Fatherhood Research & Practice Network

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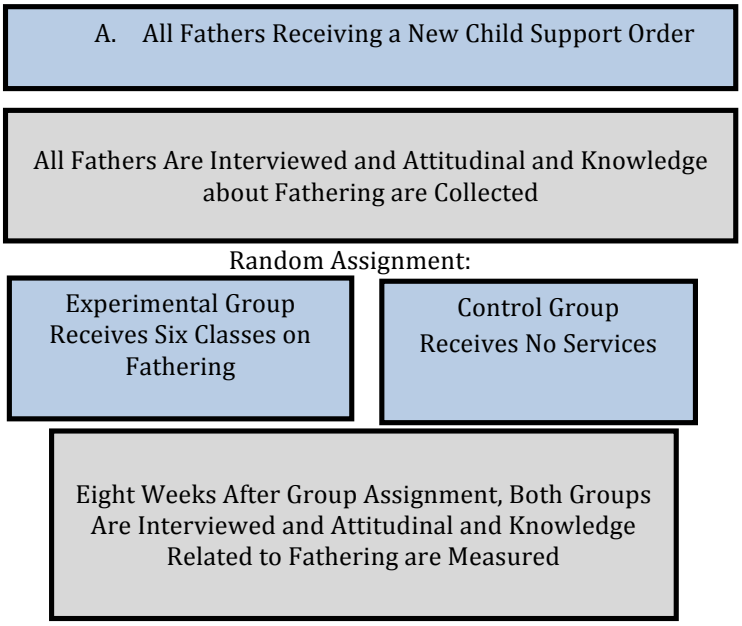
Non-Random Research Designs

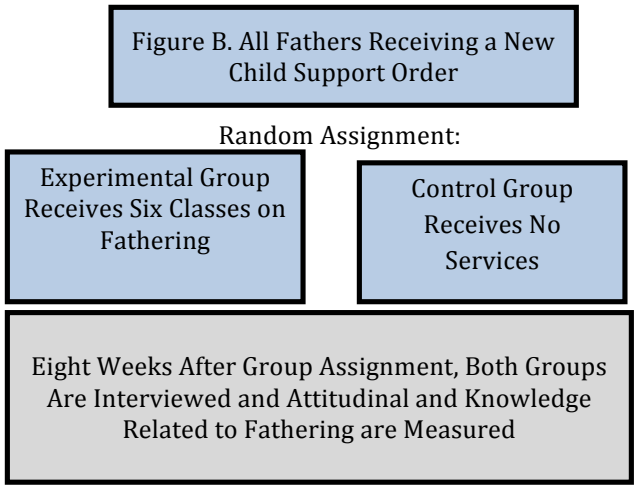
An Introduction to Research Designs

Research design is the "architecture" that holds a research project together. The research, or evaluation, design should provide information on:

- The individuals who will be studied
- The intervention(s) that will be studied
- The time points when data are collected from the participants

The best research design is discussed in more detail in the RCT write up. This is the strongest research design because ***randomly*** assigning individuals to treatment or no treatment (*i.e.*, a fatherhood program or no fatherhood program) does the best job of ensuring that any differences between the two groups at a later time point will be due to the intervention — the program. If it is impractical to randomly assign cases using a random number generator or table of random numbers, it is acceptable to use some other approach that, while not truly random, does not introduce any obvious biases. For example, the program may choose to assign cases based on the final digit of the individual's Social Security Number (0 to 5 may be experimental, while 6 to 9 are control). Random assignment studies may collect data at two time points (see Figure A) or only one (Figure B).





Non-Experimental Designs

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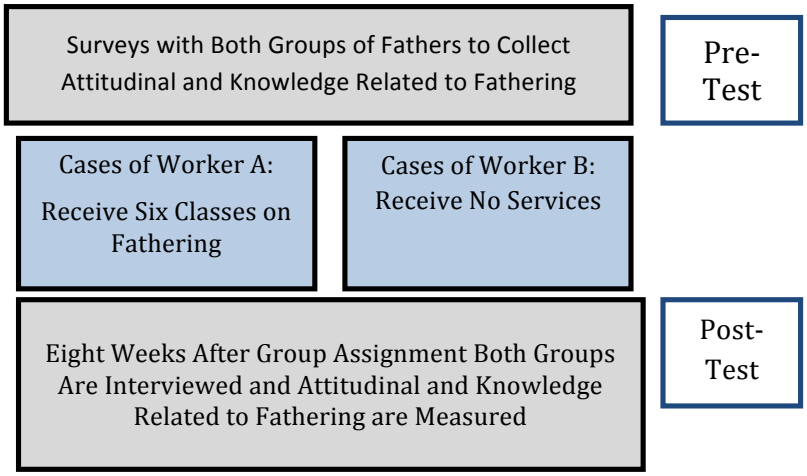
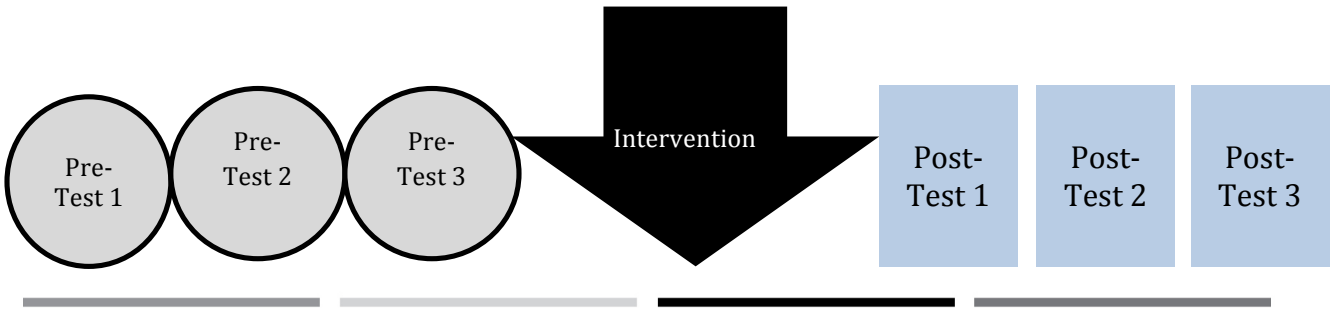
Although random assignment is the strongest research design, it is often difficult to put in place. For example, if the study is drawing from a fairly small group of fathers, it may be difficult to measure differences after dividing the fathers into two groups. It may be considered unethical to offer some fathers special services while others are not served. If the program is tied to a court, the judge may be reluctant to adhere to random assignment if he or she feels a particular individual would benefit from the program.

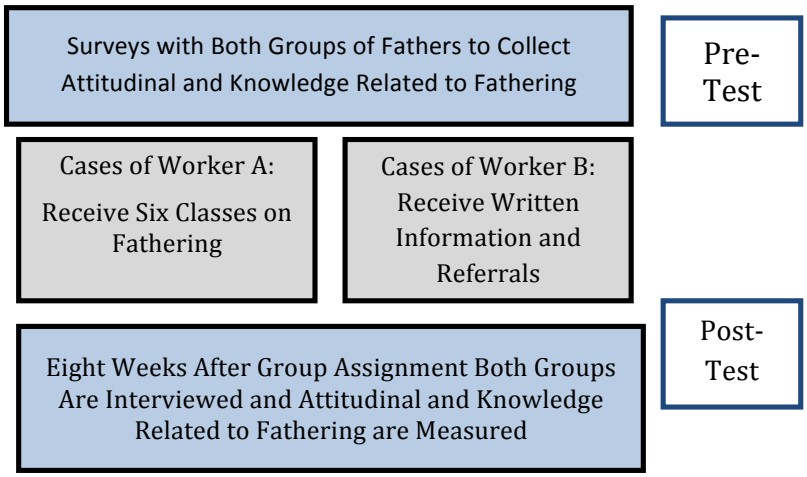
As a result, researchers often rely on research designs that do not include random assignment. Two common examples include the following. Fathers who are in the caseload of child support Worker A are assigned to the experimental group that receives classes or other services, while fathers served by Worker B go into a comparison group that receives no special services. If fathers in both groups are surveyed before any services occur and again after the services take place (for the experimental group), the researcher can statistically control for differences between the two groups that show up at the pre-test. This is a non-random assignment pre- and post-test design.



Another approach is to periodically survey fathers, introduce a program or intervention, and then survey the fathers again several times. If all of the pre-tests are similar but different from all of the post-tests, it is likely that the difference is due to the intervention. This type of measuring is often referred to as time series.



As was shown in the Logic Model description, programs may choose to compare two different treatments rather than comparing one treatment to no treatment. This can be helpful if the two treatment groups are both being considered for permanent inclusion at the study site. For example, fathers who are in the caseload of Child Support Worker A may be assigned to the experimental group and receive classes or other services, while fathers served by Worker B go into a comparison group and receive only written information about community resources. Having baseline information prior to group assignment will be useful in ruling out pre-existing differences.



What Are the Pros and Cons of Using a Non-Random Assignment Design?

Non-random studies are generally easier to conduct than random assignment designs. They serve all interested parties, which is a strong point if the program is housed in agencies such as the child support agency or the court. In addition, non-random assignment allows for the study of several groups receiving different treatments.

On the other hand, non-random studies are subject to many more confounding variables that can contaminate research results. Due to the lesser degree of experimental control, there is a greater likelihood that participants were different prior to group assignment. This makes it challenging to make strong claims that the intervention or program is solely responsible for the behavioral changes or differences in outcomes.

What Is an Example of a Non-Random Assignment Study?

In 2005, the Office of Child Support Enforcement of the U.S. Department of Health and Human Services funded a study entitled *An Evaluation of Participant Outcomes in Access and Visitation Programs*. The study included three sites using mediation to deal with access and visitation problems, three sites using parent education to deal with these problems, and three sites using supervised visitation. The cases

were drawn retrospectively, meaning that they had been served prior to the start of the evaluation. The programs were able to provide a limited amount of information about the cases, such as which parent the child typically lived with, allegations of domestic violence, and dates of services.

On average, the interviews were conducted 17 months after service delivery, with a median of 14 months. When asked about participants' degree of satisfaction with services, this post-test only evaluation found statistically significant differences between noncustodial parents receiving the three types of services. The same was true among custodial parents. Noncustodial parents receiving all three types of services were significantly more likely to report seeing their children more often after service delivery compared to pre-service delivery. Given the lack of a control group, the possibility cannot be ruled out that some factor in the system or public awareness increased parent-child contract for all noncustodial parents regardless of whether they received any services. However, since no changes in public awareness or attitudes can be identified, the fact that all three groups reported increases suggests that services can help improve contact.

Table 6-2: Perceived Changes in Contact with Child from Program Entry to Interview and Perceived Role of the Program in Producing Changes, by Program Type and Custody Status■

	Noncustodial parents *			Custodial parents *		
	All Mediation N=152	All Parent Education N=134	All Supervised Visitation N=102	All Mediation N=205	All Parent Education N=215	All Supervised Visitation N=149
Compared to before services, time NCP spends with children has:						
Decreased a lot	23%	19%	31%	19%	29%	34%
Decreased a little	7%	10%	6%	9%	10%	5%
Stayed the same	38%	29%	18%	47%	40%	32%
Increased a little	19%	19%	13%	15%	9%	12%
Increased a lot	13%	22%	32%	10%	12%	17%
If changed, role of program:						
Major role	28%	24%	48%	20%	14%	49%
Minor role	23%	31%	17%	29%	28%	15%
No role	49%	45%	35%	51%	58%	36%
Without program, would see children:						
More often than now	9%	12%	17%	5%	4%	6%
Same as now	64%	69%	28%	73%	71%	35%
Less often than now	27%	19%	55%	22%	24%	59%

* Chi square is significant at .05.
■ Rounding may result in percentages slightly above or below 100%.

Non-Random Assignment Resources

Working Under Budget, Time, Data, and Political Constraints, Second Edition
Michael Bamberger, Jim Rugh, & Linda Mabry
Sage Publications

Quasi-Experimental Design
William M. K. Trochim
©2006
http://www.socialresearchmethods.net/kb/quasiexp.php

Quasi-Experimental Methods
Stephen H.Bell
The Urban Institute
http://www.urban.org/toolkit/data-methods/quasi-experimental.cfm

OFA Evaluation Resource Guide for Responsible Fatherhood Programs
http://www.jbassoc.com/reports/documents/rf_evaluation_final_v2-small.pdf