

Data Collection Method Brief

Collecting Data from Children Ages 9-13

APPENDIX A: HANDHELDS & PERSONAL DIGITAL ASSISTANTS (PDAs)

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<http://www.lpfch.org/informed/facts/etr.html>

Handhelds/Personal Digital Assistants (PDAs)

How have PDAs been used for collecting information from children?

Researchers and practitioners use handheld/PDA-based surveys to collect health information and/or to measure program effects. Surveys using handheld/PDA devices have been used successfully with children ages 9 years and older.

What are important considerations when using handheld/PDA surveys with children?

- ✓ Children under 11 years of age may need visual as well as verbal stimuli to make issues concrete.
- ✓ Investigators can use standard survey questions with children ages 11 and older, but the questions must be modified to reflect children's cognitive and language abilities, address issues of confidentiality of reporting certain behaviors, and ensure they are relevant to children's main social and cultural context (e.g., home or school).
- ✓ In general, children perceive computer-based surveys, particularly those using PDAs, as fun and interactive.
- ✓ Filling out handheld/PDA surveys is typically easier for children than filling out written surveys because of features such as audio and automatic skip patterns.
- ✓ The use of audio-enhanced surveying is ideal for children with lower literacy skills; it also can provide an opportunity for children to hear a culturally familiar voice.
- ✓ Children can typically complete more questions in a given timeframe using handheld devices than on written surveys.
- ✓ Surveying using handheld devices saves resources (e.g., paper, data entry costs); it also facilitates data analysis by reducing the potential for data entry errors and reducing the time between data collection and analysis.
- ✓ The number of children interviewed at a single time is limited by the number of handheld devices/PDAs available for surveying.
- ✓ This method requires specialized software, and may require time to become familiar with the technology when creating surveys.
- ✓ Hardware and software purchases can increase the setup cost the first time this method is used, with total costs going down for future uses.

What are the advantages of using this approach?

- Acceptability
- Ease of use
- Flexibility
- Privacy
- Data quality
- Data management

What the Research Says...

- ✓ Data collectors and youth report positive experiences with PDA-based data collection and preferences for this mode over written surveys.
- ✓ Using PDAs is convenient for data collection in diverse settings and in resource poor environments.³
- ✓ PDAs are more portable than laptop computers.^{1,2}
- ✓ Data collectors and youth need relatively little training to use the PDAs.³
- ✓ Data collectors report relatively few technical problems.³
- ✓ The inclusion of an audio component allows students with cognitive deficits and language barriers to complete PDA surveys in a similar amount of time as other students.²
- ✓ PDAs offer more privacy than written surveys and other computer-based methods that have larger display screens (laptops and desktops), making it easier for youth to

	<p>provide truthful answers to sensitive questions.^{1,2,3}</p> <ul style="list-style-type: none"> ✓ Compared with written surveys, reliability estimates were found to be adequate and similar.³
<p>What are the drawbacks of this approach?</p> <ul style="list-style-type: none"> • Equipment • Data quality • Cost 	<p>What the Research Says...</p> <ul style="list-style-type: none"> ✓ Use of PDAs for data collection requires access to adequate numbers of PDAs that are loaded with survey software. Depending on the needs of the project, these purchases can be costly. ✓ The effect of audio enhancement on reliability estimates and missing data for students with special education needs or for English learners is unclear and requires further investigation.² ✓ Reliability estimates for special education students were notably lower than for regular or English learner students. Studies on whether PDAs yield better data for special education students as compared to written surveys are forthcoming.² ✓ The small size of the PDA screen may make it more difficult to answer users' questions about what is on the screen without getting very close to students and infringing on their personal space.¹
<p>References</p>	<ol style="list-style-type: none"> 1. Bobula, J. A., Anderson, L. S., Riesch, S. K., Canty-Mitchell, J., Duncan, A., Kaiser-Krueger, H. A., et al. (2004). Enhancing survey data collection among youth and adults: Use of handheld and laptop computers. <i>Computers Informatics Nursing</i>, 22(5), 255-265. 2. Trapl, E. S., Borawski, E. A., Stork, P. P., Lovegreen, L. D., Colabianchi, N., Cole, M. L., et al. (2005). Use of audio-enhanced personal digital assistants for school-based data collection. <i>Journal of Adolescent Health</i>, 37(4), 296-305. 3. Zwarenstein, M., Seebregts, C., Mathews, C., Fairall, L., Flisher, A. J., Seebregts, C., et al. (2006). Handheld Computers For Survey and Trial Data Collection in Resource-Poor Settings: Development and Evaluation of PDACT, a Palm™ Pilot Interviewing System. PDACT Working Group.