality over

conventional messages, it is plausible that what the current situation really demands is at least a conventional response. That is, the normative situational goal of providing at least minimal comfort (while avoiding the negative features that automatically make a response expressive) may be the overriding imperative in the current situation.

Like any study, this one has limitations. First, it should be noted that receiving HIV disclosures from a sibling is a specific situation that may not generalize to HIV disclosures in other types of relationships. Second, the disclosures in the current study represented single episodes, but it is likely that many sibling dyads would continue to discuss an HIV diagnosis over time. Consequently, although we would expect that the initial reaction would remain important, understanding siblings' later responses may also be important (e.g., even siblings who respond badly at first may become supportive later). Another limit of the study is that we used hypothetical reactions rather than actual reactions to HIV-disclosures. Care should be taken in generalizing these findings; however, there are good reasons to believe that findings based on hypothetical scenarios can provide a useful theoretical basis for further understanding. We were struck by the fact that the data in Study 1 included considerable variability in responses, many commonalities within categories (i.e., participants seemed to have a stock of knowledge on which to draw), and that the messages generated seemed quite realistic. Indeed, participants in Study 2, all of whom are living with HIV, rated the response messages produced in Study 1 as generally realistic. Thus, whereas the nature of the data is a limitation, there are ample grounds for considering the findings meaningful for helping understand what constitutes a sophisticated response to an HIV disclosure.

In conclusion, disclosing one's HIV-positive status can be challenging, and may be inhibited by fears about how the target of the disclosure might react. This pair of studies demonstrates that a wide range of responses are possible – from (a) relatively unsophisticated expressive messages that might include blame, criticism, or the expression of the sadness or surprise of the disclosure target, to (b) messages that address conventional norms, such as offering support and comforting, to (c) rhetorical

messages that define the situation, explicitly address identity and relational goals, and project a future orientation. People living with HIV can detect important differences in the appropriateness of these responses to disclosures, which should help communication scholars in developing recommendations for future interventions.

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Table 1

Frequencies and Percentages of Messages with Different Design Logics by Sex of Participant

Message Design Logic	Sex	
	Male	Female
Expressive	86 (36.60%)	84 (28.47%)
Conventional	118 (50.21%)	176 (59.66%)
Rhetorical	31 (13.19%)	35 (11.86%)

Note: Due to rounding, the percentages do not add to exactly 100.00 for the female participants.

Table 2

Proportion of Responses of Various Design Logics for Each Condition

Condition	Design Logic		
	Expressive	Conventional	Rhetorical
Kernel	.25 _{ab}	.59	.16 _a
Seeking Support	.29	.61 _a	.10
Avoid Negative Evaluation	.32	.54	.15
Prevent Subsequent Disclosure	.43 _{ac}	.51	.06 _{ab}
Maintain Relationship	.28 _c	.62 _b	.11
Right to Know	.40 _b	.45 _{ab}	.16 _b

Note. Proportions in the same column that share subscripts differ significantly at $p < .05$. Due to rounding,

the proportions for some conditions do not add to 1.00.

APPENDIX
Coding Rules

General Rules

Coding occurs at the level of the message, based on a holistic assessment of its overall characteristics. Some features will supercede others (e.g., if a message contains overt insults and hurtful comments, it must be an expressive message; if a message contains implicit or explicit blame, it cannot be a rhetorical message).

Statements indicating what the participant would do should be coded as if the person did that act. For instance, “I would try to be supportive” counts as being supportive and “I would be there to listen” counts as an attempt to comfort by listening.

Exclude what participants indicate that they would do at a *later* time (e.g., “From then on, I would pay attention to news about HIV treatment and encourage, support her through this period of time”).

Exclude editorializing unless it appears that they are stating what they would say or do (e.g., do not consider “I would initially be shocked, because I could not imagine my brother with any serious illness;” but do consider “I would ask him if he was serious or if he was joking with me.”).

Expressive Design Logic

General Principles	Communication is a medium for expressing feelings Clarity, openness, honesty, unimpeded expression Goal is self expression
Features that Guarantee Expressive Code	Noncontingent threats Insults and/or inappropriate/rude/hurtful comments Explicit blame (Implicit blame can still be conventional) Explicit criticism
Features that Expressive Messages Tend to Contain	Irrelevant content (irrelevant can be thought of in terms of the need to comfort the other) Marked redundancies Complaints that the hearer can do nothing about Inoffensive but inappropriate remarks Lack of response to explicit goal of discloser (i.e., not saying anything about the relationship when that is explicitly framed in the disclosure) Expression of the mental state of the speaker (use of emotional expression functions) Lies about mental state (emotional inhibition) Series of questions geared toward one’s own interests (i.e., not helpful/productive) Lack of coherence; disconnect between remarks (e.g., “stream of consciousness”) Invalidation of the discloser’s perspective Implication that the discloser is incompetent Unsolicited advice that is insulting or blaming Hints that the discloser is “toxic” or dangerous (e.g., remarks about contagion)

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Conventional Design Logic	
General Principles	Communication is a game played cooperatively by social rules Appropriateness, control of resources, cooperativeness Given the normative goals in this context, a message must provide at least minimal comforting to qualify as conventional
Features that Conventional Messages Tend to Contain	Standard, acceptable, appropriate, or obligatory response(s) to the situation Typical content and structure Clearly identifiable core action that is being performed Implicit acknowledgement of the discloser's goals Responses that relate directly to the situation at hand and connect to the discloser's goals, without elaborating on them (e.g., attempt at comfort, denial of request for privacy) Offers of assistance or support without actually indicating a commitment to take on the situation together Expressive content that is more goal-oriented Use of social scripts or lines A message can still be conventional even with implicit blame as long as there are clear comforting attempts and nothing that makes it automatically expressive
Clarifications for Coding	Advice that is intended to be helpful counts as assistance or support Statements indicating that the participant would hug the discloser count as support
Rhetorical Design Logic	
General Principles	Communication is the creation and negotiation of social selves and situations Flexibility, symbolic sophistication, depth of interpretation Goal is to negotiate social consensus
Features that Rhetorical Messages Tend to Contain	Definition of roles Creation of context Explicit definition of context Indication of a communal coping orientation (i.e., defining the situation as "our problem, our solution") Legitimation of the discloser's feelings or perspective Affirmation of the discloser's goals Suggestions for accomplishing what the discloser wants Elaboration of how to achieve goals Attempts to achieve consensus (e.g., questions that seek the hearer's agreement or opinion) Emphasis on careful listening Presence of identity, relational, or privacy messages in absence of an explicit framing of those goals Rational arguments (appraisal support) Persuasive attempts to convey one's position
Features that Preclude Rhetorical Code	Implicit blame Dismissal of the discloser's feelings Contingent threat