Hugging My Uncle: The Impact of a Parent Training on Children’s Comfort Interacting with Persons Living with HIV

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Objective HIV-related stigma affects not only persons living with HIV (PLwHIV) but also their communities and families including children. This study aimed to determine whether an interactive training administered to community parents significantly increases their children’s reported comfort interacting with PLwHIV. Methods A randomized clinical trial with random-quota dwelling unit sampling and a random invitation to treatment had 238 parent and 238 child participants. Results For children of trained parents, significant increases in comfort were obtained, baseline to 6-month follow-up, on 14 of 22 reported daily activities with PLwHIV. For children who recently interacted with a person living with HIV, this comfort predicted the number of recent activities, even after controlling for closeness to the person living with HIV and for the number of persons with HIV known, living or deceased. Conclusions Training parents to be HIV health educators of their children significantly impacts youth and shows promise for reducing HIV-related stigma and social isolation.

Key words comfort; HIV; HIV-affected communities; parents; social interaction; stigma; youth.

Despite decades of opportunity to educate those living alongside community members with HIV, and thus to improve their social comfort interacting with persons living with HIV (PLwHIV), continue to experience stigma and social isolation (Brown, Macintyre, & Trujillo, 2003; Herek, Capitanio, & Widaman, 2002), with resultant negative health and mental health consequences. Stigma and isolation have been associated with increased depression (e.g., Hack, Somlai, Kelly, & Kalichman, 1997; Lichtenstein, Laska & Clair, 2002; Scrimshaw, 2003) and poorer psychological adjustment to HIV as an illness (Herek et al., 2002). Negative psychosocial outcomes related to stigma and social isolation also occur among caregivers (e.g., Baker, Sudit, & Litwak, 1998; Demi, 1997; Poindexter, 2002) and among family members, including children and youth (e.g., Draimin, Hudis, Segua, & Shire, 1999; Gewirtz, 2000; Roth, Siegel, & Black, 1994).

A number of authors attribute at least part of this stigma and social isolation to the “interactional awkwardness” often arising in the United States when dealing with people with a serious illness (Fife & Wright, 2000; Fleishman et al., 2000; Link, Mirotznik, & Cullen, 1991; Siegel & Krauss, 1991) and to misperceptions about casual household or social transmission of HIV (Herek et al., 2002; Krauss, Goldsamt, Bula, & Sember, 1997).

The importance to PLwHIV, and to their relatives, friends, and caregivers in their communities, of increasing comfortable social interaction with PLwHIV was reinforced when, in 1993, our research team entered the Lower East Side of New York City, a high HIV seroprevalence (>10%) neighborhood. Although we initially performed elicitation research there to design a family-based HIV intervention that we thought would be focused solely on risk prevention for pre-adolescents, adult and youth community members quickly convinced us through their discourse about living daily in the midst of an HIV epidemic that any intervention should focus not only on prevention of HIV but also on
safe and sensitive interactions with PLwHIV (Krauss, 1997, 1999; Krauss et al., 1997).

Youth and adults had complex issues concerning interactions with PLwHIV: “My brother got HIV from injecting drugs. I think he’s been using my toothbrush. How do I talk to him about it?”; “My [friend] has HIV and thrush. He offered me the rest of his scrambled eggs. Should I have eaten the eggs?”; “They’re always talking about how you can’t catch it [HIV], but don’t a lot of people with HIV have TB and pneumonia and stuff, too” (Krauss, 1997, 1999; Krauss et al., 1997)? As these few brief vignettes illustrate, although the earliest interventions to address HIV stigma directly addressed myths about HIV transmission (e.g., Surgeon General Koop’s household mailing), safe and sensitive socializing often involves more than knowledge about HIV transmission alone. Interventions should address (a) overcoming fear; (b) understanding transmission of HIV and other illnesses; (c) how to open up a dialogue with the PLwHIV about mutual safety; and (d) how to have that dialogue in a way that overcomes interactional awkwardness and does not hurt the feelings of the PLwHIV.

The intervention that was developed, the parent/preadolescent training for HIV prevention (PATH), was designed to assist parents to become more effective HIV/hepatitis/STI/unplanned pregnancy/substance-use educators of their pre-adolescent children and to instruct their children about daily life with PLwHIV. The intervention modified a highly regarded curriculum produced by Cornell University/Cornell Cooperative Extension, Talking with Kids about AIDS (Tiffany, Tobias, Raqib, & Ziegler, 1993a,b), to make it more appropriate for inner-city urban families and for a high-seroprevalence neighborhood. It did so by adding curricular units and exercises focused on recognizing and communicating about risk situations, about safe and sensitive socializing with PLwHIV, and by strengthening the representation of neighborhood issues in existing exercises, for example, through use of illustrations (Fig. 1). Although the Talking with Kids about AIDS curriculum has been evaluated for its impact on some outcomes for adults (e.g., Krauss, 1995), PATH represents the first evaluation of its impact on children.

Although the curriculum is described in detail in Pequegnat and Szapocznik (2000), Krauss, Godfrey, Yee et al., (2000), we will discuss here Session 4, safe and sensitive interaction with PLwHIV, as well as the social psychological principles underlying the choice of exercises for this session (Brewer, 2003), as this is the session that most directly addresses HIV stigma and

Figure 1. For more than a dozen neighborhood scenes, parents are told “Someone here has HIV. How could they be supported in a safe and sensitive manner?”
interactional awkwardness. The remainder of the curriculum is briefly described below in the Method section.

Session 4 emphasizes four empirically supported principles of social cognition relevant to HIV-related stigmatization to reduce stigma and to increase interactional ease. First, “fear...arises from an appraisal of threat combined with an assessment of low power or control (Brewer, 2003, p. 12; also Smith & Lazarus, 1990).” That is, people are afraid they might get HIV or endanger a PLwHIV and feel they do not have the coping skills to prevent either from occurring. Second, fear, and the avoidance it often engenders, is easier to maintain if the feared individuals are seen as members of a distinct outgroup (Tajfel, 1969). Third, such outgroup biases are more difficult to maintain if crossed categorization (Hewstone, Islam, & Judd, 1993; Messick & Mackie, 1989) is perceived to occur—that is, as most identities consist of multiple categories (e.g., PLwHIV, family member, mother, and teacher’s assistant), and as people often share membership in various categories, crossed categorization not only tends to diminish ingroup–outgroup distinctions, people can begin to experience emotions on behalf of a group with which they now identify (Mackie, Devos, & Smith, 2000). Fourth, negative emotionality supporting avoidance is reduced when issues are seen as legitimized or behavior is normalized (Brewer, 2003). Thus, the goals of Session 4 are to engender more realistic risk appraisal, augment coping skills to increase power and control, reduce the “otherness” associated with HIV infection itself as a disease, reduce the “otherness” of PLwHIV by emphasizing commonalities (e.g., cross categorization of roles) and common goals (e.g., mutual safety), and normalize and legitimize the appropriate interactions with PLwHIV.

Session 4 has nine activities. In order, these are designed to (a) enhance reflection on giving clear messages about HIV risks; (b) encourage understanding of how different infectious diseases, of which HIV is only one, are transmitted; (c) promote mastery of universal precautions for all infectious diseases; (d) practice interacting with PLwHIV; (e) understand the issues of families living with HIV; (f) learn about what PLwHIV (and most people generally) consider to be negative and positive social support; (g) practice answering difficult questions about illnesses in general and HIV specifically; (h) map HIV-related resources in the local community; and (i) know the laws (and their rationale) about privacy, confidentiality, and nondiscrimination.

The activities include, in order, (a) role-playing parents or children to learn coaching and reflection skills to improve parent–child communication; (b) a presentation by the facilitators about infectious disease transmission followed by group processing of a true-false quiz concerning myths and facts about HIV, tuberculosis, and other infectious diseases; (c) practicing universal precautions in situations that may occur locally (e.g., finding a discarded syringe), accompanied by an illustrated take-home hand-out about how to properly deal with such situations; (d) group processing of how to react to common neighborhood social situations where a PLwHIV may be present (Fig. 1); (e) a video about family life and HIV; (f) group discussion of a list of “Do’s” and “Don’ts” produced by PLwHIV regarding preferred interactions and preferred types of social support; (g) role-playing parents in a family (where someone may have HIV) whose children are bombarding them with difficult questions about HIV and other illnesses that are infectious, stigmatized, life threatening, or have difficult treatment regimens, followed by processing of how it felt to be the parent or child; (h) joint construction of a map of HIV-related resources in the neighborhood, accompanied by a local resource guide; and (i) presentation and discussion of laws and best practices concerning privacy, confidentiality, and nondiscrimination.

Only parents had the opportunity to participate in the PATH intervention; however, both parents and their children were assessed for the impact of their parents’ training. This study focuses on the impact of PATH on children’s reported comfort interacting with PLwHIV.

Method

Design

Parents and one child from their family were participants in a random invitation to treatment clinical trial of PATH. Random assignment to the offer of training was determined before entry into the study but was implemented immediately after completion of baseline measures. Randomization was therefore blind to the baseline results. Two-thirds of the parents received the offer of an opportunity to participate in a series of interactive group training sessions that were followed by a parent–child session and by an open-ended group booster session in which parents could discuss real-life HIV-related events and jointly problem-solve about the events with facilitators. Piloting predicted that only about 50% of parents would accept the offer of training; three experimental groups (offered accepted, offered declined, and no offer of training) of approximately equal size would result. Regardless of experimental group assignment, all parents received colorful English and Spanish brochures representing standard information about HIV available in the
community (Krauss, Wolitski, Tross, Corby, & Fishbein, 1999) and covering all aspects of the PATH intervention.

The random invitation design controls for selection biases after study entry (Campbell & Krauss, 1993; Kessler, 1993). Potential participants could choose to decline training, because they felt they already had the necessary information and skills, because they had low motivation for participation or for other reasons. The design allows the investigators to later characterize, and thus statistically control for, any characteristics of those who choose or decline to join the training, based on their baseline assessments. The randomly selected no-offer group, of course, is similarly composed of those who would have been decliners or acceptors.

The random invitation design supports both intention-to-treat analyses (all offered training vs. those not offered) and impact analyses (trained vs. untrained), after assessing whether such a comparison is justifiable or requires statistical covariance or imputation controls, for example, what results likely accepters within the no-offer group would have produced. In this study, because of high rates of acceptance of the offer, 43.28% of parents were offer acceptors, 24.37% were offer decliners, and 32.35% were not offered training. Further, offer accepters, defined as those who attended the first session of training, had the option to decline participation in any subsequent intervention session, thus allowing some determination of dosage effects. The design was implemented with 6-month follow-up as the first follow-up data point. Thus, the aggregate impact of the intervention is evaluated. The design does not support analysis of the unitary effectiveness of each session or of individual exercises within sessions.

Participants and Procedures

Recruitment was conducted at parents’ homes by male–female outreach worker pairs between November 1995 and October 1999. Data for this study were provided by 238 youth, 10–13 years old, whose parents were randomly quota sampled (Kish, 1965) from apartment dwelling units of 10 housing projects on the Lower East Side of New York City. Parents were defined as adults raising a child within their household for 6 months or more who expected to continue in that role for at least a year. This definition includes foster parents, grandparents, and others who perform the parenting role. The quota sampling was designed to form approximately equivalent numbers of mother–son, mother–daughter, father–son, and father–daughter pairs from either two-parent or single-parent households. However, because of the rarity of the father–daughter pair (there are more single mothers than single fathers), in this study, 40.34% of the parents are fathers, whereas 59.66% are mothers. If more than one child was eligible in a family, the recruitment script specified a random selection of the child to be invited. Children include nearly equal percentages of boys and girls (Table I).

Nearly 75% (74.2%) of parents eligible for the study came to a research storefront with their children where they signed informed consent. Their children independently and simultaneously signed informed assent, and both parents and children completed baseline measures. Only 1.1% of the parents recruited refused further participation for their children upon learning more details about the study. The study had approval of the Institutional Review Boards of both National Development and Research Institutes and Hunter College.

The 238 youth whose data are presented here completed both baseline and 6-month measures of attitudes toward, and interactions with, PLwHIV. Six additional youth had incomplete measures at baseline: one participant did not know what HIV was, another’s mother had HIV and the youth indicated that the comfort scale was upsetting, a parent suggested a youth not complete the comfort scale because the child’s brother recently died of HIV/AIDS, and three youth gave incomplete responses.

Characteristics of the youth in each of their parent’s experimental groups are described in Table I. There are no significant differences by parent group assignment.

Measures

The Attitudes and Interactions Questionnaire (A and I) was administered at baseline and at 6-month follow-up in English or Spanish. The A and I is a structured interview, focusing on daily interactions with PLwHIV and perceived comfort in interacting with a PLwHIV. It was co-designed with local youth and community advisory boards and informed by elicitation research with adult and youth community members (Krauss et al., 1997).

The instrument has three sections. The first asks children whether they know “for certain” anyone with HIV. They are then asked how many people with HIV they know, how each person is related to them (e.g., friend, sister, and acquaintance), and whether any of these individuals are deceased. The 6-month measure varies from the baseline measure only in that each child is reminded how many people with HIV they said at baseline that they knew and is then asked for an adjusted estimate. This section is scored for total number of people with HIV known, new people with HIV known, number of people with HIV within each relationship type, number alive and number deceased.
The second section asks about daily interactions with PLwHIV. These activities can be thought of as a social distance scale, varying from intimate activities (“have dinner together,” “kiss,” “hug,” “listen to fears and concerns”) to less intimate activities (e.g., “go to the movies together”). First, the child is asked to think about the PLwHIV with whom they were/are closest. Children rate their degree of closeness to that person (1, stranger to 4, someone you are very close to). They are then asked about whether or not they performed any of 22 daily activities with that PLwHIV in the last 4 weeks. Children have an opportunity to note whether they could or could not interact with the PLwHIV (e.g., were separated by distance, hospitalization, incarceration, or other factors). The scale is scored for closeness to a PLwHIV, opportunity to interact, prevalence of individual activities and total number of activities.

The third section is an interaction comfort scale. Children are asked, “Whether or not you’ve done it, how comfortable would you be if you were involved in the following activities with a person with HIV?” Children rate each of the same 22 daily activities on degree of comfort (1, very uncomfortable to 4, very comfortable). A total comfort score is derived, with a possible range from 22 to 88; higher scores represent greater comfort. Cronbach alpha for the scale is .96 for the total baseline sample of children; all item–total correlations range between .45 and .77; and 6-month test–retest reliability among the 135 children of untrained parents is .59 (p < .001). Because this is an attitudinal scale, we are ascertaining what is perceived as a socially desirable answer as well as getting a self-report on attitudes.

### Intervention

Parents who were offered and accepted training participated in four 3-hour interactive group sessions, each given once a week. Each parent group training session is structured as follows: (a) elicit information and skills from the parents; (b) add new information and skills; (c) practice reasoning and skill application in challenging games and activities; (d) model and encourage reflection on performance; (e) discuss and practice transferring knowledge and skills to children in additional activities; and (f) integrate new information and skills into family life through exercises assigned as homework.

The parent training sessions cover in order: (a) HIV knowledge and youth need for HIV safety skills; (b) child development, parent–child communication, communication about sex, drugs, and HIV; (c) transfer of risk recognition, avoidance, and negotiation skills to the child; and (d) sensitive and safe interaction with PLwHIV. The sessions were co-facilitated by male/female peer/professional teams representative of the community.

The initial parent training is followed by one parent–child session that provides a safe space and an opportunity for an initial in-depth parent–child discussion about HIV and validates the parent’s status as a competent HIV educator. During the session, each parent and child meet alone with a research assistant of the same gender as the child (this research assistant often was the child’s interviewer and thus a person with whom the child would be comfortable), the parent chooses activities from the training or puts together supplementary activities to perform with the child, and the child has an opportunity to

| Table I. Demographic Characteristics of Children at Baseline by Experimental Group |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Child variables                 | Parents offered training        | Parents not offered training (n = 77) | Total (n = 238)                   |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|                                  | Accepted (n = 103)              | Declined (n = 58)               |                                  |                                  |
| Age                             | M 11.56 SD 1.12                 | M 11.55 SD 1.19                 | M 11.55 SD 1.10                 | M 11.55 SD 1.12                 |
| Number of PwHIV known           | 1.35 3.36                       | 0.74 2.13                       | 0.83 1.23                       | 1.03 2.55                       |
| Gender                          | Male 55 53.34 N 25 % 43.10   | Male 43 55.84 N 123 % 51.68      |                                  |                                  |
|                                  | Female 48 46.60 N 33 % 56.90  | Female 34 44.16 N 115 % 48.32    |                                  |                                  |
| Ethnicity                       | African American 35 33.98 N 8 % 13.79 | 17 22.08 N 60 % 25.21 |                                  |                                  |
| Dominica                        | 7 6.79 4 6.90                  | 7 1.30 18 7.56                  |                                  |                                  |
| Latino                          | 56 54.36 41 70.69              | 45 58.44 142 59.66              |                                  |                                  |
| Other/Mixed                     | 5 4.85 5 8.62                  | 8 10.39 18 7.56                  |                                  |                                  |
| Parent gender                   | Male 38 36.89 N 24 % 41.38   | Male 34 44.16 N 96 % 40.34      |                                  |                                  |
|                                  | Female 65 63.11 N 34 % 58.62  | Female 43 55.84 N 142 % 59.66   |                                  |                                  |

The second section asks about daily interactions with PLwHIV. These activities can be thought of as a social distance scale, varying from intimate activities (“have dinner together,” “kiss,” “hug,” “listen to fears and concerns”) to less intimate activities (e.g., “go to the movies together”). First, the child is asked to think about the PLwHIV with whom they were/are closest. Children rate their degree of closeness to that person (1, stranger to 4, someone you are very close to). They are then asked about whether or not they performed any of 22 daily activities with that PLwHIV in the last 4 weeks. Children have an opportunity to note whether they could or could not interact with the PLwHIV (e.g., were separated by distance, hospitalization, incarceration, or other factors). The scale is scored for closeness to a PLwHIV, opportunity to interact, prevalence of individual activities and total number of activities.

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ask any unanswered questions about HIV. The research assistant remains passive during this session.

The parent group meets again after 3 months to discuss real-life situations that have arisen. The purpose of this booster session is to reinforce parents’ coaching, reflection, and support for one another and to underscore continuous learning as new issues and problems arise.

**Analyses**

Analysis of covariance (ANCOVA), corrected for unequal ns per cell, with child’s baseline comfort as a covariate, is used to determine whether children’s attitudes, as represented in the total comfort score of the A and I, differed significantly by parent experimental group assignment (Lindman, 1974). To determine intent-to-treat effects, ANCOVA would be conducted first between scores of those children whose parents were offered training (both offer accepters and offer decliners) and those whose parents were not (no offer). If significant, an ANCOVA among all three experimental groups would be conducted. To determine whether comparisons among scores of children of “trained parents” (offer accepters) versus “untrained parents” (offer declined and no offer) were justifiable, two orthogonal comparisons, adjusted for unequal cell ns, were planned. The first contrast would determine whether the scores of the “trained parent” group (accepters) differed from those of the “untrained parent” group. A second contrast would assess whether children's scores of decliners and no-offer parent groups were similar, that is whether the children of all untrained parents had similar scores.

If the first contrast was significant, an item analysis of the comfort scale for children of trained parents was planned. The analysis would use the sign test for paired rank measures to determine what activities with PLwHIV were perceived as more comfortable by the children at 6 months than at baseline (Pagano, 1981). A similar analysis would be conducted for scores of children of untrained parents.

An additional analysis, hierarchical regression, would ascertain the relationship of attitudinal comfort to number of recent reported activities with a PLwHIV to whom the child was close. Total comfort would be entered after other causally prior predictors, for example, number of persons with HIV known, living or deceased, for those youth who had an opportunity to interact with a PLwHIV (Cohen & Cohen, 1983). The alpha level for significant results was set at .05.

Several analyses would look at how, and for whom, the intervention was effective. A substantial number of youth (46.22%) reported at 6 months that they knew at least one person with HIV, living or deceased, whereas a majority (53.78%) said they knew none. Did the parent training differentially impact the self-reported comfort interacting with PLwHIV of these two groups of children, one group with real-life experience and one without? A two (parent trained vs. parent not trained) by two (child reported they knew at least one person with HIV vs. child did not know anyone with HIV) factorial ANCOVA with child's mean comfort at 6 months as the dependent measure would assess main effects of training, knowing someone with HIV, and their possible interaction. Similarly, a two (parent trained vs. parent not trained) by four (father–son, father–daughter, mother–son, mother–daughter dyad) ANCOVA would determine whether training effects differed by type of parent–child dyad.

Finally, analyses of dosage effects would be conducted, using correlational and analysis of variance techniques. The following questions would be addressed. Was the number of training sessions parents attended related to children’s comfort scores? Did parental attendance in Session 4 (safe and sensitive socializing with PLwHIV), regardless of what additional sessions were attended, impact children's 6-month comfort scores as predicted? Did other training sessions, the parent–child session, or the booster session appear to have an independent impact?

**Results**

Of the 103 parents in the study accepting training, 100% completed Session 1 (HIV knowledge and youth need for HIV safety skills); 95.1% completed Session 2 (child development, parent–child communication, communication about sex, drugs, and HIV); 95.1% completed Session 3 (transfer of risk recognition, avoidance, and negotiation skills to the child); 92.2% completed Session 4 (safe and sensitive interaction with PLwHIV); 78.6% completed the parent–child session; and 56.3% completed the parent discussion booster. Fully, 46.6% completed all six sessions (four group training sessions, parent–child session, and parent discussion booster), 39.8% completed five sessions, 13.6% completed four sessions, and only 6.8% completed fewer than four sessions. The most common reasons for nonattendance were ongoing scheduling difficulties due to parent or child obligations (e.g., mandatory social service or court dates) or extended absence of one member of the parent–child dyad (e.g., child visiting relatives, and parent incarceration). The sessions with the lowest attendance — parent–child and booster session — were perceived by
some parents as “extra” sessions for which attendance was voluntary.

At 6 months, 110 (46.22%) of the 238 children participating were certain they knew at least one person with HIV, living or deceased. A proportion of these persons with HIV were described as age peers (7.28% were sister, brother, cousin, stepsister, boyfriend or girlfriend); 18.77% were described as friends of various ages. On average, these 110 children knew 2.37 persons with HIV each, 26.44% of whom they described as deceased. Children generally described the deceased person with HIV they knew best as someone to whom they were very close (M = 3.72 on a 4-point scale), with similar ratings for the PLwHIV to whom they were closest (M = 3.54). The vast majority (74.78%) of these “closest” persons with HIV, living or deceased, were extended family (e.g., aunts, uncles, and cousins) or family friends (e.g., friend, parent’s friend, and other relative’s friend), whereas 20.87% were immediate family (father, mother, stepparent, brother, and sister), and a few were neighbors or acquaintances (4.35%). About 10 percent (9.6%) of these “closest” persons with HIV were described as age peers (cousin, sister, and brother), whereas an additional 25.22% were described as friends, including age peers, older and younger friends.

Forty-seven (42.73%) of these 110 youth said they knew approximately one to two more persons with HIV, living or deceased, (M = 1.62) at 6 months than they did at baseline, whereas 26 (23.64%) revised their estimate down by an average 2.35 persons with HIV. At 6-month follow-up, neither total number of persons with HIV known, F(2, 235) = 2.51, ns, number of new persons with HIV known, F(2,235 = 1.36, ns, nor closeness to a PLwHIV F(2,78) = 1.19, ns, or a deceased person with HIV, F(2, 39) = .062, ns, varied significantly by the experimental group assignment of the parent.

ANCOVA results however indicate that children’s 6-month total comfort scores did differ by their parents’ experience of the offer of training, F(1, 235) = 5.44, p < .021; B = .46, for baseline total comfort score as a covariate, p < .001). Additionally, although there appears to be an overall secular trend for increased comfort, t_{237} = 4.17, p < .001). Fig. 2 and Table II illustrate that differences in children’s rated comfort interacting with PLwHIV remains significant when the “offer” group is decomposed into parents who accepted training and

Figure 2. Significant changes in mean total comfort interacting with persons living with HIV (PLwHIV) at 6 months after intervention for children of parents accepting training, declining training, and not offered training.
parents who declined, $F(2, 234) = 4.73, p = .01, B = .46$, for baseline total comfort score as a covariate, $p < .001$. Preplanned orthogonal comparisons adjusted for unequal cell ns suggest that, at 6 months, the total comfort scores of children of parent-accepters differ from the total scores of children of all other parents combined—that is the scores of children of “trained” parents differ significantly from those of the children of “untrained” parents, $t(235) = 3.40, p = .001$. Scores of children with parents in the offer-decliner group and in the no-offer group do not significantly differ, $t(235) = -1.28, ns$. No differences in scores by group were present at baseline $t(235) = 1.69, ns$, for contrast 1, trained versus untrained; $t(235) = -1.32, ns$ for contrast 2, decliners versus no offer.

Table III summarizes the results of an item analysis of the comfort scales of children of trained parents. These children increase their comfort ratings significantly from baseline to 6 months on 14 of the 22 daily interaction items. The eight items that did not significantly change were “playing games together,” “shaking hands,” “giving a compliment,” “help him/her fill out forms,” “visit him/her while sick,” “feeding” a PLwHIV, “prepare meals” for a PLwHIV, and “help him/her with household chores.” The majority of these unchanged items appear to be concerned with activities that were rated as highly comfortable at baseline (e.g., shaking hands, $M = 3.50$) or that placed the PLwHIV in a dependent relationship to the child (e.g., feeding). In contrast, the rating of only one of 22 items changed significantly toward more comfort for children of untrained parents: “gone to the movies together” ($z = 2.638, p = .008$, baseline $M = 2.67$, 6-month $M = 3.08$).

Reported comfort, an attitudinal measure, nonetheless may have little or much to do with reported behavior. Fifty-nine youth (24.79% of the current total sample) reported an opportunity to interact recently with a PLwHIV. They performed, on average, 5.49 ($SD = 5.37$) activities with that person. The top six activities in order of prevalence were “hug” (54.2%), “give a compliment to” (52.5%), “kiss” (45.8%), “shake hands” (45.8%), “have dinner together” (39.0%), and “play games together” (35.6%). Additionally, “listen to fears and concerns” (33.9%) and “run errands for” (32.2%) were reported by nearly a third or more of the youth that had an opportunity to interact recently with a PLwHIV.

Bivariate analysis indicated that two experiential variables were strong predictors of number of interactions with a PLwHIV at 6-month follow-up: closeness to that person and number of persons with HIV known, living or deceased. This was true both for baseline, $r(57) = 0.44, p < .005$ for closeness; $r(57) = 0.32, p = .01$ for number of persons with HIV known, and 6-month measures, $r(57) = 0.54, p < .001$ for closeness; $r(57) = 0.30, p = .02$, for number of persons with HIV known. These baseline and 6-month measures were also each significantly intercorrelated, $r(37) = 0.46, p = .004$ for

### Table III. Significant Changes in Interaction Comfort for Children of Trained Parents

<table>
<thead>
<tr>
<th>Item</th>
<th>Baseline mean</th>
<th>6-Month mean</th>
<th>Sign test $z$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared a soda or beverage?</td>
<td>1.89</td>
<td>2.21</td>
<td>2.16</td>
<td>.031</td>
</tr>
<tr>
<td>Kissed?</td>
<td>2.49</td>
<td>2.96</td>
<td>3.78</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Let that person cook dinner for you?</td>
<td>2.64</td>
<td>2.92</td>
<td>2.24</td>
<td>.023</td>
</tr>
<tr>
<td>Helped him/her with washing clothes?</td>
<td>2.92</td>
<td>3.37</td>
<td>2.86</td>
<td>.004</td>
</tr>
<tr>
<td>Let him/her baby-sit you?</td>
<td>2.97</td>
<td>3.26</td>
<td>2.63</td>
<td>.009</td>
</tr>
<tr>
<td>Swam in a pool together?</td>
<td>3.04</td>
<td>3.44</td>
<td>2.74</td>
<td>.006</td>
</tr>
<tr>
<td>Had dinner together?</td>
<td>3.07</td>
<td>3.44</td>
<td>2.12</td>
<td>.034</td>
</tr>
<tr>
<td>Hugged?</td>
<td>3.17</td>
<td>3.52</td>
<td>2.93</td>
<td>.003</td>
</tr>
<tr>
<td>Played one-on-one basketball?</td>
<td>3.36</td>
<td>3.55</td>
<td>2.01</td>
<td>.045</td>
</tr>
<tr>
<td>Went to the movies together?</td>
<td>3.42</td>
<td>3.70</td>
<td>2.01</td>
<td>.045</td>
</tr>
<tr>
<td>Helped him/her with getting their medicine?</td>
<td>3.42</td>
<td>3.75</td>
<td>3.38</td>
<td>.001</td>
</tr>
<tr>
<td>Went with him/her to medical appointments?</td>
<td>3.45</td>
<td>3.63</td>
<td>2.11</td>
<td>.035</td>
</tr>
<tr>
<td>Listened to his/her concerns &amp; fears?</td>
<td>3.52</td>
<td>3.74</td>
<td>2.09</td>
<td>.037</td>
</tr>
<tr>
<td>Helped him/her with running errands?</td>
<td>3.62</td>
<td>3.82</td>
<td>2.94</td>
<td>.003</td>
</tr>
</tbody>
</table>

N=103; 1, “Very Uncomfortable” 4, “Very Comfortable”. Whether you've done it or not, how comfortable would you be if you were involved in the following activities with a person with HIV/AIDS? The sign test is calculated on the prevalence of ties, increases, and decreases in ranks on ranking scales. Means are reported here to aid interpretation.
closeness for the 39 youth who rated a living person as the person with HIV to whom they were closest at both baseline and 6 months; \( r(57) = 0.48, p < .001 \) for the number of persons with HIV known at baseline and 6 months by the 59 youth who recently interacted with a PLwHIV. Because youth at 6 months had adjusted their estimates of the number of persons with HIV that they knew, living or deceased, and their 6-month activities with a PLwHIV referred to the individual they rated for closeness at that time, these two measures were entered as predictors of number of recent interactions even after adjusting for the contribution of closeness to the PLwHIV and number of persons with HIV known, living or deceased.

It may be that knowing a person with HIV moderates the impact of the parent training on children’s comfort for the entire sample. However, results suggest separate main effects of knowing someone with HIV \( F(1, 233) = 5.66, p < .018; \beta = .44 \) for baseline total comfort score as a covariate, \( p < .001 \) and of parent training \( F(1, 233) = 9.04, p = .001 \) but no interaction \( F(1, 233) = .23, \text{ns} \). Figure 3 illustrates these additive effects.

Table IV. Summary of Hierarchical Regression Analysis for Variables Predicting Number of Activities Children Engage in with Persons Living with HIV (PLwHIV) at 6-Month Follow-up (\( N = 59 \))

<table>
<thead>
<tr>
<th>Variable</th>
<th>( B )</th>
<th>SE</th>
<th>( \beta )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well the child knows a PLwHIV</td>
<td>4.35</td>
<td>0.91</td>
<td>.54</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well the child knows a PLwHIV</td>
<td>3.83</td>
<td>0.91</td>
<td>.47</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Number of persons with HIV, living or deceased, that the child has known</td>
<td>.75</td>
<td>0.33</td>
<td>.25</td>
<td>.027</td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well the child knows a PLwHIV</td>
<td>3.71</td>
<td>0.85</td>
<td>.46</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Number of persons with HIV, living or deceased, that the child has known</td>
<td>.66</td>
<td>0.31</td>
<td>.22</td>
<td>.039</td>
</tr>
<tr>
<td>Total comfort score at 6 months</td>
<td>.12</td>
<td>0.04</td>
<td>.30</td>
<td>.005</td>
</tr>
</tbody>
</table>

Adjusted \( R^2 = .28 \) for Step 1; adjusted \( R^2 = .32 \) for Step 2; adjusted \( R^2 = .40 \) for Step 3 \( (p < .0001) \).

Figure 3. Additive effects of knowing someone with HIV and having a parent participate in PATH training on children’s mean total comfort interacting with persons with HIV at 6 months after intervention.
A similar analysis indicates that the parent training had similar effects on children's total comfort scores across all types of parent–child dyads, with a significant main effect for parent training, $F(1, 229) = 9.54, p = .002; B = .46$ for baseline comfort, $p < .001$, but no main effect for type of parent–child dyad, $F(3, 229) = .34, ns$, nor for the interaction of training and type of parent–child dyad, $F(3, 229) = .32, ns$.

Finally, given the limitations of the study in assessing effects of curriculum components, what aspect of the training was effective? Did Session 4, designed to enhance information, attitudes and skills that would lead to more comfortable interaction with PLwHIV, have its desired effect? One-way analysis of variance (ANOVA), contrasting the 6-month scores of those who did and did not attend this session across all experimental groups, suggests an affirmative answer: Mean comfort scores were 76.78 ($SD = 12.92$) for the children of Session 4 attendees and significantly lower, 69.98 ($SD = 16.50$), for the children of parents who did not attend $F(1, 236) = 12.65, p < .0001$. But attendance at Session 4 is intercorrelated with attendance at other sessions (all trained parents attended Session 1, $r(101) = .78$ for Session 2, .78 for Session 3, .56 for the parent–child session, and .18 for the parent discussion booster, all but the latter significant at $p < .0001$), and thus the unitary impact of Session 4 cannot be assessed. Unsurprisingly, across the entire parent sample, attendance at Sessions 1, 2 or 3, the parent–child session, and the parent discussion booster also had similarly significant one-way ANOVA results ($p$ values ranged from .002 to $<.0001$) for child's mean comfort. Overall, number of sessions attended (of Sessions 1 through 4, parent child session, parent discussion booster) was significantly associated with child comfort scores, $r(236) = .23, p < .0001$. Yet, the most parsimonious model for prediction of children’s comfort scores from parent trainings attended included only Session 4 (safe and sensitive socializing with PLwHIV), Session 3 (parental communication and support of children's risk avoidance, risk reduction, and risk negotiation skills) and the parent discussion booster session (processing of recent real-life events with a facilitator and group members), $F(3, 234) = 7.40, p < .0001$, adjusted $R^2 = .08$. In this equation, the booster session remains the only significant element ($t = 2.31, p < .02$). Although these results may be substantive and suggest the importance of processing life events in communicating to children and ensuring their comfort in daily interactions with PLwHIV, they may also be an artifact of the tendency of certain types of parental participants to “stay through” the later sessions. Ninety-five of the original 103 trained parents attended Session 4. These Session 4 attendees also completed Sessions 1 through 3, with 48 (50.5%) completing both the parent–child and booster sessions, 33 (34.7%) the parent–child session only, 8 (8.4%) the booster only, and only 6 (6.3%) failing to complete a parent–child or booster session.

Additional analyses suggest the importance of parents not just “being comfortable themselves,” but “communicating comfort to their children,” in increasing children's comfort interacting with PLwHIV. Parent and child baseline and 6-month follow-up total comfort scores for the 226 parent–child pairs with completed instruments were examined: first, to see whether parent scores on total attitudinal comfort increased and, second, to examine correlations of parent and child scores. As expected, at follow-up, the scores of trained parents were significantly higher on their 26-item comfort measure than those of offer decliner and parents who received no offer of training, $F(2, 222) = 4.12, p = .017, B = .49$ for baseline total comfort score as a covariate, $p < .001$. There were no differences between parent scores by groups at baseline $F(2, 223) = 1.56, ns, M = 90.29$. Planned orthogonal contrasts indicate higher comfort scores only among trained parents at 6 months ($t = 2.56, p = .011, M = 96.87$ for trained parents, whereas $M = 91.59$ and $M = 91.83$ for offer decliners and no offers, respectively). At baseline, before any parents were trained, the overall correlation between parent and child comfort scores was statistically significant but small $r(224) = 0.19, p = .005$, suggesting only 3.6% shared variance and little communication of comfort within households. At 6 months, the correlation among untrained parents’ and their children's total comfort scores is nonsignificant, $r(124) = .08, ns$, whereas the similar correlation for trained parents and their children is now moderate and significant, $r(98) = .30, p = .003$. These correlations are significantly different ($z = 2.23, p = .025$; Blalock, 1972) suggesting that, after training, comfort in interacting with PLwHIV is being communicated within trained parents’ households between parent and child.

**Discussion**

An intervention aimed at parents significantly impacts the reported comfort of children in interacting with PLwHIV. This impact occurs regardless of the type of parent–child dyad (father–son, father–daughter, mother–son, mother–daughter) and regardless of whether or not the child had previously known anyone with HIV. In fact, effects of knowing someone with HIV and having a parent trained appear to be additive. Parent training is...
accompanied by heightened correlations between parent and child comfort scores, suggesting greater communication of comfort within households.

In a high HIV seroprevalence neighborhood (>10%), just under half of 10–13-year-old children are sure they know multiple persons with HIV, over one-fourth of whom are deceased. The vast majority of persons with HIV known, living or deceased, are extended family, family friends, or friends. Those that know a PLwHIV are likely to engage in multiple daily activities with that person.

Although children report at baseline that they are somewhat comfortable interacting with PLwHIV, whether they know a PLwHIV or not, comfort significantly increases in many areas for children of trained parents at 6 months after intervention. The intervention appears to affect prevalent activities (e.g., “hugged”) and intimate activities (e.g., “let that person prepare dinner for you”), whereas comfort does not significantly increase for a few activities that were highly comfortable at baseline (e.g., “shake hands”) or that place the PLwHIV in a dependent relationship to the child (e.g., “feed,” “prepare meals for” the PLwHIV).

For the subsample of youth who interacted with a PLwHIV in the 4 weeks before 6-month assessment, total comfort, alongside-rated closeness to that person, and number of persons with HIV known, living or deceased, adds significantly to the prediction of number of reported activities with that PLwHIV. Rated comfort contributes twice the variance of the number of persons with HIV known, living or deceased. These suggestive results imply that the expectation of emotional ease in interacting with a PLwHIV may be as important as quantity of experiences with persons with HIV in reducing social isolation and stigma for PLwHIV.

Attitudes and behavior often interact in a complex fashion: more positive attitudes lead to less behavioral avoidance, more positive experiences lead to improved attitudes, improved attitudes may encourage approach by a PLwHIV. Thus, we do not know the extent to which anticipated comfort in interaction, closeness to a PLwHIV or having known a number of persons with HIV are causally prior in increasing reported interaction. Or, alternatively, opportunities for interaction create comfort. This study suggests, from their independent contribution to number of activities reported, that closeness, comfort, and experience knowing persons with HIV may each be important factors in decreasing the social isolation of PLwHIV. Anecdotally, trained parents told us stories such as the following: “I’ve introduced my child to his uncle with HIV now. He never knew him before.”

Results also indicated a secular trend. There is a significant increase in all children’s comfort scores over time. An additional measure—sources of information about HIV—allowed us to conduct a post hoc test of two hypotheses: that coming to the study or taking the baseline measures may have instigated (a) more discussion between parents and children or (b) more information search among parents. The Sources of Information measure is a simple one: it lists 47 media, interpersonal or community resources for HIV information (Krauss, Goldsamt, Bula et al., 2000; Krauss et al., 1999). The respondents check whether or not they have gotten HIV information from that source and, if they have, the respondents rate the usefulness of the source to them. At baseline, “talking about PATH” was included as one of the potential sources. More than 20% of parents (20.7%) marked this as a source at baseline and rated its usefulness, on average, as very useful (M = 1.3 on 3-point scale with 1, very useful and 3, not useful at all), indicating that preparing to come to PATH with their child, sign consent and do baselines had evidently opened some conversations already. By 6 months, the proportion of parents “talking about PATH” rose to 46.0%, whereas ratings of usefulness stayed consistently high.

Further, the number of sources of information could be counted and their distribution described. At baseline, parents’ use of sources neatly fell into equal thirds: those accessing 0–6 sources, 7–12 sources, and 13 or more sources. Substantially more parents, regardless of experimental group assignment, indicated they used a moderate number of sources at 6 months than at baseline, whereas the 13+ category remained unchanged and the 0–6 category dropped [chi-squared(2) = 6.42, p < .01]. The baseline questions may have challenged the parents and instigated an information search. In another study (Krauss, Goldsamt, Bula et al., 2000), using the Solomon experimental group design that varies whether or not respondents receive baselines before exposure to experimental and control conditions, similar information search effects were found. It could be determined that information source increases took place only after exposure to baselines, and that baseline exposure was as important to outcomes as a brief intervention in that study. In this study, an additional source of information available to all parents at 6 months was the PATH information packet. Across the board, nearly 70% (69.7%) of parents said they used this source and rated it as highly useful (M = 1.1). However, utilization differed by experimental group, with more trained parents (76%) and more no-offer parents (71%) endorsing using the packet than offer decliners (57%) (z = 2.44, p < .01, for significance of difference
between proportions for trained and decliner parents; \( z = 1.75, p < .05 \), for significance of difference between proportions for no-offer and decliner parents).

Other mechanisms, measured in the larger PATH study, may also influence attitudinal comfort. A presentation on preliminary findings (Krauss, Godfrey, O’Day, Pride, & Donaire, 2002) has led to a manuscript in preparation about the role of increased HIV knowledge in reducing children’s unrealistic and controllable HIV-related worries. Such worries undoubtedly contribute to reduced attitudinal comfort. One of the foremost worries among these children is “someone I know has HIV and hasn’t told me.” Some children revised down the estimate of the number of persons with HIV they thought they knew between baseline and 6 months. Many told us that they were relieved to learn that some relatives they suspected had HIV did not have it.

We have also collected data on the child’s perception of the content and style of their parent’s communication about HIV. Preliminary work (Godfrey, Krauss, & Davis, 2000) suggests that effective parental conversations are accurate in their facts, acknowledge emotions, are grounded in the child’s life experience, and provide reasons, means, or mode for appropriate behavior. In fact, an effective conversation suggested the title of this article: "You can only get HIV through blood to blood contact, or through some other body fluids we can talk about, mostly through sex or drugs. It’s not easy to get. When your uncle comes to dinner tonight, it’s OK to hug him."

This study, although not designed for analysis of individual components of intervention, suggests the importance of discussing and processing complex life events and of communicating adult comfort to children. Again, this finding may be an artifact of self-selection—these very curricular units were located as sessions 3, 4, and 6 in a six-session series. But the findings bear investigation and replication.

Finally, attendance figures suggest that the intervention was highly acceptable to the community, a community that helped co-design the study. Community work is not without its difficulties, however. Communities change. PATH had to deal with NYC policies about increased policing, the introduction of welfare-to-work programs, and the World Trade Center disaster within blocks of the housing projects where PATH parents and children live. New funded work looks at the multiple challenges faced by families and their joint effects on mental health outcomes, and new funding will allow us to study long-term effects of the PATH intervention to ascertain whether effects persist into subsequent waves of data collection and across these challenges.

The implications of this study for health care settings are numerous. Youths need to be involved in the discussions about health threats that affect their families and social networks. Parents or other adults who care, with appropriate communication, information and interaction skills, can be effective educators in these situations. Time needs to be spent processing the complex health issues that arise in daily life not only to provide correct information but also to ensure it is enacted safely and sensitively. Several modes of intervention are possible: offering the PATH intervention as an auxiliary service for caregivers, not only for HIV but also adapted for other conditions; or applying the principles of PATH in extended office visits, with the primary health provider and other health personnel sharing in teaching information, communication, and interaction skills, and addressing the stigmatization that often accompanies having an illness.

Limitations of the Study

This study was not designed to assess the impact of individual curricular units or their component exercises. More frequent measures, after exercises or after each curricular unit, would have been necessary.

Only 7% (across the entire sample of children) of persons with HIV known and about 10% (among the persons with HIV to whom the children were closest) could be identified as age peers. This small number precluded analyses that might have identified special issues for children interacting with children with HIV.

Of course, the data here is based on self-report rather than observation; however, the data consistently indicate a change in attitude, even if only about what is considered socially desirable.

The lives of the families in our studies are complex. They experience not only HIV but other prevalent illnesses (e.g., asthma), and losses not only because of illnesses but also because of the World Trade Center disaster and community violence. Measures at baseline and 6 months in this study did not capture the contribution of these additional challenges to attitudinal comfort in dealing with HIV. In later waves of data and in some other studies in the Lower East Side, we have added measures concerning additional health threats.

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We dedicate this article to Don Campbell and to Edna Bula, a former interviewer and field supervisor for this project. Their lives were a comfort to us all.

References


Notes

1 The manuscript refers to people with HIV, both living and deceased. In the manuscript, PLwHIV has been reserved for those living with HIV. About one-third of the people with HIV that the children know are deceased. The phrase “people (or persons) with HIV, living or deceased,” is used when referring to all the people with HIV that the children know.

2 The original baseline sample for this study was 375 parents and 375 children. Sixty-five pairs of questionnaires were destroyed in the World Trade Center disaster of September 11, 2001. Data from an additional 33 parent-child pairs were lost to follow-up, and 33 were unavailable, that is, deceased or moved out of the greater NYC metropolitan area. Thus the follow-up rates at 6 months are 78.71% of all baselines (244 of 310), or 88.09% of available baselines (244 of 277). There are no apparent biases by housing project, parent or child gender, or treatment condition for the losses of 6-month data.