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Validity in an evaluation of Healthy Families Florida—A program to prevent child abuse and neglect

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ABSTRACT

Evidence-based continuums have become a guide for identifying the level of evidence in evaluations of home visiting programs conducted to determine their effectiveness in preventing child abuse and neglect. While randomized controlled trials are required for the highest levels of evidence, quasi-experimental designs have also been specified as an appropriate alternative. Using a quasi-experimental evaluation of a home visiting program to prevent child abuse and neglect that adheres to the Healthy Families America model, this paper describes and illustrates how types of validity can be improved. More specifically, we address how threats to internal validity can be identified and reduced through statistical techniques; how construct validity may be strengthened using state records to measure the outcomes; and how external validity is affected by including or excluding study participants. After applying a variety of statistical adjustments to reduce selection bias, we found that the outcomes favored the home visiting program and increased after accounting for covariates that contributed to child abuse and neglect. This was true across the statistical techniques (traditional covariate and propensity score adjustment) used. For evaluations using quasi-experimental designs, recommendations relevant to the illustrations in the paper are also presented.

1. Introduction

Evaluations of a variety of home visiting programs have been reviewed using criteria in several evidence-based continuums. Evidence-based continuums typically highlight research designs and measurement options for outcomes that correspond with levels of validity.[3] While randomized controlled trials (RCTs) appear in the criteria used for the higher levels of evidence in these continuums, quasi-experimental research designs are also permitted and appropriate, particularly when controlling assignment to conditions is not feasible. In the evidence-based continuum developed for use by Community Based Child Abuse Prevention (CBCAP) for funding child abuse prevention programs, RCTs, as well as rigorous forms of quasi-experimental designs (for example, matched comparison or regression discontinuity), are specified at the third highest of four evidence-based levels (FRIENDS NRC, 2009). These evidence-based continuums make it clear that several research design and measurement options are acceptable for building program evidence.

Because of its importance in program evaluation and evidence-based continuums, the focus of this paper is to address and strengthen types of validity in quasi-experiments to evaluate voluntary long-term home visiting programs designed to prevent child abuse and neglect. There have been evaluations of a variety of models for home visiting programs to prevent child abuse and neglect (Howard & Brooks-Gunn, 2009; Gomby, Culross, & Behrman, 1999). Meta-analyses have contributed by highlighting differences in program outcome findings across research designs (Bilukha et al., 2005; Sweet & Appelbaum, 2004). Sweet, and Appelbaum (2004) examined differences by research design (quasi-experimental versus randomized controlled trial) and found that quasi-experimental designs had significantly higher effect sizes for improved child cognition, parenting behavior, and maternal education outcomes. There was no significant difference by design in the effect sizes of the potential child abuse outcomes (Sweet & Appelbaum, 2004).

One home visiting model that has been evaluated using a variety of research designs is Healthy Families America (HFA) (HFA, 2009). This model has been implemented in over 400 communities throughout the country and evaluated in several different states (HFA, 2009; Harding, Galano, Martin, Huntington, & Schellenbach, 2007; Duggan et al., 2004, 2007; Dumont et al., 2008). In Harding et al.

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[3] Substance Abuse and Mental Health Services Administration (SAMHSA, 2009); Guidelines for CBCAP Lead Agencies on Evidence-based and Evidence-informed Programs and Practices (FRIENDS NRC, 2009); National Association of Public Child Welfare Administrators (NAPCWA, 2005) ; DSG Model Programs Guide (MPG)(DSG, n.d.); and the Rand Promising Practice Network (Rand, 2009).

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(2007), 33 HFA evaluations reviewed included eight identified as RCTs, seven comparison group designs, and the remaining predominantly single group designs. Similar to what was found among evaluations of several different home visiting models, findings in the HFA evaluations varied across research designs and outcome measures. All but one of the RCTs found no significant differences in substantiated child abuse and neglect across study groups. Using the same measure of child abuse and neglect, three of four HFA evaluations with quasi-experimental designs found significant program impacts. Results based on self-report measures of child abuse and neglect indicated positive HFA program impacts in two recent RCTs (Duggan et al., 2007; Dumont et al., 2008).

Referring to one of the HFA evaluations using a quasi-experimental design, the evaluation of Healthy Families Florida (HFF), we address how threats to internal validity can be identified and reduced through statistical adjustments; how construct validity may be strengthened using state records to measure the outcomes; and how external validity is affected by including or excluding study participants. For evaluators of social service programs that are voluntary, long-term, and serve high-risk families for which the urgency of immediate services is particularly pronounced, the illustrations and lessons shared are relevant and contribute to the current knowledge base.

2. A home visiting program: Healthy Families Florida

HFF adheres to the HFA model as a voluntary long-term home visiting program that serves families assessed as high risk for child abuse and neglect (HFF, 2009). It is designed to prevent child abuse and neglect by promoting positive parent–child interaction, child health and development, and helping parents set and achieve goals for themselves and their children. Home visiting services begin prenatally or within three months after the birth of a baby or target child and can last from three to five years, depending on the needs of the family, with the intensity and frequency of services decreasing over time. Home visiting services are delivered by trained paraprofessional family support workers.

HFF as a state program began operation in state fiscal year 1998–99 adding 15 new projects to nine previously operating for a total of 24 projects that served a total of 1890 families. By the end of the evaluation time period (state fiscal year 2003–2004), the program served 12,417 families in 53 counties with 38 projects. In fiscal year 2007–08, HFF became statewide and served 13,460 families in all 67 counties in Florida with 39 projects.

3. Multiyear evaluation of Healthy Families Florida

An external evaluator conducted the evaluation of HFF between 1999 and 2003 (WSA, 2005). The evaluation addressed model fidelity, goal achievement, and effectiveness in preventing child abuse and neglect (WSA, 2005). The evaluation research conducted during the 1999–2003 time period was formative, providing important feedback to program staff to improve implementation of the model, and summative (WSA, 2005). In addition to annual evaluation reports, the evaluation team prepared several special reports that addressed a variety of topics, including participant attrition, participant transfers across projects, staff turnover, and the measurement of parent–child interaction.[4]The evaluation employed quantitative and qualitative research methods. During its development and growth as a state program, the evaluation team assisted the program in a variety of ways, including improving the sophistication and efficiency of the management information system (Falconer, Rhodes, Mena, & Reid, 2009), implementing performance monitoring, and identifying staff training needs.

The answer to the evaluation question addressing whether the program was effective is the primary impetus for the discussion of validity in this paper. To identify program "impact," the analysis in the HFF evaluation measured the effectiveness of the program in preventing child abuse and neglect by determining if the occurrence of child abuse and neglect was significantly higher in low dosage or no service groups compared to high dosage or completer treatment groups. The next five sections of the paper (3.1–3.5) describe the research design, outcome measurement, and additional analytical techniques applied.

3.1. HFF evaluation research design

This evaluation employed a posttest-only, quasi-experimental design with multiple treatment and comparison groups (Langbein & Felbinger, 2006; Shadish, Cook, & Campbell, 2002). While the evaluation recorded information on participant characteristics at assessment and program enrollment, there was no pre-test.[5] The evaluation design included a program participant group but because of model requirements, such as expected home visiting completion rates across several levels, and the demonstrated high level of participant attrition in home visiting programs (Gomby et al., 1999; Gomby, 2007; Duggan et al., 2004), the need to account for variations in implementation was paramount. Consistent with recommended evaluation practice (Shadish et al., 2002), the design included study treatment groups that experienced a high degree of model fidelity or program completion to account for variations in program implementation. There was no self-selection by study participants into study groups. All study participants, including those in a no HFF service comparison group, were assessed as eligible for the program and volunteered to enroll in the program.

While there were three treatment study groups in the original evaluation design, we included two treatment study groups in the analyses presented in this paper, a completers group that included families who completed the program and a high fidelity group that included families who received a level of services that met expectations for successful implementation of the model. The evaluation compared child abuse and neglect in each treatment group with a no HFF service group and a low dosage service group that received less than three months of services in the program (WSA, 2005). In addition, the original design included four subgroups in the treatment and non-treatment group comparisons based on the age of the target child (WSA, 2005). For the analyses presented in this paper, we included two subgroups based on age: 1) target children up to 12 months of age and 2) target children up to 24 months of age. Each group in the design included families from a large number of projects (over 30) and multiple counties across the state. A description of each study group follows and Table 1 displays the number of cases in each subgroup and group comparison.

3.1.1. Completers group

This group included target children in families that completed the HFF program as of December 31, 2003. According to the HFA model, programs have the flexibility to define completion. The HFF guidelines

[4] Evaluation reports prepared by WSA during the evaluation time period: Parent–Child Attachment Assessment Questionnaire Validity and Reliability Study; Report on HFF Outcome Measures (WSA, 2000); Salary and Turnover Rate Analysis Report; Analysis of Enrollment and Closure Activity (FY 1998–1999 to FY2000–2001); Analysis of HFF Transfers and Enrollees; Healthy Families Florida Assessment Tool Validation Study; Early Leavers Study; HFF Spring 2003 Qualitative Review (Additional Perspectives on Operations and Implementation); HFF Statewide Evaluation Report 2003; and several annual performance reports or working papers.

[5] Signed consent forms were required from each participant prior to their inclusion in the evaluation. An institutional review board assembled by the external evaluator developed and reviewed the consent forms and reviewed procedures for protecting study participants. Members of this board included representatives of the human services profession and researchers in the social science disciplines. The board met multiple times during the evaluation.