Published in final edited form as:

Health Educ Behav. 2013 April ; 40(2): 223–230. doi:10.1177/1090198112447616.

What Makes or Breaks Provider–Researcher Collaborations in HIV Research? A Mixed Method Analysis of Providers' Willingness to Partner

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Abstract

Research is lacking about what makes or breaks collaboration between researchers and HIV services providers. This study identified factors that influence providers' levels of willingness to collaborate in HIV prevention scientific research. Survey measures were grounded in in-depth interview data and included providers' "willingness to collaborate," and providers' attitudes toward researchers' availability, benefits of research, and agency preparedness. This survey was administered to 141 providers in New York City. A hierarchical regression model showed that providers' perceptions of researchers' availability ($p < .05$), research benefits ($p < .001$), and agency preparedness ($p < .05$) were associated with providers' willingness to engage with researchers to purse HIV prevention research. Findings indicate that researchers need to be socially and professionally available, future HIV research should benefit providers and consumers, and policy makers should help agency settings develop human and financial resources in preparation for research.

Keywords

HIV prevention; provider–researcher partnership; research collaboration

To bridge HIV research to practice, researchers have engaged in "research collaboration" with HIV service providers—case managers, health educators, and counseling and program coordinating staff. Research collaboration represents partnerships between researchers and individuals (e.g., community members and services providers) willing to integrate diverse knowledge and priorities with agreed-on research aims (Claiborne & Lawson, 2005; Israel, Schulz, Parker, & Becker, 1998; Lasker, Weiss, & Miller, 2001). Regrettably, providers' views about collaboration have often been dismissed and received cursory treatment in the literature. To help close this gap, the "Working Together" Conference was organized in New York City, an epicenter of the HIV epidemic, where minority racial and ethnic communities have been disproportionately affected. The purpose of the conference was to bring providers' opinions and ideas to light. More than 100 providers attended the conference. Working in small groups, they identified, as a research priority, the systematization of factors that influenced their collaboration in research. The study presented here was conducted in response to their recommendation; however, a separate cohort of HIV service providers ("providers") was recruited from 24 agencies in New York City.

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Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Providers and researchers collaborate by contributing diverse knowledge and skill sets and by sharing research tasks (Harper et al., 2004; McKay & Paikoff, 2007; Minkler & Wallerstein, 2003; Pinto, McKay, & Escobar-Chavez, 2008; Suarez-Balcazar, Harper, & Lewis, 2005). Provider–researcher collaboration is the most influential factor determining providers' use of research findings in practice (Innvaer, Vist, Trommald, & Oxman, 2002; Ouimet, Landry, Amara, & Belkhodja, 2006; Pinto, Yu, Spector, Gorroochurn, & McCarty, 2010). Nevertheless, provider–researcher collaboration remains limited because there are many challenges in establishing and maintaining collaborative relationships (Gagliardi, Fraser, Wright, Lemieux-Charles, & Davis, 2008).

Challenges to collaboration include providers' lack of time to engage in research, lack of organizational resources, and social and professional differences between providers and researchers, including training and occupation. More specifically, community-based organizations (CBOs) typically have high turnover rates among staff, making it difficult for researchers to sustain relationships with providers over time (Baumbusch et al., 2008). CBOs are often limited in their abilities to conduct research because of funding constraints. Providers in these CBOs are seldom available to partner with researchers because they often perform multiple practice-related duties. Many of these providers are supervised by managers who may not support research because research is time-consuming and may be burdensome to providers. These issues create a disconnection between research and practice which may hamper provider–researcher collaboration. Disconnections between research and practice may also develop when providers perceive that the goals of researchers are not aligned with CBO needs or interests. Moreover, researchers' social manners and/or difficulties in addressing issues of power, privilege, and trust may also discourage providers from becoming involved in research (Wallerstein, 1999).

Social Science and Research Collaboration

The sociological concept of “balance and coordination” of knowledge and skills establishes a theoretical link between researchers in large organizations and providers in CBOs. Theory of balance and coordination (Litwak, Meyer, & Hollister, 1977) suggests that distinct organizations complement each other's strengths and needs. Whereas universities contribute research infrastructure and funding, CBOs are ideal for recruiting research participants, implementing interventions, and disseminating tested services. Similarly, complementary knowledge and skill sets bring providers and researchers together. Balance and coordination are achieved by integrating providers' professional training with researchers' scientific knowledge, engaging both parties to write proposals, specify aims, collect data, recruit participants, analyze data, and write and present results. Whereas researchers may be best equipped to develop scientific methods, raise funds, and analyze data, providers may be better able to prioritize aims that have direct implications for practice and to deliver tested interventions. Providers' willingness to partner with researchers is also firmly grounded in reasoned action and planned behavior theories (Ajzen, 1991; Ajzen & Fishbein, 1980). These theories compliment theory of balance and coordination by outlining cognitive constructs hypothesized to influence providers' willingness to collaborate, such as providers' perceptions about research collaboration, benefits of research, and their CBOs' preparedness to engage in research.

Personal and Interpersonal Influences on Research Collaboration

Collaboration involves multiple individuals whose personalities and social behaviors vary. Collaboration often occurs between individuals who are racially, socially, and professionally diverse. Researchers are often perceived by providers as being privileged because of their educational attainment or social class (Stoecker, 1999; Wallerstein, 1999). This may discourage providers from trusting researchers or may foster animosity if researchers are not adept at addressing issues of trust candidly. These differences must be overcome for providers and researchers to establish equitable and trusting partnerships (Gomez & Goldstein, 1996). A lack of a common vision between researchers and providers has been a barrier to collaboration (Denis, Lehoux, Hivon, & Champagne, 2003). Personal characteristics and a wish to learn research methods may influence the degree to which community partners will engage with researchers (McKleroy et al., 2006), as well as researchers' availability to their partners (Abramson & Mizrahi, 1996; Pinto et al., 2008; Ross, Lavis, & Rodriguez, 2003).

Researchers who are available, return phone calls, attend staff meetings, and display a genuine regard for providers stimulate providers' willingness to collaborate (Lantz, Viruell-Fuentes, Israel, Softley, & Guzman, 2001; Pinto, 2009). How research partners relate to one another socially and professionally, how they specify research questions, and how they wish to share research findings may influence collaborations. Researchers who specify research questions by consulting providers can gain further support by demonstrating their commitment to benefiting providers, as well as openness to being taught by providers. This can thus shift some power toward providers. Furthermore, CBOs' lack of resources and researchers' inability to provide technical assistance to providers may negatively affect the quality of collaboration (Dovidio et al., 2008; Durlak & DuPre, 2008; Innvaer et al., 2002; Kegeles, Rebchook, & Tebbetts, 2005). Researchers may provide technical assistance to providers by assisting them in grant writing, learning new treatment techniques, and building capacity to do their own research.

Though factors influencing provider–researcher collaboration have been described in the literature, inferential research in this area has been limited. One key reason for this gap is that "collaboration" has been defined and measured inconsistently and seldom from the perspective of providers. In order to demonstrate empirically what makes or breaks collaboration, there remains a need to use provider-level data. This knowledge is necessary for identifying modifiable factors that can be used to facilitate the replication of productive collaborations. The objective of this study is thus to identify factors that providers prioritize in determining their willingness to collaborate in research. This article provides a theoretically and empirically informed measure of collaboration, factors that influence providers' willingness to collaborate, and practice and policy recommendations to help researchers sustain partnerships that may improve the transportability of research to practice.

Method

Overview of the Study

Approval for this research was received from Columbia University Institutional Review Board. This research included a qualitative component, published elsewhere (Pinto, 2009), which served as background for the present quantitative component and included in-depth interviews with providers ($n = 20$) experienced in HIV research collaborations. In-depth interview data informed development of the multidimensional survey used in the current study to capture factors that influence collaborations. To integrate practice wisdom with scientific knowledge, the study's principal investigator partnered with six providers. These providers were members of the Community Collaborative Board led by the author (Pinto, Spector, & Valera, 2011) and they worked in CBOs that participated in this research. Partnering providers had degrees in social work, nursing, and public health; they assisted in refining interview protocols and study measures, collecting, coding, analyzing, and interpreting data. Relying on their expertise has ensured mutual creation of knowledge (Creswell, 2009) and enhanced interpretive clarity (Coreil, 1995).

Data Collection

A total of 24 CBOs were randomly selected among those funded by New York City Department of Health and Mental Hygiene. This study was conducted to examine several inter-related research questions. The designed total sample ($n = 141$) provided sufficient power to pursue the current research question. MacCallum, Browne, and Sugawara (1996) procedure was used for computing sample size and power on the basis of the root mean square error, aiming to achieve 80% power for the hypotheses at a nominal alpha of .05. Once the designed sample of 141 was reached, recruitment stopped. CBOs were randomly selected and providers within CBOs (4-12 per CBO) volunteered to participate. Providers included supervision, counseling, education, and program-coordinating staffs.

Organizational Survey—Executive directors (EDs) or other high-level administrators completed a 15- to 20-minute self-administered, computer-assisted organizational survey. Once EDs agreed to participate, they received a brochure detailing the study's protocols, eligibility criteria, and compensation. EDs assisted in recruiting providers by announcing the study in agency meetings and by posting flyers. Each CBO received $100 compensation for providing private space for the interviews.

Provider Survey—Provider surveys were administered by trained partnering providers. Interviews lasted 45 to 75 minutes. Providers received $20 compensation for their contributions.

Survey Administration—Password-protected mobile computers were used by interviewers to administer the surveys and to download the survey into a password-protected database, DatStat Illume 4.6, used to design and revise the survey, and manage the data (DATSTAT Illume, 1997). All data were kept in password-secured computer files, to which only relevant personnel had access.

With IRB approval, administrators and providers received an Information Sheet outlining study requirements, risks, and content.

Measures

Organizational Survey—The organizational survey consisted of 35 items about funding, services available to clients, and CBOs' previous research involvement used to describe the sample of CBOs.

Provider Survey—Data from in-depth interviews with providers ($n = 20$) guided the development of a multidimensional survey capturing factors that influence collaborations (Rea & Parker, 1997). Data saturation—no more themes emerged from the data—occurred after 16 providers had been interviewed. Saturation was confirmed by analyzing data from another four providers. (For more details, see Pinto, 2009). The survey consisted of 157 questions about demographic characteristics, work- and research-related experiences, opinions and attitudes about scientific research and provider–researcher collaboration, and provider training needs. Ten variables about provider–researcher collaboration derived directly from in-depth interview data, and these were used in the current study. These variables tapped influences on providers' willingness to engage in collaboration. Survey statements were worded to preserve the specificity of the domains identified in 20 in-depth interviews. The provider survey was pilot-tested in a sample of six additional providers. Their input on issues of clarity, comprehensiveness, and acceptability was used to refine survey questions and to modify the order of the questions.

Outcome: Provider willingness to collaborate—Guided by indepth interview data, a depiction of a collaborative approach to research was created:

> In this HIV research project, the researcher and CBO providers together will define the main objective, methods, and procedures. They will together implement the study and analyze and interpret the data collected. They will—to the degree possible—jointly disseminate results via scientific journals and conferences. They will also jointly disseminate results via community-based publications and conferences.

Providers were asked to use a 5-point Likert-type scale (1 = *not inclined*; 5 = *very inclined*) to assess their willingness to engage in the project depicted above. Using this description improved the reliability of the measure by directing providers to focus on a theoretically informed characterization of collaboration grounded in key informants' data.

Independent Variables—The 10 items used in this study tapped aspects of collaboration specified by providers in their in-depth interviews. These items were used to create three distinct constructs that matched the domains identified by providers. Constructs were created in collaboration with six partnering providers described above, thus adding further relevance and face validity to the constructs. How each grouping of items taps into each construct is described below.

Researchers' availability—In-depth interview data revealed that providers perceived provider–researcher collaboration as successful when researchers related socially and professionally to providers, and when researchers were experts in an area of interest (e.g., HIV prevention) to providers and were also available to train providers in that area of expertise.

Benefits of research—Providers stated that their willingness to collaborate with researchers was enhanced when the research improved provider knowledge base and HIV services delivered in CBOs, and enhanced research participants' lives.

CBO preparedness—Preparedness questions related to providers' perceptions that collaboration was influenced by CBO-related factors, including time and human resources, physical accommodation, and funding earmarked for research.

Ten questions were asked about provider willingness to collaborate in HIV prevention research, all coded on a 6-point Likert-type scale (1 = *strongly disagree*; 6 = *strongly agree*). To confirm the best set of items to represent each of the three domains, an exploratory principal components factor analysis was conducted with varimax rotation and assessment of Cronbach's alpha. Items and estimated factor loadings appear in Table 1. *Researchers' availability* included three items (range = 0-18; Cronbach's $\alpha = .63$). *Research benefits* included four items (range = 0-24; Cronbach's $\alpha = .60$). *CBO preparedness* included three items (range = 0-18; Cronbach's $\alpha = .73$). Cronbach's alpha values, ranging from .60 to .70, are not uncommon in behavioral sciences and in some circumstances are considered "reasonably good" (Cohen & Cohen, 1983, p. 70). Since this is the first study of its kind using newly developed measures, it is realistic to assume that these values are "reasonably good."

Control Variables—Participants' *ages* were measured in years. *Race/ethnicity* included four categories: White, African American, Latinos/as, and "Others." *Gender* was categorized as male or female. *Education* included high school, associate's, bachelor's, and master's degrees.

Data Analysis

DatStat Illume 4.6 does not allow research participants to move from one question to another until the current question is answered. Therefore, there was no need to impute missing data. All analyses were conducted using SAS 9.1 (SAS Institute, 1999). The regression procedure (PROC REG) was used to analyze the data.

A hierarchical multiple regression was conducted to evaluate the relationship between a set of independent variables and providers' willingness to collaborate in research. The regression assessed the effect of the more distal constructs while controlling for confounding effects from more proximal constructs. In the first stage, demographic variables, proximal, and nonmodifiable characteristics, were entered. In subsequent stages, modifiable attitudinal variables were entered. The order in which blocks were entered into this regression reflected the order, from proximal to distal variables, suggested by providers' in-depth interviews described above.

Data from providers in the same CBOs tended to cluster around the outcome variable. Therefore, a linear mixed model was fit with a random intercept for CBO with a compound symmetry covariance structure to account for clustering of providers within CBOs (Cannon, Warner, Taddei, & Kleinbaum, 2001). Because it is difficult to determine how previous collaboration and willingness to collaborate influence one another, "research experience" (measured in two different ways) was tested in two regression models. It was not related to the outcome. With this additional knowledge, a more parsimonious model (Kleinbaum, Kupper, Muller, & Nizam, 1998), without research experience, is provided below.

Results

CBO Characteristics

Seventeen CBOs had budgets above $1 million, four between $500,000 and $1 million, and three below $1 million. One third employed more than 100 staff, one third between 26 and 100, and a third 25 or fewer. The number of staff per CBO ranged from fewer than 25 (in seven CBOs) to more than 100 (in eight CBOs). The number of volunteers per CBO ranged from fewer than 10 (in 11 CBOs) to 75 (in 1 CBO). The number of research projects with which CBOs had been involved ranged from 1 to 10 ($M = 4$, $SD = 3$). Researchers with whom CBOs collaborated were academic faculty, medical doctors, or doctors of philosophy mainly in public health, social work, and psychology.

Sample Characteristics

Of the 141 providers in this study, 43 (31%) had experience in direct service and supervision of case managers, health educators, and counseling staff. Forty (28%) comprised the counseling staff (e.g., social workers), 37 (26%) the education staff (e.g., peer educators), and 21 (15%) the program coordinating staff (e.g., prevention program coordinators). Sixty-five percent were males. The sample was ethnically/racially diverse: 50 providers were African American, 36 White, 33 Hispanic/Latino(a), and 22 "Others"—American Indian/Alaskan Native ($n = 2$), Asian/Asian-Pacific Islander/South ($n = 7$), Bi-/Multiracial ($n = 7$), Middle Eastern ($n = 1$), and "Unknown" ($n = 5$). The mean age of participants was 39 years ($SD = 13$). Forty-nine participants had master's degrees, 41 had bachelor's degrees, 20 had associate's degrees, and 31 had high school diplomas. Participants had been employed from 1 to 19 years ($M = 2.5$, $SD = 3.4$) by the same CBO. Ninety percent of respondents had been previously involved in at least one HIV research project. Research tasks performed in these projects varied from recruitment of participants to data collection to implementation of interventions.

Hierarchical Regression

Four blocks of variables were entered into the hierarchical multiple regression analysis. The first block consisted of control variables. The second block consisted of researchers' availability, the third of research benefits, and the fourth of CBO preparedness. Table 2 presents influences to willingness to collaborate after controlling for sociodemographic variables. The first step of the model accounted for 7.4% of variance in providers' willingness to collaborate, the second step for 3.0%, the third step for 8.1%, and the fourth step for 2.2%. The adjusted R^2 for the model was .169. Of sociodemographic variables, only gender ($p < .01$) was significantly related to providers' willingness. Researchers' availability ($p < .05$), benefits of research ($p < .001$), and CBO preparedness ($p < .05$) were significantly associated with providers' willingness.

Discussion

Grounded in providers' in-depth interviews, survey questions about factors that influenced their willingness to collaborate were identified. Composites were created with these survey items and used in a hierarchical regression. Among demographic variables, the findings revealed that women were significantly more willing to collaborate in research. Future research will be needed to explore if other gender-related variables may influence women providers' involvement in research. Future research should explore what inspires women's willingness to collaborate compared with men. Variables of interest may include gender-based roles women play at work and both facilitators and barriers to women's professional development.

Previous research has *described* factors that influence collaboration (Dovidio et al., 2008; Durlak & DuPre, 2008; Fadem et al., 2003; Grant et al., 2008; Kegeles et al., 2005; Wandersman et al., 2008). The current study takes us a step further by demonstrating the extent to which providerinformed factors can *explain* the variance in their willingness to collaborate. Future longitudinal studies with larger samples will be needed to demonstrate how collaboration can be predicted. However, this study showed that collaboration was related to providers' perceptions that researchers need to be socially and professionally available to them; that HIV research should benefit providers, service consumers, and CBOs; and that CBOs need to develop human and financial resources in preparation for research. Providers' perception of who should benefit from research explained the most variance in the outcome and may be, therefore, the most important factor in providers' decision to collaborate. Another important component to researcher–provider collaboration is the fact that many universities lack research-related resources and may be struggling for funding (Bhattacharjee, 2006). Researchers in these universities may be less able to maintain collaborative partnerships.

Prior involvement in research was not associated with the outcome. This can be partly explained by the fact that most participants had been involved in at least one research project. Providers in this study had more research-related experience than might be expected in samples of providers offering services that focus on diseases and conditions other than HIV/AIDS. HIV providers may not necessarily be representative of all types of providers. However, because they offer diverse services (e.g., substance abuse treatment) to populations with multiple health-related issues, these findings indeed concern a group of providers whose willingness to collaborate may also reflect other providers.

The literature suggests that CBOs that are supportive and/or involved in collaborations may attract and/or influence positively their provider's willingness to participate in research. When providers perceive research as valued by their CBOs and such CBOs offer paid opportunities for providers to conduct research, it is expected that such providers would be more willing to engage in research. Nonetheless, not all CBOs are supportive of or equipped to conduct research. Future research will need to focus on CBO-level factors influencing providers' willingness to collaborate. Issues of interest should include whether CBOs have established relationships with universities and in-house research departments. A promising line of inquiry would include these issues and measures to unearth the role of organizational culture on providers' willingness to collaborate.

Implications for Practice and Policy

This study followed a recommendation made by providers who participated in the "Working Together" Conference. Having six providers as research partners created a parallel process of collaboration. This partnership lent credibility and relevance to this study. Therefore, it is recommended that robust partnerships be formed between researchers and HIV service providers and that providers be involved in all phases of research. The results suggest that in order to engage providers, researchers will need to be available to them and offer training in research methods and HIV education. It is recommended that researchers be honest about their availability vis-à-vis teaching and service assignments.

Because collaboration often involves racially, socially, and professionally diverse partners, it is imperative that differences be explicitly discussed so as to arrive at an understanding about how research-related resources and tasks will be distributed. Researchers ought to integrate teaching, service, and research, and extend their teaching to providers. To engage providers, it is recommended that researchers focus on improving research participants' lives, providers' knowledge bases, and CBO services. Most research is conducted to fulfill these needs; nonetheless, researchers should make this explicit to providers, orally and in writing, and should demonstrate with facts and data how they are achieving this objective. Policy makers and researchers should help CBOs develop human resources, physical space, and funding for research.

Limitations

The main strength of this study was a survey grounded in providers' in-depth interview data. Having a theory to guide the study was also an important strength in contrast to previous studies lacking a theoretical base and having inadequate collaboration-related measures. However, the outcome variable was based on response to a single item eliciting providers' opinions about a specified scenario of provider–researcher collaboration. Future studies should therefore address providers' willingness to engage in research across a range of scenarios encompassing different types and degrees of collaboration. Moreover, the outcome measure could have been more specific. Research-related tasks that providers may share with researchers vary widely. Therefore, future studies should explore how having experience with different types of research tasks may influence providers' willingness to collaborate.

Cronbach's alpha values for the independent variables ranged from .60 to .70. This represents a limitation of the study that will be addressed over time as the constructs used here are tested in future studies with larger samples of different types of providers. The hierarchical model accounted for a small percentage of the variance in the outcome variable (adjusted $R^2 = .17$). Although key predictors were significant, together they represented a small proportion of the variance in providers' willingness to collaborate. However, this study being the first to measure these concepts, future studies will build on these findings and unearth other factors that influence providers' willingness to collaborate.

The cross-sectional design was also a limitation. A longitudinal study would allow for following cohorts of providers who, over time, are expected to accumulate different levels of experience in research. A longitudinal design, a sample of providers with more varied research experiences, and better measurements of "research experience" might yield a significant relationship between research experience and willingness to collaborate; something this study was not able to accomplish. This study showed that providers' perceptions about their CBOs influence their willingness to collaborate. Therefore, future studies should further examine the impact of CBO-level variables on providers' opinions and attitudes about research. It is also recommended that future research identify factors that may further explain the variance in providers' willingness to collaborate. These variables may include specific interpersonal aspects of the collaborative relationship that were not captured by the survey used.

This study's sample size was relatively small. Therefore, future research using larger samples will be needed to determine the relative importance of multiple influences across different contexts (e.g., urban vs. rural; small vs. large CBOs). Given the diversity of this study's sample, the findings, with some caution, are generalizable to other contexts. Because HIV service providers also offer other services (e.g., substance abuse treatment), findings provide a framework for research on collaboration focused on different conditions and types of providers.

Conclusion

Research involving community partners has been shown to increase participation rates and retention, strengthen external validity, and build individual and community capacities (Viswanathan et al., 2004). However, there is not enough funding or research projects under way at any given time to permit the involvement of *all* providers. Therefore, it may be particularly important to create among providers and researchers, in their respective organizations, a culture that values and celebrates research collaboration. By capitalizing on key influences to providers' willingness to collaborate, different sets of collaborators may be more able to compare, contrast, and evaluate collaboration across projects. Though this study focused on HIV research, findings may be useful in other health research collaborations.

Acknowledgments

The author wishes to thank the Community Provider Panel for their outstanding contributions in several phases of this research—Prema Filippone, Rita Lawrence, Pamela Valera, Anya Spector, Hadiza Osuji, and Rosa Brambleweed. The author also acknowledges the invaluable commitment of the administrators and providers in all participating CBOs. Their contributions were invaluable. The following individuals reviewed several versions of this article and provided invaluable advice: Liliane C. Windsor, Anya Y. Spector, David W. Pratt, and Nabila El-Bassel.

Funding

The author disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Dr. Pinto is supported by a National Institute of Mental Health Mentored Research Development Award (K01MH081787).

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Table 1

Factor Loadings and Items for Three-Factor Solution: Researcher Availability, Benefits of Research, and CBO Preparedness (*n* = 141)

Items	**Mean (*SD*)**	**Factor 1: Researcher Availability**	**Factor 2: Benefits of Research**	**Factor 3: CBO Preparedness**
Collaboration is most successful when researchers relate to providers	2.11 (1.04)	.349	**.458**	.027
Collaboration is most successful when researchers train providers	1.51 (0.93)	−.014	**.948**	.049
Collaboration is most successful when the researcher is an expert	1.47 (0.96)	.018	**.935**	−.086
Research must improve provider knowledge base	2.51 (1.46)	**.789**	−.034	−.195
Research must help improve HIV services delivered in CBOs	2.12 (1.06)	**.794**	.164	.033
Research must enhance participants’ lives	2.29 (1.17)	**.779**	.038	.149
Research must improve CBO infrastructure	2.27 (1.16)	**.764**	.039	.022
Time and human resources are important in research	2.88 (1.12)	−.026	.035	− **.796**
Physical accommodation is important to conduct research	2.48 (1.24)	−.014	−.013	**.777**
Funding for research is important	3.45 (1.19)	.058	.026	**.827**
Variance explained by each factor		2.03	2.02	1.99
Cronbach’s αs		.63	.60	.73

Note. CBO = community-based organization. All items were measured on a 6-point Likert-type scale (1 = *strongly disagree*; 6 = *strongly agree*). Total variance explained = 6.04. Cronbach’s alpha is based on scale created from items indicated in boldface within each factor.

Table 2

Hierarchical Model: Providers' Willingness to Collaborate in HIV Research (*n* = 141)

	***b* (*SE*)**	**ΔR^2**
Step 1		.074**
Gender	.37* (.16)	.039*
Age	.00 (.01)	.002
Race/ethnicity	—	.032
African American	−.44 (.20)	—
Latino	−.28 (.23)	—
Other	−.35 (.25)	—
Education	−.09 (.07)	.003
Step 2		
Researcher availability	.07* (.03)	.030*
Step 3		
Research benefits	.08*** (.02)	.081***
Step 4		
CBO preparedness	.10* (.04)	.022*
Total adjusted R^2		.169

Note. CBO = community-based organization. R^2 values are adjusted.

Reference group for gender = Males. Reference group for race/ethnicity = White.

* $p < .05$.

** $p < .01$.

*** $p < .001$.