How Negative Are Attitudes toward Persons with AIDS?

Examining the AIDS-Leukemia Paradigm

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Abstract

Reports a meta-analysis of studies published between 1987 and 1996 (combined Ns ≈ 2500) comparing attitudes towards persons with AIDS versus leukemia. The major goal was to identify which attitude measures are most sensitive to variation in the target person’s disease diagnosis and sexual orientation. Diagnosis had very large effects on responsibility attributions and target’s perceived dangerousness, and moderate effects on measures of willingness to interact with the target in situations of close contact. Effects on sympathy and hostility measures were much smaller. Target’s sexual orientation (controlling for diagnosis) had small effects on responsibility and some social distance measures. Discusses implications of effect magnitudes for symbolic rejection vs. fear models of the reaction to AIDS, conflicting interpretations by users of the AIDS-leukemia paradigm, and lessons for the study of illness cognition.
How Negative Are Attitudes toward Persons with AIDS?

During the second half of the 1980s, news reports frequently appeared in the US about discrimination against HIV-infected individuals (Altman, 1986; Cook & Colby, 1992). Some legislators and editorialists advocated strict policies, such as quarantine of risk groups and mandatory HIV testing for certain occupations, to manage the threat to the public of HIV infection. Ryan White, an HIV-positive child with hemophilia who was expelled from his public school, became a symbol of the “innocent victims of AIDS” (Schellenberg, Keil, & Bem, 1995). Citing stories such as these and data from opinion polls, Herek and Glunt (1988) characterized the public reaction in the US to AIDS as an “epidemic of stigma and fear” (also Herek & Capitanio, 1993). One response of the health and social science communities was to conduct research documenting attitudes toward persons with AIDS (PWAs) \(^1\) and predictors of those attitudes. The concepts of attitude and stigma are central to psychology’s intellectual tradition, so psychologists have been especially active in AIDS attitude research (see, for example, Pryor & Reeder, 1993).

Victims of many diseases are subject to negative stereotypes, unfavorable attitudes, and discrimination: Sickness is often stigmatized (Crandall & Moriarty, 1995; Gruman & Sloan, 1983; Katz, Hass, Parisi, Astone, & et al., 1987; Menec & Perry, 1995; Meyerowitz, Williams, & Gessner, 1987; Valdiserri, Tama, & Ho, 1988; Weiner, Perry, & Magnusson, 1988). A key question for those concerned with the response to HIV-infected persons is whether such reactions differ in important ways from those to other life-threatening diseases. Some commentators have asserted that the perceived association of AIDS with marginalized social groups (gay men; IV drug users; Haitian immigrants) during early publicity about the disease makes it plausible to regard AIDS as uniquely stigmatizing in contemporary America. Such
claims may be tested by comparing attitudes toward PWAs with attitudes toward individuals with other diseases.

Between 1986 and 1995, no fewer than 40 such comparative studies appeared in the medical and social science literatures. Many of these reported statistically significant differences in reported attitudes toward PWAs versus other disease victims. However, it was not standard practice for researchers to include effect size estimates with hypothesis-test results, so the magnitude of negative attitudes toward PWAs remained open to question. A.M. Crawford (1996) conducted a meta-analytic review of 21 comparative experiments, all published before 1992; it remains to date the only review of its kind. She concluded that the average “magnitude of stigma associated with AIDS [compared to other diseases] was $r = .22$, a small to medium effect size…” (p. 410). Crawford acknowledged that her review was not motivated by a general model of attitudes or a specific analysis of AIDS-related stigma. These limitations are reflected in her effect size estimates: Her first step in deriving an overall estimate of AIDS stigma was to combine the effect sizes of all attitude-relevant measures reported in each study she reviewed. The effect size for each study thus represented a combination of disparate measures, including stereotypic beliefs, evaluative reactions, and social distance scales. Given so undifferentiated a measure, we cannot determine the extent to which negative attitudes associated with AIDS patients reflect fearfulness (Bishop, Alva, Cantu, & Rittiman, 1991), symbolic rejection (Pryor, Reeder, Vinacco, & Kott, 1989; Sontag, 1989), assessments of responsibility and deservingness (Menec & Perry, 1995; Weiner et al., 1988), or some combination of all these responses (G. M. Herek & Capitanio, 1998). A subset of the research summarized by A.M. Crawford provides a means for distinguishing among these possibilities and is described next.
The AIDS–Leukemia Paradigm

J.A. Kelly, J. St. Lawrence, and associates devised the AIDS-Leukemia paradigm (ALP) to study reactions to PWAs. ALP study respondents read a vignette describing a male target person who has been diagnosed with AIDS or leukemia. The vignette manipulates sexual orientation by assigning the target person’s romantic partner a female or male name (e.g., “Roberta” or “Robert”). Respondents rate 12 agree-disagree statements about the target person (Prejudicial Evaluation Scale: PES), seven statements regarding their willingness to have a variety of social contacts with him (Social Interaction Scale: SIS), and 24 adjective descriptors (Interpersonal Evaluation Inventory: IEI).

When examined individually, Prejudicial Evaluation Scale and Social Interaction Scale items can help differentiate people’s attitudinal responses to PWAs. Table 1 lists the 12 items from the PES. One item directly taps responsibility attributions, two items represent fear, and six indicate respondents’ hostile versus sympathetic evaluations of the sick person. The final three PES items lack a clear evaluative direction; agreement might indicate sympathy or hostility toward the patient. The seven SIS items in Table 1 constitute a behavioroid measure of social distance, or approach versus avoidance. Considering the variety of attitudinal constructs represented by these measures, we may obtain a more differentiated view of responses to the epidemic if we do not aggregate the measures but instead ask which ones are (and are not) affected by the ALP manipulations.

Importance of the ALP. From 1987 to 1990, Kelly’s and St. Lawrence’s research team published five studies of different respondent populations, including physicians (Kelly, St. Lawrence, Smith, Hood, & Cook, 1987b), medical students (Kelly, St. Lawrence, Smith, Hood, & Cook, 1987a), nurses (Kelly, St. Lawrence, Hood, Smith, & Cook, 1988), college students (St.
Lawrence, Husfeldt, Kelly, Hood, & Smith, 1990), and psychologists (St. Lawrence, Kelly, Owen, Hogan, & Wilson, 1990). These five studies were cited 392 times from 1988 through 2001 in Social Science Citation Index (SSCI) or Science Citation Index (SCI). They stimulated eleven more ALP experiments that were published by other research teams between 1989 and 1996 (Cohen & Grace, 1989a, 1989b; Isiaah Crawford, Humfleet, Ribordy, Ho, & Vickers, 1991; Fliszar & Clopton, 1995; Forrester & Murphy, 1992; Haring & Lind, 1992; Johnson & Baer, 1996; McGrory, McDowell, & Muskin, 1990; Poling, Redmon, & Burnette, 1990; Range & Alliston, 1995; Strasser & Damrosch, 1992). These 16 studies account collectively for almost one-third of comparative research during the period covered by A.M. Crawford’s (1996) review of attitudes toward PWAs. Similarities in their design and measures make the ALP an exceptional source for determining which attitudes are most responsive to target persons’ disease diagnosis and sexual orientation.

Conflicting interpretations. Some ALP researchers have interpreted their findings as signifying strongly prejudiced and stigmatizing attitudes toward PWAs. For example, Kelly et al. (1987a, pp. 554-555) asserted,

“…medical students view AIDS patients in a highly negative manner… Some of the findings were quite alarming… The students' attitudes toward AIDS were paralleled by similarly negative attitudes toward the homosexual patients.”

These authors’ conclusions, and similar ones expresssed by Kelly et al. (1988, p. 78) and I. Crawford et al. (1991, p. 360) are consistent with the “epidemic of stigma” metaphor. Other users of the AIDS-Leukemia paradigm have questioned these conclusions. McGrory et al. (1990) agreed that their Columbia University (NY) medical student respondents rated an AIDS patient as more responsible for his disease and more dangerous than a leukemia patient; however, McGrory et al. asserted that “responses [to both patients] were generally sympathetic” (p. 430).
Poling et al. (1990, p.66) echoed this sentiment and further noted that their respondents, regardless of condition, tended to select midscale response options for sympathy-related PES items and the social distance items on the SIS and selected “disagree” responses to anger-related PES items. Strasser and Damrosch (1992, p. 126) also drew attention to their participants’ tendency to select positive rating scale categories. Commenting on experiments by I. Crawford et al. (1991) and St. Lawrence et al. (1990b) in which mental health professionals were participants, Fliszar and Clopton (1995) pointedly observed that “conclusions of these studies appear to have been more negative than justified by the data” (p. 276).

Such disagreements among users of the ALP explicitly raise the question of just how negative are attitudes toward PWAs. There is no doubt some merit in attending to respondents’ choices among scale values, but it risks conflating psychometric with psychophysical approaches to measurement (Himmelfarb, 1993). The Likert scales of the PES and SIS indicate relative levels of agreement and willingness to have contact; neither is meant to be interpreted literally. To do so is to ignore systematic response biases (e.g., social desirability) that might affect the scale points individuals choose (I. Crawford, 1998).

On the other hand, statistically significant differences between ratings by AIDS versus Leukemia respondents do not per se support claims that attitudes toward PWAs are highly negative. Levels of statistical significance depend on the size of the difference between conditions and sample size. Small differences can be “highly” significant with sufficiently large \( N \). Nor is it appropriate to claim that, because ratings of several PES and/or SIS items differ significantly between conditions, this constitutes evidence about the extent of prejudice against PWAs; such claims are implicit in Crawford (1991), Kelly et al. (1987a; Kelly et al.), and St. Lawrence et al. (St. Lawrence, Husfeldt et al., ; 1990). The limits of this “box score” approach to statistical
How negative are attitudes

decision making and interpretation are well-documented (Schmidt, 1996), so the present study uses quantitative estimates of the magnitude of attitude differences demonstrated in studies employing the ALP, independently of sample sizes and scale values.

Symbolic rejection versus fear. A final issue addressed in this review is the relative contributions of HIV infection and sexual orientation to attitudes toward PWAs. Are stereotypic PWAs, gay men, targets of the most negative attitudes? Or, instead, does the transmissibility of the disease largely account for attitudinal responses? Bishop et al. (1991) conducted an experiment in which they manufactured a disease, Meyer-Zweig syndrome, and varied its contagiousness and prevalence among gay men. Participants rated their willingness to interact with a patient with the fictitious ailment, which was described as either contagious or noncontagious and as common among gay men or not. Participants were least willing to interact when Meyer-Zweig was described as contagious ($r = .61$), whereas the effect of the disease’s association with gay men was much smaller ($r = .16$). Self-interested avoidance of Meyer-Zweig carriers apparently played a far greater role in shaping willingness to interact than the symbolic or value-expressive functions of rejecting gay men. Is this also the case for more clearly evaluative expressions of attitudes?

Analysis and reporting conventions in ALP studies permit us to evaluate the separate contributions of disease characteristics and sexual orientation. In most ALP research, the analytic strategy is to conduct multivariate, factorial analyses of variance (MANOVAs) on the PES and SIS item sets, and to follow up significant multivariate effects with univariate analyses of each item. Usually, only the significant univariate $F$s are reported; often, not even the means are reported for nonsignificant effects. This approach sacrifices statistical power to control Type I errors, makes it unlikely that univariate interactions involving only one or two measures will be
detected, and fails to distinguish small, nonsignificant differences from zero differences.

Nonetheless, it establishes a hierarchy for interpreting effect magnitudes. If a study reports a significant multivariate effect for AIDS versus Leukemia but a nonsignificant multivariate effect for patient sexual orientation, then effects of the disease factor, on average, are relatively greater than those of sexual orientation. Alternatively, when univariate effects of both factors are reported for a measure, we can validly reach conclusions about their relative magnitudes because each statistical effect is independent of the other.

**Summary and Purpose**

The only existing meta-analysis of comparative AIDS stigma research (A.M. Crawford, 1996) showed small-to-moderate effects of disease diagnosis upon aggregated measures of respondents’ attitudes toward the sick. If we do not distinguish among AIDS-relevant attitude components such as attributions, affective responses, and behavioral intentions, we cannot say which attitude components differ with respect to persons with AIDS versus other patient groups or the magnitude of any such differences. Research reports using the AIDS-Leukemia paradigm (ALP) can be analyzed to address these issue. The meta-analysis presented here may also facilitate an understanding of conflicting interpretations by ALP researchers. Finally, a close look at ALP research can help us to assess the relative weight of respondents’ contagiousness beliefs and their feelings about a marginalized group, gay men, in attitudes toward persons with the disease. This assessment can in turn shed light on theoretical perspectives that emphasize value-expressive versus self-interest functions of attitudes (Herek & Capitanio, 1998).
Method

Search Strategy and Inclusion Criteria

The goal of the search was to identify all published ALP studies. The reference list in A.M. Crawford’s (1996) meta-analysis provided nine of these. Primary search resources for identifying additional studies were the Social Science Citation Index and the Science Citation Index. All volumes for 1988 through 2001 were scrutinized for references to the ALP experiments reviewed by Crawford (1996). Abstracts were retrieved for articles that cited one or more of these experiments. Nonempirical articles were excluded from further consideration, as were empirical articles having neither an AIDS versus leukemia manipulation nor a manipulation of the patient’s implied sexual orientation. Four studies that used ALP manipulations and measures but reported full-scale scores instead of per-item results were excluded (Forrester & Murphy, 1992; Range & Alliston, 1995; Stewart, 1999). One manipulated only the gender of an AIDS patient (Dowell, Ilo Presto, & Sherman, 1991; Sundby, Morrow, DeVries, & Poling, 1996), and one used the ALP stories but not the measures (Berger & O'Brien, 1998). Fourteen studies meeting the inclusion criteria are listed in Table 2; the table shows year of publication, number of participants, the population from which participants were obtained, and (where appropriate) supplementary information about the manipulations and/or measures used in the study. Six experiments were conducted by sending vignettes to prospective respondents, who then mailed back completed questionnaires; for these studies, the response rate is shown in a separate column of Table 2.

Computing and Combining Effect Sizes (ESs)

Overview. For each study, an effect size (ES), \( r \), was estimated for each reported PES and SIS item. Each \( r \) was coded so that positive values indicate greater stigma toward PWAs.
This process was repeated to estimate ESs for the sexual orientation manipulation in the 13 ALP experiments that included one; here, positive values denote greater stigma toward the gay target person.

**Conventions for Estimating Effect Sizes (ESs).** Wherever possible, ESs were calculated directly from significance-test results, from means and SDs, or from exact significance ($p$-) levels. Items reported only as “significant” were estimated using standard normal deviate substitution, with $p = .05$. Items reported explicitly as “not significant,” or not reported among “significant” items (implicitly nonsignificant), were estimated as $r = 0$.

In articles that failed to report $N$ per cell, it was assumed that these were equal.

**Special Cases.** One report (Kelly et al., 1987b) presented per-item 95% confidence intervals (CIs) for the difference between mean scores of the AIDS versus Leukemia conditions. Typographical errors in the published table of CIs made it risky to compute a standard error of the mean difference and then to derive per-item t-tests. Therefore, all CIs that excluded 0 were treated as "significant," with $r$ computed from the standard normal deviate.

Poling et al. (1990) analyzed their rating data as categorical measures, using $\chi^2$ tests. These authors presented sufficiently detailed crosstabulation tables to permit the calculation of means and SDs per condition and hence the direct computation of ESs.

**Results**

**Analysis Strategy**

Per-item meta-analyses were conducted to fulfill the goal of determining which respondent attitudes are affected by disease diagnosis (AIDS vs. leukemia) and sexual orientation (male vs. female partner). For items where goodness-of-fit tests indicated significant heterogeneity of effect sizes among studies, a followup analysis was performed contrasting effect
sizes in studies whose authors interpreted their results as signifying highly negative attitudes toward persons with AIDS with those of studies who authors asserted that attitudes were only a little different, if at all.

This analysis strategy rejects the suggestion that all measures be aggregated before performing the meta-analysis (Rosenthal, 1994), for reasons that already have been given. It necessarily results in many nonindependent tests, but the stepdown approach (follow up only those measures that exhibit significant heterogeneity) helps limit the sheer number of tests.

Results are presented in three subsections. The first two report the outcomes for disease diagnosis and sexual orientation, respectively. The third shows followup comparisons between “pessimist” and “critic” studies.

Effect of AIDS versus Leukemia on PES and SIS Items

Prejudicial Evaluation Scale items. Table 3 presents summary statistics for each PES item (mean rs, SDs for the effect sizes, and 95% CIs based on the $t$-distribution; median rs and interquartile ranges), “fail-safe” values representing the number of unpublished contradictory studies needed to render the mean $r$ nonsignificant, and the results of overall, chi-square tests for homogeneity of effect sizes (Rosenthal, 1991) across the set of ALP studies. Table rows are sorted in descending order of the magnitude of the mean $rs$ per item. The items, "The patient is responsible for the disease," and "The patient is dangerous to others," showed the largest average difference between AIDS and Leukemia conditions. The magnitude of these effects can be illustrated with the heuristic, the Binomial Effect Size Display (BESD: Rosenthal & Rubin, 1982). An $r$ of .50 indicates that about 75% of AIDS participants made higher-than-average responsibility ratings, compared to only 25% of Leukemia participants. $^6$ Alternately, $r$ can be transformed into Cohen's $d$. The unit-weighted $r$ (.504) is equivalent to a $d$ of 1.17; i.e.,
Responsibility ratings average 1.17 standard deviations greater for AIDS than for Leukemia. The Responsibility rating of an average AIDS participant would be expected to be 88 percentile points (the normal curve area associated with $d = 1.17$) above that of an average Leukemia participant. Corresponding values for Dangerous ratings are 73% vs. 27% (BESD), $d = 1.04$, and 85 percentile points. According to conventions for evaluating effect magnitudes that have been proposed by Cohen (1988), AIDS-Leukemia differences for these two items are very large. These items also exhibited the greatest heterogeneity of effect sizes across studies.

Five of 12 PES items (The patient deserves sympathy and understanding, The world would be better off without him, The patient has had a lot of pain and suffering, The patient deserves what happened to him, The patient should be quarantined) evinced mean $r$s ranging from .05 to .26 ($d$s of .10 to .54), indicating small-to-moderate effects of disease on these evaluative attitudes. The remaining five items included zero within the 95% confidence intervals for the mean $r$.

_Social Interaction Scale items._ Summary information for SIS items is in Table 4. Mean $r$s for AIDS versus Leukemia ranged from .14 to .44, ($d$s = .29 to .97). Only one included zero in its 95% confidence interval (“I would start up a conversation with him”). All seven SIS effect sizes exhibited significant between-study heterogeneity.

*Effect of Patient’s Sexual Orientation on PES and SIS Items*

Twelve of the 14 studies retrieved for the review included a manipulation of the target person’s sexual orientation. An additional experiment (Johnson & Baer, 1996) manipulated only target sexual orientation and was included for these analyses. The mean $r$ for one PES item, The patient is responsible for his illness, exceeded .10 (Mean $r = .17$; $d = 34$). Mean $r$s for every other PES item ranged from .00 to .08, and all included zero in their 95% CIs; order statistics
computed on this set of effect sizes showed that for seven of 12 items, three-fourths of the observed values of $r$ were zero. Values of two items (The patient is responsible...; The patient deserves what happened to him) varied significantly between studies, $\chi^2_s \geq 33.6, ps < .001$.

Of the seven sexual orientation mean $r_s$ for SIS items, three were greater than zero: “I would allow my children to visit the patient” ($r = .12$), “I would eat food that was prepared by the patient” ($r = .08$), and “I would attend a party where the patient is present” ($r = .07$). Six of the seven were characterized by significant heterogeneity in mean $r_s$ between studies, $\chi^2_s \geq 22.6, ps < .02$.

**Contrasting Interpretations of Study Findings**

Authors of five studies expressed such gloomy conclusions regarding the implications of their findings for AIDS-related stigma (Crawford et al., 1991; Kelly et al., 1988; Kelly et al., 1987a, 1987b; St. Lawrence, Kelly et al., 1990) that authors of three other studies openly criticized these pessimistic readings of the data (Fliszar & Clopton, 1995; McGrory et al., 1990; Strasser & Damrosch, 1992). If these different interpretations of study results are data-based, then effect sizes in experiments conducted by “critics” should be smaller than in those conducted by “pessimists.”

Table 5 shows comparisons of PES and SIS effect size means ($Z$-tests: Rosenthal, 1991) for Disease and Partner factors. Considering the contrasts of Disease effect sizes for PES items first, the differences between mean $r_s$ for Pessimist authors versus Critics ranged from -.11 (“The patient deserves what happened”) to .24 (“The patient deserves to lose his job”); the average difference between mean $r_s$ was .06. Participants in Pessimist- and Critic-authored studies agreed that a PWA is more responsible for the disease and more dangerous than a person with Leukemia. They also regarded the person with Leukemia as meriting the best medical care more than the
PWA, although this view was somewhat stronger in Pessimist-authored studies. In Critic studies, subjects were less likely than in Pessimist studies to believe that PWAs deserve to lose their jobs and to be quarantined, compared to individuals with Leukemia. For one PES item, “The patient deserves what happened,” subjects in Critic-authored studies were more negative toward the PWA (relative to a person with Leukemia) than those in Pessimist articles. As indicated earlier in Table 2, some studies did not use all 12 PES items; it was therefore impossible to conduct contrasts for three PES items (“The patient deserves to die”; “The world would be better off without the patient”; “Suicide is the best solution for this patient”).

Disease effect sizes for SIS items differed much more, on average, between Pessimist and Critic studies, ranging from -.26 (“I would be willing to renew the patient’s lease”) to .34 (“I would be willing to share an office with the patient’’); the average difference in mean $r$ was .21. Participants in Pessimist-authored studies showed much less willingness to interact with a target person with AIDS than one with Leukemia.

Turning to the effects of the target person’s sexual orientation, a similar pattern to that observed for disease effects occurred for PES items. Differences between mean $r$ range from -.02 to .25. In Pessimist-authored studies, participants believed the patient whose partner was male was more responsible for his disease than the patient whose partner was female, whereas those in studies authored by Critics did not assign responsibility on the basis of partner gender (Mean $r$ = .25 vs. 0, $Z = 4.16, p < .001$). The only other PES items for which patient sexual orientation tended to evince differences between findings of Pessimist- and Critic-authored studies were for “The patient deserves what happened” and “The patient deserves sympathy and understanding” (Mean differences = .12 and .08, respectively, both $p_s < .09$). As for SIS items, participants in Pessimist-authored studies manifested more intention to discriminate against the “gay” target
person than did Critic participants in their willingness to “Strike up a conversation with this patient” (Means $rs = .104$ vs. 0, $Z = 1.71$, $p < .05$) and “Let your children visit the patient” (Means $rs = .236$ vs. 0, $Z = 3.15$, $p < .002$).

**Discussion**

*Which attitudes differ between conditions, and by how much?*

Across the studies reviewed here, differences in both sympathetic and hostile attitudes toward target persons with AIDS versus leukemia were relatively small. For PES statements representing sympathy toward the target person or opinions concerning his deservingness, average disease-related effects were in the range, .05 to .20. Statements expressing extreme antipathy, such as “The patient deserves to die” and “The patient deserves to lose his job,” were not differentially endorsed in AIDS versus leukemia conditions; nor were participants more likely to agree that a target person with leukemia is more deserving of “the best medical care” than the PWA.

Attributions about the patient’s responsibility for the disease and his dangerousness, however, were strongly affected by the diagnosis of AIDS versus leukemia ($rs = .50$ and .46, respectively). The sole PES item to evince a significant partner effect size in the meta-analysis was attributions of responsibility for the disease. Thus, knowing that the target person's romantic partner was male added to responsibility ratings, beyond information about his disease diagnosis. How much? Converting the average Disease and Partner effects for the responsibility item to proportions of variance (i.e., $.50^2$ and $.168^2$, respectively), the former is nine times larger than the latter. This mirrors findings reported by Weiner (1995, ch.4) indicating that the sexual orientation of a PWA had a reliable but much smaller effect on judgments about the
controllability of HIV infection than did a concrete description of how the infection was transmitted.

Disease effect sizes were greater than zero for most social distance measures (SIS items). AIDS – leukemia effect sizes were greatest for participants’ willingness to eat food prepared by the target person and to allow their children to visit him. Partner-related effects were comparatively trivial; for example, the disease-related proportion of variance for the item, "I would allow my children to visit him," was almost 12 times greater than that of the corresponding partner effect – and this was the largest partner effect for any SIS item. The smallest ratio of Disease-to-Partner effects was 5 (“…strike up a conversation …”). In their national telephone survey, Herek and Capitanio (1998) found ratios of similar magnitude for their measure of avoidance of PWAs.

These results point to three main conclusions:

1. Participants in ALP studies consistently regarded persons with AIDS as more responsible than persons with leukemia for their condition, and as more dangerous to others. They also regarded a target person with a male romantic partner as more responsible, independently of disease diagnosis. By contrast, attitude statements reflecting evaluations of the target person’s deservingness evinced (at most) small effects of disease diagnosis.

2. Participants wished to avoid a target person with AIDS across a broad range of situations, and most strongly when there was a risk of close personal contact or contact with their children.

3. The target person’s romantic partner contributed little to evaluative attitudes, compared to the much stronger effects of disease diagnosis. Partner effects contributed significant but small increments to several social distance measures.
Reconciling conflicting interpretations about the extent of stigma

The meta-analytic comparison between Pessimist- and Critic-authored studies (Table 5) shows that outcomes were not so different for measures of evaluative attitudes. Disease effects were larger in Pessimist studies for the items, “deserves to lose his job” and “should be quarantined,” but were smaller than in Critic studies for the item, “deserves what happened.” It is for measures of social distance that Disease effects were consistently greater in Pessimist than in Critic studies (with the anomalous exception of “renew his lease”). Partner effects for responsibility attributions were greater by one-half SD in Pessimist studies, and somewhat larger for blame-related items (“deserves what happened” and “deserves sympathy”). Participants also expressed greater reluctance to engage in conversation and let children visit a patient with a male romantic partner. So, there were real differences in outcomes between studies that reached pessimistic conclusions and their critics about the magnitude of AIDS-related stigma.

Such variation in outcomes probably has many sources. The body of ALP research consists largely of atheoretical demonstrations documenting attitudes of different subpopulations (medical students, nurses, psychologists, dentists, etc.). Subpopulation differences, therefore, may account for some of the disparate conclusions; for example, participants in two of the earliest ALP experiments were health professionals in a Deep South state (Kelly et al., 1987a; Kelly et al., 1988). In addition, most Pessimist studies were published before the earliest of the Critic experiments. Various sources confirm that punitive, exclusionary attitudes toward PWAs decreased during the period represented by the studies sampled here (e.g., Herek, Capitanio, & Widaman, 2002). The unfolding history of the AIDS epidemic – its portrayal in the news, the actions of governments, the safe-sex campaigns – surely influenced public attitudes (Cook & Colby, 1992).
Besides these objective differences in outcomes, it seems likely that conflicting interpretations have roots in misconstruals of significance-test results and in selective emphasis of results that support a stigma interpretation. None of the studies reviewed here reported effect sizes in their Results. Authors relied on conventional but misleading heuristics such as significance levels and box scores to reach conclusions about the extent of stigma demonstrated in their findings. If “highly significant” differences were obtained for several measures, then authors took these as indicating much stigmatization. However, if measures were correlated (as one would expect with SIS items, or between SIS items and evaluative items such as “is dangerous to others,” “should be quarantined,” and “deserves to lose his job”), then multiple, significant differences may indicate redundancies in item content rather than extensive prejudice.

Beyond the application of inappropriate statistical reasoning, some of the more pessimistic authors reached conclusions that simply do not bear up under scrutiny, particularly about the effects of sexual orientation. Kelly et al. (1987a) asserted that their medical student sample held “parallel...negative attitudes” toward both AIDS and gay patients. However, these authors reported only three non-zero Partner effects for PES items: “responsible for the disease,” “dangerous to others,” and the problematical “has a lot of pain and suffering”; in these instances, the Partner effects were no greater than one-sixth those of the corresponding Disease effect sizes. For all but two SIS items in this experiment, the Partner effect was no more than half as large as the Disease effect. Only in Kelly et al.’s (1988) study of nurses did Partner effect sizes on the PES approach the magnitude of Disease effects – and even here it was only for two items, “responsible for the disease” and “deserves what happened.” Fewer SIS items evinced non-zero Partner effects than in the 1987 study of medical students, and their magnitude was one-third to one-tenth that of Disease effects on the same items.
ALP scenarios don’t spell out how the patient was infected, so perhaps the Partner manipulation confounds sexual orientation with transmission mode. Some respondents who learned the patient’s partner is female may have concluded he is a drug addict (e.g., Poling et al., 1990), which would tend to increase their responsibility attributions and simultaneously to weaken the apparent effect of sexual orientation. Although this is a plausible account of the relatively small Partner effects observed in ALP research, it doesn’t explain why some authors magnified these effects in their interpretive commentary.

*Responsibility and Lifestyle Risk Factors*

Compared to persons with Leukemia, the target person with AIDS was regarded as much more responsible for his illness. Does this finding betoken unique stigmatization of PWAs? The design of most ALP research makes it impossible to know. Only one ALP experiment (Strasser & Damrosch, 1992) manipulated transmission modes for AIDS. In one condition, the PWA was described as hemophiliac, making it plausible that he contracted HIV from a blood transfusion; here, participants did not assign more responsibility to the PWA than to a person with leukemia, but they did rate the PWA as more dangerous and expressed less willingness to interact than in the leukemia condition. Other, non-ALP research demonstrates that people distinguish levels of responsibility for HIV infection, and that such distinctions contribute to evaluative attitudes and helping intentions (Dooley, 1995; Forrester & Murphy, 1992; McBride, 1998; Menec & Perry, 1998; Peters, den Boer, Kok, & Schaalma, 1994; Weiner, 1995). Because ALP studies confound disease labels with perceived preventability, they may exaggerate the extent of AIDS-related stigma for attributions of responsibility and related constructs. Had the comparison disease not been leukemia but rather lung cancer associated with smoking versus inadvertent radon exposure, the conclusions of early ALP research might not have been so pessimistic.
More generally, the concept of “responsibility” is troublesome not just for making sense of AIDS but for all of illness cognition (Brownell, 1991; DePalma, Madey, Greenberg, Wheeler, & Stillings, 1998; Lau, Bernard, & Hartman, 1989; Marks, 2002). Describing the polio epidemics in the US during the early 20th century, Rogers (1992, p.3) writes, “Defining and assigning responsibility is an essential element in making sense of an epidemic.” Western (and especially American) medicine is highly individualistic, and beliefs about controllability of health outcomes are central to people’s everyday thinking about illness (Lau et al., 1989). Health problems identified as having behavioral roots can elicit attributions about individual negligence, indiscipline, or worse (R. Crawford, 1977); even when disease onset is not laid upon the individual, she or he is certainly obliged to act in ways that mitigate disease and restore health. In short, the rhetoric of health promotion and disease prevention presupposes high levels of individual responsibility.

From this standpoint, AIDS is a prototypic lifestyle disease. HIV may be transmitted through tainted transfusions, accidents, or in utero, but we tend to think of transmission in connection with voluntary acts. The prevalence of HIV in certain groups seemingly supports this characterization. Even our clichés support it: Schellenberg et al. (1995) observe that the category, “innocent AIDS victim,” shadows the default category, “patient whose own behavior placed him/her at risk.” Shortcomings of lifestyle explanations, however, rarely attract discussion. For example, why does only a subset of individuals whose behavior regularly exposes them to a given health risk actually develop diseases supposedly “caused” by those behaviors? Far from being unique, public attitudes toward persons with AIDS reflect a pervasive ideological orientation toward illness, including its contradictions (Tesh, 1988).
Beyond the Stigma Metaphor

A parsimonious interpretation of disease effects upon ratings of dangerousness and social distance is that these reflect participants' contagion fears. With the benefit of more knowledge about HIV transmission than was available in the early days of the epidemic, we recognize such fears were exaggerated. Arguably, the public in US has not faced a similar health threat since the polio scares of the 1950s, so the reaction to AIDS seemed unprecedented. With hindsight and the perspective provided by reactions to more recent disease outbreaks (e.g., Ebola, BSE, foot-and-mouth), however, it is evident that the AIDS epidemic resurrected an all-too-familiar mode of reacting to health threats, including primitive beliefs about contagion (Gladwell, 1995; Joffe & Haarhoff, 2002; Rozin, Markwith, & McCauley, 1994).

The AIDS-Leukemia paradigm has been useful for documenting stigmatizing attitudes toward PWAs, but it provides little guidance for ameliorating the effects of such attitudes. It may even have had the paradoxical effect of exacerbating the sense of isolation experienced by PWAs. For example, HIV-infected individuals attribute to the public more negative attitudes than are actually expressed by members of the public (Green, 1995). More generally, people with a physical stigma may over-estimate its impact on how others respond to them (Kleck & Strenta, 1980; Strenta & Kleck, 1985); so may subjects who merely observe interactions between stigmatized individuals and other persons. It is perhaps understandable, then, that investigators may have reached exaggerated conclusions about the extent and implications of AIDS or sexual orientation stigma. Unfortunately, such conclusions might contribute to a sense of stereotype threat (Steele, 1998) among PWAs.

ALP research may also have placed excessive emphasis on attitudes, rather than the behavior of people whose attitudes it documented. Research that addresses overt behavior
(Siminoff, Erlen, & Sereika, 1998) indicates that nurses, at least, accord the same quality of care toward the HIV-infected as toward general medical patients, and that quality of care is independent of nurses’ attitudes toward PWAs and homosexuality. Social psychologists, who are aware of the many constraints on the behavioral expression of attitudes, should not be surprised by such findings. Professionals’ and lay people’s attitudes toward certain patient groups are not fated to influence the treatment (broadly defined) accorded individual patients.

Are we ready to move beyond documenting the stigma associated with AIDS? Are we able to place the public response to AIDS in the broader context of how human beings conceptualize and react to poorly-understood health threats? The truly difficult questions we need to ask are about the links between attitudes toward and treatment of the sick, historic continuities in reactions to epidemic diseases, and the consequences of viewing illness through the peculiar lens of an ideology that assigns individual responsibility for disease.
References

* References marked with an asterisk indicate studies included in the meta-analysis.


Green, G. (1995). Attitudes toward people with HIV: Are they as stigmatizing as people with HIV perceive them to be? *Social Science and Medicine, 41,* 557-568.


Author Note

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Footnotes

1 The “PWA” abbreviation is ubiquitous in this area of research.

2 In some ALP studies, the IEI is called the Interpersonal Attraction Inventory (IAI). These adjective ratings have not been reported consistently in ALP studies, so they are not discussed further.

3 In more recent ALP experiments, these items often are omitted from the PES.

4 In the context of meta-analysis, $r$ is the point-biserial correlation between a dummy-coded independent variable and a dependent variable (Robert Rosenthal, 1994).

5 Thanks to Jeffrey A. Kelly (personal communication, August 28, 1997) for assisting me in attempting to correct these errors. The unavailability of raw data from the study made it necessary to adopt the approximations described here.

6 These values computed from the formula, $100 \times (0.500 \pm r/2)$.

7 Unfortunately, the confounding of sample characteristics and publication dates in this relatively small set of studies makes a mediation analysis impractical.
Table 1

*Attitude Items in ALP Studies*

**PES Items**

a The patient b is responsible for his illness.

The patient should be quarantined so as not to expose others.

The patient is dangerous to other people.

The world would be better off without the patient.

The patient deserves what happened to him.

The patient deserves to lose his job.

The patient deserves to die.

The patient deserves sympathy and understanding.

The patient deserves the best medical care possible.

The patient’s illness has been traumatic for him.

The patient has a lot of pain and suffering.

Suicide might be the best solution for this patient.

a Responses to these items use a seven-point, "Agree--Disagree" scale.

b In most studies, "the patient" is replaced by a specific male name (e.g., "Mark").

**SIS Items**

The patient's lease is up in two months. If you his landlord, would you renew it?

If you were a friend of the patient, would you continue the friendship?

If you met the patient, would you strike up a conversation with him?

Would you be willing to work in the same office with the patient?

Would you allow your children to visit the patient in his home?

Would you attend a party where the patient was preparing food?

Would you attend a party where the patient was present?

c These statements use a seven-point, "Willing--Unwilling" response format.
Table 2

*Studies in the Meta-Analysis, by Publication Year*

<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>N</th>
<th>Population (State or Region)</th>
<th>Response Rate</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnson &amp; Baer</td>
<td>1996</td>
<td>179</td>
<td>College students (AK)</td>
<td>NA</td>
<td>Sexual orientation within AIDS. SIS omitted.</td>
</tr>
<tr>
<td>Fliszar &amp; Clopton</td>
<td>1995</td>
<td>266</td>
<td>Psychology doctoral students (US sample)</td>
<td>48%</td>
<td>Modified PES and SIS.</td>
</tr>
<tr>
<td>Strasser &amp; Damrosch</td>
<td>1992</td>
<td>180</td>
<td>Masters’ nursing students (MD)</td>
<td>NA</td>
<td>Modified PES.</td>
</tr>
<tr>
<td>Haring &amp; Lind</td>
<td>1992</td>
<td>81</td>
<td>Dental hygiene students (OH)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>I. Crawford et al.</td>
<td>1991</td>
<td>185</td>
<td>Psychologists &amp; Social workers (13 US cities)</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>Poling et al.</td>
<td>1990</td>
<td>417</td>
<td>College students (MI)</td>
<td>NA</td>
<td>No sexual orientation factor. Modified PES.</td>
</tr>
<tr>
<td>St. Lawrence, Husfeldt et al.</td>
<td>1990</td>
<td>300</td>
<td>College students (MS)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>St. Lawrence, Kelly et al.</td>
<td>1990</td>
<td>126</td>
<td>Psychologists (US sample)</td>
<td>37%</td>
<td></td>
</tr>
<tr>
<td>McGrory et al.</td>
<td>1990</td>
<td>103</td>
<td>Medical students (NY)</td>
<td>69%</td>
<td></td>
</tr>
<tr>
<td>Cohen &amp; Grace</td>
<td>1989b</td>
<td>399</td>
<td>Dental students (MD)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Authors</td>
<td>Year</td>
<td>N</td>
<td>Population (State or Region)</td>
<td>Response Rate</td>
<td>Notes</td>
</tr>
<tr>
<td>----------------------</td>
<td>------</td>
<td>-----</td>
<td>--------------------------------</td>
<td>---------------</td>
<td>-------</td>
</tr>
<tr>
<td>Cohen &amp; Grace</td>
<td>1989a</td>
<td>112</td>
<td>Dental school faculty (MD)</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Kelly, St. Lawrence, Hood et al.</td>
<td>1988</td>
<td>166</td>
<td>Nurses (MS)</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Kelly, St. Lawrence et al.</td>
<td>1987b</td>
<td>157</td>
<td>Urban MDs (TN, AZ, OH)</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Kelly, St. Lawrence et al.</td>
<td>1987a</td>
<td>119</td>
<td>Medical students (MS)</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>
Table 3

*Prejudicial Evaluation Scale (PES) Disease Effects*

<table>
<thead>
<tr>
<th>PES Item</th>
<th>N</th>
<th>Mean $r$</th>
<th>SD</th>
<th>Lower CL&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Upper CL</th>
<th>Fail-safe $k$</th>
<th>Median $r$</th>
<th>IQR</th>
<th>$\chi^2$ GoF</th>
<th>DF</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible</td>
<td>2551</td>
<td>.504</td>
<td>.224</td>
<td>.394</td>
<td>.599</td>
<td>2681</td>
<td>.543</td>
<td>.224</td>
<td>109.12</td>
<td>12</td>
<td>.000</td>
</tr>
<tr>
<td>Dangerous</td>
<td>2551</td>
<td>.461</td>
<td>.207</td>
<td>.356</td>
<td>.555</td>
<td>2224</td>
<td>.487</td>
<td>.142</td>
<td>108.29</td>
<td>12</td>
<td>.000</td>
</tr>
<tr>
<td>Quarantine</td>
<td>2285</td>
<td>.260</td>
<td>.223</td>
<td>.122</td>
<td>.389</td>
<td>618</td>
<td>.228</td>
<td>.307</td>
<td>88.13</td>
<td>11</td>
<td>.000</td>
</tr>
<tr>
<td>Deserves what happened</td>
<td>2551</td>
<td>.205</td>
<td>.179</td>
<td>.098</td>
<td>.307</td>
<td>468</td>
<td>.141</td>
<td>.363</td>
<td>65.29</td>
<td>12</td>
<td>.000</td>
</tr>
<tr>
<td>Pain and suffering</td>
<td>2551</td>
<td>.117</td>
<td>.141</td>
<td>.031</td>
<td>.200</td>
<td>84</td>
<td>.037</td>
<td>.195</td>
<td>32.20</td>
<td>12</td>
<td>.001</td>
</tr>
<tr>
<td>Better off without him</td>
<td>2165</td>
<td>.089</td>
<td>.104</td>
<td>.019</td>
<td>.158</td>
<td>66</td>
<td>.032</td>
<td>.158</td>
<td>19.08</td>
<td>10</td>
<td>.039</td>
</tr>
<tr>
<td>Deserves to lose job</td>
<td>1868</td>
<td>.083</td>
<td>.187</td>
<td>-.044</td>
<td>.207</td>
<td>NA</td>
<td>.000</td>
<td>.227</td>
<td>49.19</td>
<td>10</td>
<td>.000</td>
</tr>
<tr>
<td>Deserves sympathy</td>
<td>2551</td>
<td>.050</td>
<td>.073</td>
<td>.006</td>
<td>.094</td>
<td>27</td>
<td>.000</td>
<td>.122</td>
<td>14.88</td>
<td>12</td>
<td>.248</td>
</tr>
<tr>
<td>Suicide is best solution</td>
<td>2165</td>
<td>.044</td>
<td>.083</td>
<td>-.012</td>
<td>.100</td>
<td>NA</td>
<td>.000</td>
<td>.033</td>
<td>10.61</td>
<td>10</td>
<td>.389</td>
</tr>
<tr>
<td>Deserves best medical care</td>
<td>2551</td>
<td>.031</td>
<td>.089</td>
<td>-.023</td>
<td>.085</td>
<td>NA</td>
<td>.000</td>
<td>.020</td>
<td>17.03</td>
<td>12</td>
<td>.148</td>
</tr>
<tr>
<td>Deserves to die</td>
<td>2165</td>
<td>.029</td>
<td>.061</td>
<td>-.012</td>
<td>.069</td>
<td>NA</td>
<td>.000</td>
<td>.010</td>
<td>6.09</td>
<td>10</td>
<td>.808</td>
</tr>
<tr>
<td>Traumatic</td>
<td>2285</td>
<td>.010</td>
<td>.035</td>
<td>-.012</td>
<td>.033</td>
<td>NA</td>
<td>.000</td>
<td>.000</td>
<td>2.51</td>
<td>11</td>
<td>.996</td>
</tr>
</tbody>
</table>

<sup>a</sup> Lower and upper limits of 95% confidence interval for the mean $r$. 

How negative are 36
\textsuperscript{b} Number of nonsignificant studies needed to render the average effect size nonsignificant.

\textsuperscript{c} Interquartile range (middle 50\%) of the set of $r$s for this measure.

\textsuperscript{d} Goodness-of-fit test for homogeneity of effect sizes.

\textsuperscript{e} Degrees of freedom vary because some studies omitted certain PES items.
### Table 4

*Social Interaction Scale (SIS) Disease Effects*

<table>
<thead>
<tr>
<th>SIS Item</th>
<th>N</th>
<th>Mean $r$</th>
<th>SD</th>
<th>Lower</th>
<th>Upper</th>
<th>Fail-safe $k$</th>
<th>Median $r$</th>
<th>IQR</th>
<th>$\hat{\rho}$ GoF</th>
<th>DF</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat food he's prepared</td>
<td>2551</td>
<td>.436</td>
<td>.310</td>
<td>.267</td>
<td>.579</td>
<td>1849</td>
<td>.360</td>
<td>.267</td>
<td>205.66</td>
<td>12</td>
<td>.000</td>
</tr>
<tr>
<td>Let kids visit him</td>
<td>2285</td>
<td>.410</td>
<td>.312</td>
<td>.227</td>
<td>.566</td>
<td>1375</td>
<td>.339</td>
<td>.269</td>
<td>192.42</td>
<td>11</td>
<td>.000</td>
</tr>
<tr>
<td>Share an office</td>
<td>2551</td>
<td>.304</td>
<td>.256</td>
<td>.154</td>
<td>.440</td>
<td>860</td>
<td>.269</td>
<td>.320</td>
<td>154.30</td>
<td>12</td>
<td>.000</td>
</tr>
<tr>
<td>Continue friendship</td>
<td>2285</td>
<td>.256</td>
<td>.193</td>
<td>.137</td>
<td>.368</td>
<td>586</td>
<td>.252</td>
<td>.287</td>
<td>73.39</td>
<td>11</td>
<td>.000</td>
</tr>
<tr>
<td>Renew his lease</td>
<td>2285</td>
<td>.249</td>
<td>.260</td>
<td>.085</td>
<td>.400</td>
<td>500</td>
<td>.229</td>
<td>.320</td>
<td>130.21</td>
<td>11</td>
<td>.000</td>
</tr>
<tr>
<td>Attend a party w/him</td>
<td>2551</td>
<td>.211</td>
<td>.214</td>
<td>.082</td>
<td>.333</td>
<td>496</td>
<td>.175</td>
<td>.261</td>
<td>94.35</td>
<td>12</td>
<td>.000</td>
</tr>
<tr>
<td>Strike up conversation</td>
<td>2551</td>
<td>.144</td>
<td>.263</td>
<td>-.018</td>
<td>.298</td>
<td>NA</td>
<td>.000</td>
<td>.217</td>
<td>145.08</td>
<td>12</td>
<td>.000</td>
</tr>
</tbody>
</table>
Table 5

Contrasts of Disease-related Effect Sizes in Pessimist versus Critic Studies

<table>
<thead>
<tr>
<th>PES Item</th>
<th>k</th>
<th>Pessimists</th>
<th>Critics</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean r (Median)</td>
<td>Mean r (Median)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsible</td>
<td>8</td>
<td>.498 (.556)</td>
<td>.500 (.487)</td>
<td>-.03</td>
<td>.975</td>
</tr>
<tr>
<td>Dangerous</td>
<td>8</td>
<td>.487 (.600)</td>
<td>.467 (.481)</td>
<td>.44</td>
<td>.658</td>
</tr>
<tr>
<td>Deserves what happened</td>
<td>8</td>
<td>.170 (.133)</td>
<td>.279 (.363)</td>
<td>-1.89</td>
<td>.059</td>
</tr>
<tr>
<td>Deserves to lose job</td>
<td>7</td>
<td>.128 (.000)</td>
<td>-.107 (-.293)</td>
<td>3.09</td>
<td>.002</td>
</tr>
<tr>
<td>Quarantine</td>
<td>7</td>
<td>.296 (.396)</td>
<td>.089 (.088)</td>
<td>2.82</td>
<td>.005</td>
</tr>
<tr>
<td>Pain and suffering</td>
<td>8</td>
<td>.106 (.122)</td>
<td>.012 (.000)</td>
<td>1.55</td>
<td>.121</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIS Item</th>
<th>k</th>
<th>Pessimists</th>
<th>Critics</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean r (Median)</td>
<td>Mean r (Median)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strike up conversation</td>
<td>8</td>
<td>.233 (.217)</td>
<td>-.071 (-.066)</td>
<td>5.07</td>
<td>.000</td>
</tr>
<tr>
<td>Attend a party w/him</td>
<td>8</td>
<td>.295 (.237)</td>
<td>.038 (.000)</td>
<td>4.37</td>
<td>.000</td>
</tr>
<tr>
<td>Eat food he's prepared</td>
<td>8</td>
<td>.458 (.343)</td>
<td>.224 (.270)</td>
<td>4.40</td>
<td>.000</td>
</tr>
<tr>
<td>Share an office</td>
<td>8</td>
<td>.377 (.343)</td>
<td>.038 (.000)</td>
<td>5.89</td>
<td>.000</td>
</tr>
<tr>
<td>Continue friendship</td>
<td>7</td>
<td>.336 (.343)</td>
<td>.024 (.024)</td>
<td>4.25</td>
<td>.000</td>
</tr>
<tr>
<td>Renew his lease</td>
<td>7</td>
<td>.055 (.055)</td>
<td>.318 (.343)</td>
<td>-3.58</td>
<td>.000</td>
</tr>
<tr>
<td>Let children visit him</td>
<td>7</td>
<td>.443 (.343)</td>
<td>.127 (.125)</td>
<td>4.56</td>
<td>.000</td>
</tr>
</tbody>
</table>

a Five studies were classified as Pessimists and three as Critics (see text).

b When \( k = 7 \), one of the Critic studies did not include this item among its measures.
Note: Positive mean rs indicate harsher attitudes toward the patient in the AIDS condition than in the Leukemia condition. Positive Zs indicate larger effects in Pessimist than in Critic studies.