

**“Don’t know” responses:  
Do they inform or undermine the process evaluation?**

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**Abstract:**

*Bridge-It* is an expert system that asks project directors 36 questions to assess readiness and estimate likelihood of implementation success for newly adopted school-centered health and education technologies. Because it is brief, content valid, and internally consistent, *Bridge-It* promises to be a useful tool. But in two recent evaluation studies—one tracking progress of tobacco prevention and control initiatives (n=93 schools) and another assessing an alcohol safety curriculum (n=50 schools)—approximately half of project directors answered ‘don’t know’ to more than 25% of *Bridge-It*’s questions. They ‘don’t know,’ for example, how important the new program is to the principal, whether there is opposition from parents, or whether school staff believe the new program is better than what was being done before. This paper describes the model, presents results, traces what happened to the evaluation reports, and reviews options for transforming ‘don’t know’ into useful feedback.

**Relevance and importance to the field:**

Hoping to close the huge gap between what is known from research and what is actually practiced in the field, program officers at Federal and State levels increasingly are urging providers to adopt and faithfully implement “evidence-based” programs and technologies for the delivery of health, education, and human services. This programmatic direction places renewed emphasis on the importance of the implementation process evaluation. By assessing readiness and tracking implementation progress, the process evaluation can play an important role in helping to reform systems. But, when results routinely indicate low readiness and no progress, the evaluation is at high risk of being “shelved”—i.e., results are unlikely to gain serious hearing when program decisions are made. This problem has plagued process evaluations based on *Bridge-It*. By presenting results and tracing what happened in two studies where *Bridge-It* guided the implementation process evaluation, this paper will help to inform discussion about how evaluation is shaped by the systemic context in which it is embedded.

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## Evaluation can tighten links between research and real world results

Researcher roles	Developer roles	Provider roles	Consumer roles				
<b>Experiment</b>	<b>Publish →</b>	<b>Package</b>	<b>Disseminate → Adopt</b>	<b>Implement</b>	<b>→Participate</b>	<b>Benefit</b>	
Is there enough of the right kinds of evidence to justify translation into practice?	For what kind of provider serving what kind of consumer?	Does the delivery package include enough of the right kinds of information and materials to ensure faithful replication in non-research setting?	Are dissemination channels and messages being used in ways that ensure successful reach to the targeted providers and consumers?	Have providers made enough of the right kinds of arrangement and adaptation for successful implement?	Is the program/procedure/product being implemented in ways that ensure consumers will benefit if they partake/participate?	Are enough of the right consumers receiving enough of the program/procedure/product to produce desired results?	Are actual benefits as large and widespread as expected and/or needed?
<b>Evaluator Questions</b>							

Hoping to close the huge gap between what is known from research and what is actually practiced in the field, program officers at Federal and State levels increasingly are urging providers to adopt and faithfully implement “evidence-based” or “science-based” programs and technologies for the delivery of health, education, and human services. At the Surgeon General’s Conference on Children’s Mental Health in 2000, for example, the director of the National Institute for Mental Health (NIMH) described “a terrifying gap between what we know and how we act, between the services we could offer and those we do offer” to protect and promote the mental health of our children (Hyman, 2001).<sup>i</sup> Creating an oversight system to “identify and approve scientifically-based prevention and treatment interventions, promote their use, and monitor their implementation” was among the action steps presented in the report from the Surgeon General’s Conference on Children’s Mental Health. Other Federal and State offices and agencies—e.g., National Institute on Drug Abuse,<sup>ii</sup> Centers for Disease Control and Prevention,<sup>iii</sup> Texas Department of Health<sup>iv</sup>—have announced similar findings and initiatives.

Evaluation can play a key role in helping to “bridge the gap” between research and practice and tighten links between research and real-world results. At each step along the way, there are important value questions whose answers could prevent things from falling between the cracks and/or motivate next steps. An evaluation showing, for example, that the majority of schools that have “adopted” an evidence-based alcohol safety program have no formal plan for implementing the program and no procedures for monitoring its progress or for providing implementers with on-going training or technical assistance could help the program developer make important decisions about adding to or adjusting information and materials in the program “package” to support successful replication of the program in a non-research setting.

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**“Implementation process evaluation” links “dissemination” with “implementation”**

	Developer Roles	Provider Roles	Implement
	Disseminate	→ Adopt	
Evaluation Question		Have providers made enough of the right kinds of arrangements and adaptations to achieve implementation success?	
Assumptions	Adoption is an “event” whose occurrence can be measured to evaluate success of the dissemination process	“Adoption means more than purchasing or learning how to manage new materials... Adoption includes building a professional development infrastructure for ongoing support and feedback. <sup>v</sup>	Implementation is an “event” whose occurrence can be measured to evaluate success of the adoption process
Evaluation Tools/Methods	Yes/no determination regarding whether or not a given provider has indicated intention to implement a given evidence-based practice	Bridge-It is a set of 36 questions to assess likelihood of successfully implementing school-centered health and education programs/ procedures/ policies on a given campus <sup>vi</sup>	Yes/no determination regarding whether or not a given evidence based practice is being delivered by a given provider to a targeted consumer <sup>vii</sup>

This programmatic direction—i.e., encouraging and assisting providers to adopt and implement evidence-based programs and policies—places renewed emphasis on the importance of the implementation process evaluation. More than 20 years ago, Michael Patton cited work describing that “implementation analysis has seldom been taken seriously, much to the detriment of research utilization.”<sup>viii</sup> Among the several types of implementation analysis identified in Patton’s 1978 book on utilization focused evaluation is “implementation process evaluation” which focuses on “internal dynamics and external factors that help to anticipate and explain successes, failures, and changes in the program.” Nearly quarter of a century later, a specially convened workgroup on dissemination and implementation in children’s mental health services reached similar conclusions, noting “current publication structures de-emphasize implementation processes in favor of an emphasis on study outcomes.”<sup>ix</sup> Among the workgroup’s recommendations was that “dissemination and implementation research should center on contextual and process factors.”

A key contextual issue and, therefore, a key issue for implementation process evaluation is the fit or “congruence” between a program or policy and its operational environment.<sup>x</sup> Information about potential incongruities can be invaluable to cross-site program managers and to local project coordinators/teams who must make decisions about where and when to arrange additional implementation support and/or adapt elements of the program or policy to increase its chances of producing desired benefits for targeted consumers. *Bridge-It* is a tool to help evaluate congruence when the intended provider of the new program or policy is schools.

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**Bridge-It supports implementation process evaluation for school-centered programs**

<b>Factor</b>	<b>Questions</b>
<b>Facilitation</b>	<ol style="list-style-type: none"> <li>1. Planning</li> <li>2. Training</li> <li>3. Coaching</li> <li>4. Monitoring</li> <li>5. Communicating</li> </ol>
<b>Resources</b>	<ol style="list-style-type: none"> <li>6. Materials</li> <li>7. Staff</li> <li>8. Funds</li> <li>9. Daily time</li> <li>10. Implementation time frame</li> <li>11. Facilities</li> </ol>
<b>School-based leadership</b>	<ol style="list-style-type: none"> <li>12. Involvement of principal</li> <li>13. Program leaders</li> <li>14. Team structure &amp; function</li> <li>15. Importance to principal</li> </ol>
<b>Implementers</b>	<ol style="list-style-type: none"> <li>16. Professional preparation</li> <li>17. Commitment to health</li> <li>18. Implementation skills</li> <li>19. Enthusiasm</li> <li>20. Perceptions of role compatibility</li> <li>21. Perceptions of professional compatibility</li> <li>22. Perceptions of relative advantage of program</li> </ol>
<b>External forces</b>	<ol style="list-style-type: none"> <li>23. Turmoil outside school</li> <li>24. Support</li> <li>25. Opposition</li> <li>26. Mandates and policies</li> <li>27. Bureaucracy</li> </ol>
<b>District-level champion</b>	<ol style="list-style-type: none"> <li>28. Level of activity</li> </ol>
<b>Program compatibility</b>	<ol style="list-style-type: none"> <li>29. Priorities</li> <li>30. Structure</li> <li>31. Student needs</li> <li>32. Culture</li> <li>33. Past success</li> </ol>
<b>Program characteristics</b>	<ol style="list-style-type: none"> <li>34. Complexity</li> <li>35. Relative advantage</li> <li>36. Ease of use</li> </ol>

*Bridge-It* is a conceptual and mathematical model that connects “dissemination” with “implementation” of school-centered health and education programs. The model was developed using an integrative group technique that captures experts’ judgments about likelihood of a future event given different configurations of current circumstances. Review of the literature identified more than 300 “evidence-based” variables that might need to be integrated into an implementation process model.<sup>xi</sup> The expert knowledge-elicitation procedure successfully narrowed the list to just 36 questions that have high face validity for predicting implementation success.<sup>xii</sup> Internal validation showed correlation of 0.92 between the model scores and experts’ direct ratings for 100 hypothetical profiles.<sup>xiii</sup> External validation showed *Bridge-It*’s forecasts were correct 74% of the time for a given innovation in a sample 50 schools.<sup>xiv</sup> Beta-test with a sample of 24 schools demonstrated that *Bridge-It*’s 36 fixed-choice self-anchored questions can be answered by campus-level project coordinators/teams in less than 30 minutes.

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## How has Bridge-It been used to support “implementation process evaluation?”

Developer Roles		Provider Roles		
		Disseminate	→ Adopt	Implement
Package				
Example 1	Center for Disease Control (CDC) <i>Guidelines for School Health Programs to Prevent Tobacco Use and Addiction</i> (1994)	Texas Department of Health (TDH) issued Request for Proposals (RFP) from schools for small grants to support Tobacco Prevention and Control Initiatives	Representatives of schools that received grant awards participated in professional development training sponsored by TDH through the Texas Education Agency’s (TEA) Regional Education Service Centers	<i>Bridge-It</i> was to forecast likelihood of implementation success and provide cross-site feedback to help develop school capacity and infrastructure to support successful implementation
Example 2	Curriculum and supporting materials for grades K-5 developed and evaluated by a community based organization focused on preventing problems caused by consumption of alcohol. The program is listed among CDC “Programs that Work”	Program developer offered the curriculum free of charge to schools that agreed to implement at least one cycle of the program at each grade level and participate in the program’s professional development training	Representatives of schools that agreed to receive the curriculum participated in professional development training provided by the developer through regional Councils of the Texas Commission on Alcoholism and Drug Abuse (TCADA)	<i>Bridge-It</i> was to produce reports for each of the participating schools as well as a cross-site report to help identify options for maximizing likelihood of implementation success

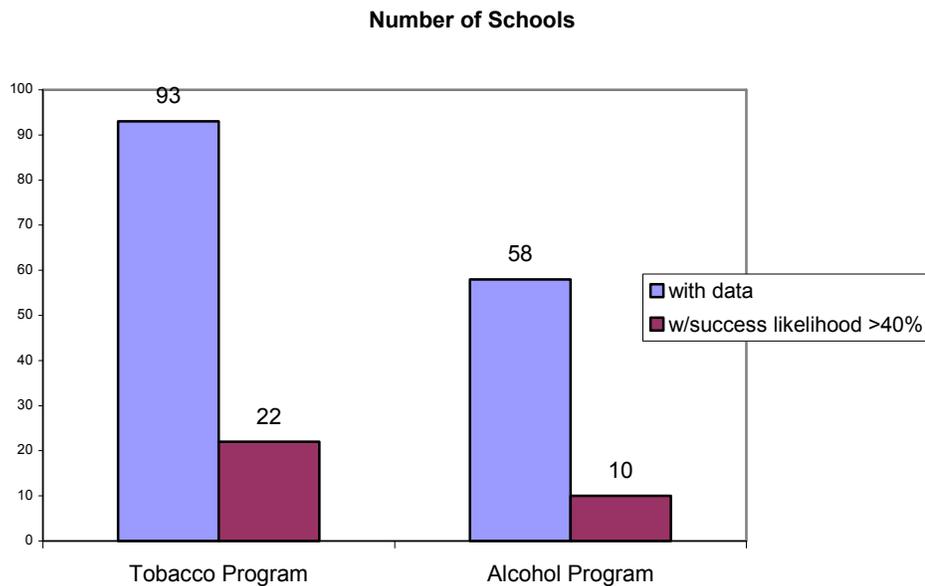
This paper describes two implementation process evaluations in which *Bridge-It* was used to assess congruence between a newly adopted program and the schools where the program was to be implemented.

The first of these two studies is an on-going evaluation of the Texas Tobacco Pilot Project. The “package” was tobacco prevention guidelines for schools. The method of dissemination was request for proposals from secondary schools for small grants (\$2,000) from the Texas Department of Health (TDH) to support tobacco prevention and control programs on their campuses. *Bridge-It* questionnaires were distributed to school representatives of middle, junior, and high schools that received the grants and participated in training funded by TDH and offered through Regional Education Service Centers. It was expected that results would be compiled across sites and provided as feedback to program managers at State and Regional levels.

In the second example, the “package” is a nationally validated alcohol safety curriculum for elementary schools. The program developer disseminated the program by offering the curriculum, supporting materials, and initial implementer training free of charge in exchange for the school’s commitment to implement the program at least once at each grade level. *Bridge-It* questionnaires were distributed to school representatives who were in attendance at a sample of the training events. It was expected that school-specific reports would be provided as feedback to the first 50 schools that returned the questionnaire.

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## What did *Bridge-It* foresee?



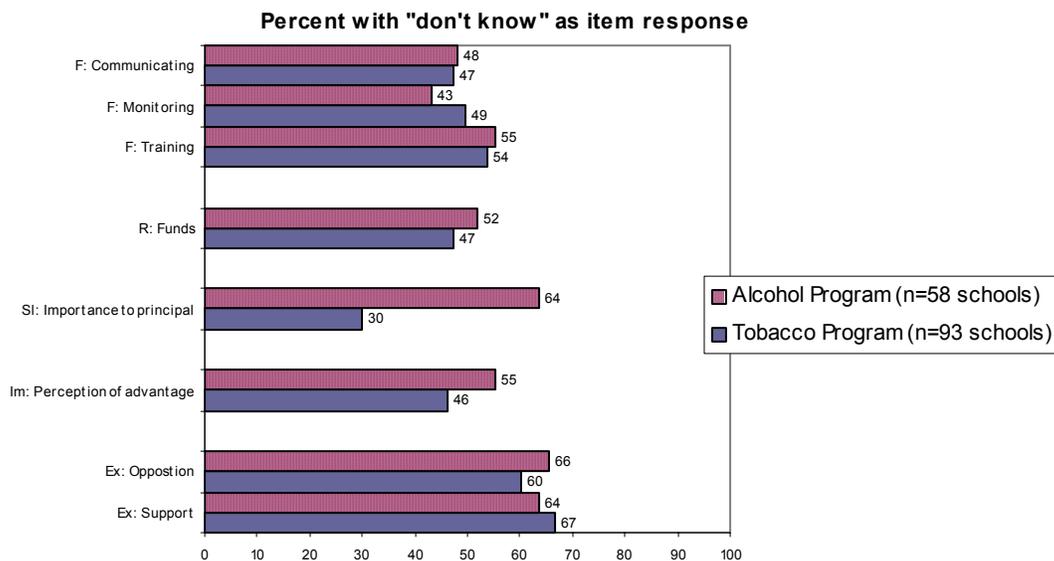
Questionnaires were returned for 93 of the 125 schools invited to participate in *Bridge-It*'s baseline assessment for tobacco prevention and control programs and for 58 of approximately 65 schools invited to participate in *Bridge-It*'s baseline assessment for the alcohol safety program.

To assess congruence, *Bridge-It* counts the number of questions for which the answer lies above the mid-point on the fixed-choice self-anchored item-specific scale. Factors are scored "high," "medium," or "low" by comparing the number of top-level responses against cut-points set by the expert panel (e.g., "high" facilitation means that all 5 of the questions within that factor were answered on the top half of the scale, "medium" means 3 or 4 of the 5 questions were answered on the top half of the scale; "low" means fewer than 3 of the 5 questions were answered at the top of their respective response scales). To forecast implementation success, the factor scores are recoded into likelihood ratios and combined as specified in *Bridge-It*'s mathematical model. A school is considered to have at least "medium" likelihood of future success when the resulting probability statement is greater than 40%.

Analysis of data supplied by school representatives for the two programs reported in this paper identified fewer than 25% of the schools as having at least medium likelihood of successfully implementing the respective programs (24% for tobacco programs and 17% for the alcohol program). Although this forecast is approximately what the literature suggests would be expected,<sup>xv</sup> the high rate of what appears to be "negative" feedback produced from *Bridge-It*'s calculations made it difficult for the implementation process evaluation to gain serious hearing when program decisions were to be made. In the case of the tobacco program, information about the forecasts was not included in the cross-site report at baseline. In the case of the alcohol program, schools were invited to request another copy of the questionnaire at a later date when they thought they might be better prepared for implementation. But none did. Nor did the program developer indicate interest in continuing to use *Bridge-It* as a resource.

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## Why were there so few positive forecasts?



One reason why so few schools were forecast to have at least medium chance of achieving implementation success was the high rate of “don’t know” responses to *Bridge-It’s* questions.<sup>xvi</sup> The instructions say:

- *Please don’t skip any of the questions even if they seem stilted or not quite applicable to your situation. If you don’t know the answer to a question, don’t guess—just check ‘don’t know.’*

But the instructions also say:

- *If you are working at more than one campus, please choose the one campus you know the most about and answer the questions for that campus.*
- *If there are two or more people here today representing your campus, get together as a “team” to answer the questions for your campus. Bridge-It needs just one set of answers for each campus where the program is to be implemented.*

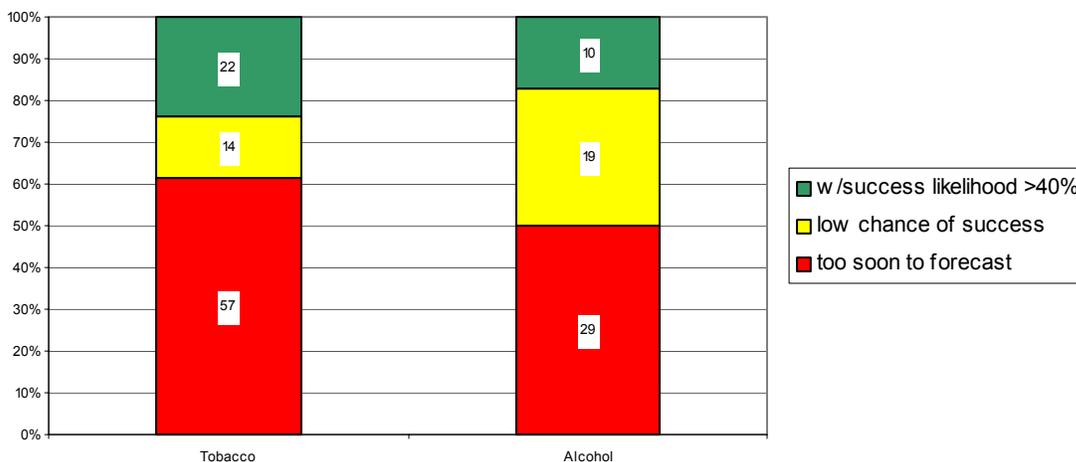
Given this set of instructions and clear indication that the respective programs indeed had met the yes/no criteria for having been “adopted” by these particular campuses, it was surprising to find:

- as many as a third to two-thirds of the schools had “don’t know” as the answer to questions inquiring about how important the program is to the principal, how much training will be provided for persons involved in implementing the program, and whether those persons perceive that the “new” program is better than what was being done before;
- more than half had “don’t know” in response to questions about how much opposition and how much support there is for the program from parents and others in the community;
- many also had “don’t know” responses to questions inquiring about adequacy of program funding, plans for program monitoring and feedback, and channels for communicating about program implementation.

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## How many schools had too many “don’t know” responses?

Percent of schools with these results when “too soon” is assigned  
to schools with more than 9 items marked “don’t know”  
(n=93 schools for Tobacco program and n=58 schools for Alcohol program)



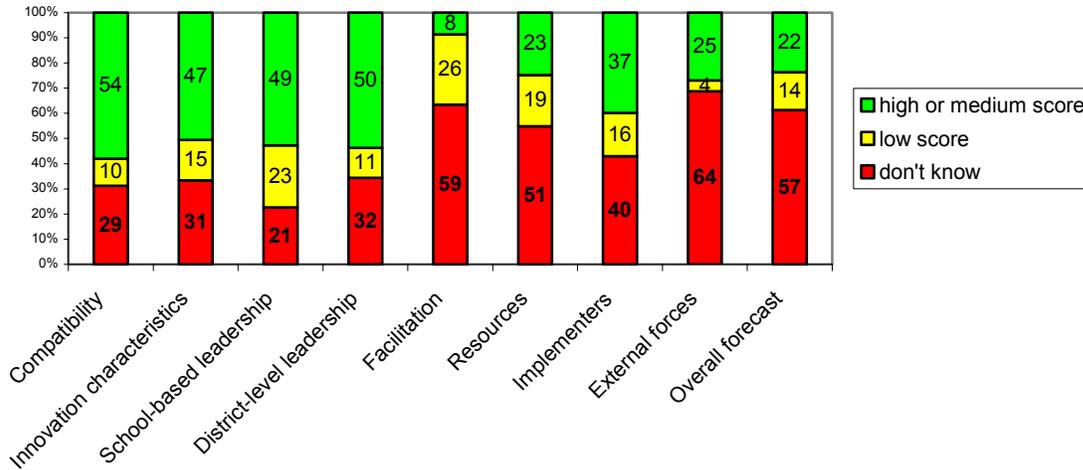
Half or more than half of the schools had “don’t know” in response to more than 9 of Bridge-It’s 36 questions (61% of schools that had adopted tobacco programs and 50% of schools that had adopted the alcohol program). This result suggests the possibility that one option for increasing acceptance and use of Bridge-It’s implementation process evaluation would be to set a cut-point for “don’t know.” When the cut-point is reached, the feedback would be that it is “too soon” to forecast likelihood of achieving implementation success. This kind of feedback was, in fact, what the evaluation team received from school representatives who completed the questionnaires. They wrote in the comments section and on the back of the questionnaire such things as, “this program must be approved by the district curriculum director before it can be implemented,” and “we’re planning to present the program to the school in a few months,” and “it’s too soon to answer most of these questions.”

When a similar cut-point was set across items within each of *Bridge-It*’s 8 factors (i.e., count the number of schools that have “don’t know” as the response for more than ¼ of the questions that make up the given factor), more than half of schools were identified as being in need of more information about External Forces and about Facilitation—i.e., for both programs, more than half of schools answered “don’t know” to more than one-fourth of Bridge-It’s questions about implementation planning, training, coaching, monitoring, and communicating; and more than half answered “don’t know” to more than one-fourth of Bridge-It’s questions about amounts of support or opposition from parents and others in the community, amount of difficulty in negotiating bureaucratic hurdles, turmoil in the environment outside the school, and/or district- or state-level mandates or policies.

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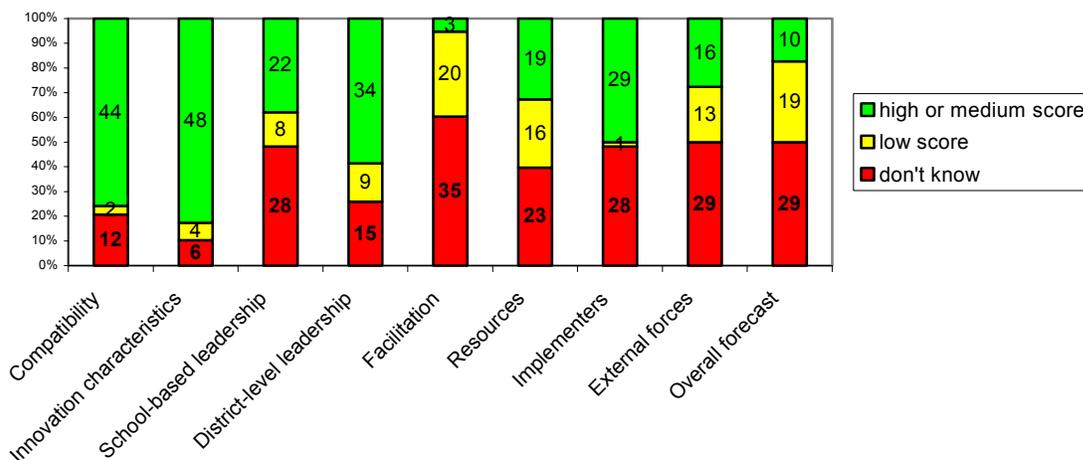
## How many schools had too many “don’t know” within the congruence factors?

**Schools with these scores on 8 implementation readiness factors  
(n=93 secondary schools adopting Tobacco program)**



Sixty-two percent of Tobacco schools and 78% of the Alcohol schools had “don’t know” as answers to 2 or more of the 5 Facilitation questions; and 69% of the Tobacco schools and 66% of the Alcohol schools had “don’t know” as answers to 2 or more of the 5 questions about External Forces. Inspection of scores for other factors showed both programs had at least half of schools with medium or high scores for Characteristics of the Innovation (51% and 83%, respectively), Compatibility (58% and 76%), and District-Level Champion (54% and 59%). For the Tobacco program, more than half of schools also had medium or high scores for School-Based Leadership. For the Alcohol program, more than half of schools had medium or high scores for Implementers.

**Schools with these scores on 8 implementation readiness factors  
(n=58 elementary schools adopting Alcohol safety program)**



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Results from the two studies reported here may have one or both of the following implications for action:

- Evaluators should modify procedures for using *Bridge-It* so that when too many “don’t know” responses are encountered the data collection process can be delayed.
  - Program developers should increase amounts and types of information and materials included in the dissemination package to help providers achieve successful implementation of evidence-based practices.
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<sup>i</sup> In a clarification of program announcement regarding dissemination and implementation research in mental health, the NIMH provided these definitions of terms: “Dissemination is the targeted distribution of information to a specific audience. The intent is to spread knowledge...Implementation is the use of strategies to introduce or adapt evidence-based mental health interventions within specific settings.” Addendum to PA-02-131, Release Date August 14, 2002, Notice Number NOT-MH-02-009

<sup>ii</sup> *NIDA Notes*: Putting Science-Based Drug Abuse Prevention Programs to Work in Communities, 14(6), Mar2000 and *NIDA Notes*: The Next Step in Disseminating Proven Prevention Programs, 14(6), Mar2000

<sup>iii</sup> Centers for Disease Control *Notes & Reports* 14(3), Fall2001; see also current and ongoing updates to “Guide to Community Preventive Services: Systematic Reviews and Evidence Based Recommendations” [www.thecommunityguide.org/Guide/](http://www.thecommunityguide.org/Guide/)

<sup>iv</sup> Texas Department of Health HIV Prevention Request for Proposals 2002 directed providers of prevention services to adopt one or more programs from a set approved by TDH as “evidence-based” and to develop their plans of operation to ensure high fidelity implementation of the adopted program model and/or to specify in what ways the program would be adapted to meet local needs.

<sup>v</sup> The SCI Center: BSCS: Improving science education through curriculum leadership.

[www.scicenter.org/adoption.htm](http://www.scicenter.org/adoption.htm) accessed 10/22/02

<sup>vi</sup> Bosworth, K, Gingiss, P M, Potthoff, S, & Roberts-Gray, C. (1999) A Bayesian model to predict the success of the implementation of health and education innovations in school-centered programs. *Evaluation and Program Planning*, 22:1-11.

<sup>vii</sup> The purpose of the Bayesian model referred to in this paper as *Bridge-It* is to predict the probability of successful implementation of a health innovation by a school. Calculated values range from 0 (almost no chance of successful implementation) to 100 (almost certain chance of successful implementation). The form of Bayes’ theorem that was used in developing *Bridge-It* requires that there be competing outcomes to be predicted that are mutually exclusive (i.e., only one of the outcomes can happen) and exhaustive (the probabilities of the outcomes must sum to 1). The most parsimonious approach is to limit the number of outcomes being forecasted to two. In this case, the two competing outcomes are “successful implementation” and “failed implementation.” See Bosworth et al (1999) op cit.

<sup>viii</sup> Patton, M (1978) *Utilization focused evaluation*. Sage: Beverly Hills, page 151.

<sup>ix</sup> NIMH Workshop: Dissemination and Implementation in Children’s Mental Health Services, National Institute of Mental Health, January 22-23, 2002, Meeting Summary posted [www.nimh.nih.gov/srceb/chddimtg.cfm](http://www.nimh.nih.gov/srceb/chddimtg.cfm) accessed 10/23/02.

<sup>x</sup> Roberts-Gray, C & Scheirer, M A (1988) Checking the congruence between a program and its organizational environment. In K J Conrad and C Roberts-Gray (eds) *Evaluating Program Environments. New Directions for Program Evaluation*, 40 San Francisco: Jossey-Bass. See also, Roberts-Gray, C & Gray, T (1983) *Implementing* Roberts-Gray, C. & Gingiss, P.M. (2002). “Don’t know’ responses: Do they inform or undermine the process evaluation.” Houston, TX: University of Houston. Proceedings of the American Evaluation Association Conference, Washington, DC, November 2002.

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innovations: A model to bridge the gap between diffusion and utilization. *Knowledge: Creation, Diffusion, Utilization*, 5(2):213-232.

<sup>xi</sup> The large number of variables that have been identified in various research articles as factors that influence implementation success for innovations in health and education is echoed in research on information science—e.g., Larsen, K. (2001) Antecedents of implementation success: A comprehensive framework. *Proceedings of the 34<sup>th</sup> Annual Hawaii International Conference on System Sciences (HICSS-34)*. Institute of Electrical and Electronics Engineers. Author's abstract: This paper reports on an extensive effort to categorize existing quantitative research on information systems implementation. By examining approximately 5000 articles from 5 highly ranked journals, 359 different independent variables were found and analyzed according to the principle of hermeneutic circle. The paper ends with a presentation of the resulting framework and suggested definitions for a set of 69 focal variables.

<sup>xii</sup> Gingiss, P & Engel, M (1995) Factors influence the likelihood of successful implementation of school health centers. Paper presented at the annual meeting of the American School Health Association, Milwaukee, WI.

<sup>xiii</sup> Bosworth et al (1999) op cit.

<sup>xiv</sup> Gingiss, P and Roberts-Gray (2002) Pre/post assessment of school capacity and infrastructure for tobacco prevention and control in the Texas Tobacco Pilot. Report prepared for Texas Department of Health.

<sup>xv</sup> See Botvin, G (2001) "School based drug abuse prevention with multiethnic youth through Life Skills Training: NIDA-Prevention Conference Abstracts for presentations at the 2<sup>nd</sup> National Conference on Drug Abuse Prevention Research: A Progress Update. Omni Shoreham Hotel, Washington DC, August 9-10, 2001. See also, Basch C, Slipevich E, Gold R, Duncan D, Kolbe L (1985) Avoiding Type III errors in health education program evaluations: A case study. *Health Education Quarterly*, 12, 318-331.

<sup>xvi</sup> Subjective Bayesian models multiply together all the data that are available. If a piece of data is missing, it is simply omitted from the Bayes' theorem calculation.

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