



THINGS to CONSIDER

Choosing a Good Comparison Group



One way to test whether a new vocational rehabilitation (VR) service, policy, or program—or a change to an existing one—is having an impact is to conduct a **matched-comparison design evaluation**. With this method, you match service recipients to similar nonrecipients and then compare the differences in outcomes between the two groups. That difference is the impact of the service.

To have confidence in your results, you must make sure that your treatment group (the service recipients) is similar to your comparison group (the nonrecipients) in every way except for service receipt. If they aren't, any differences in outcomes may be a result of different characteristics between the groups—such as age, gender, or type of disability—rather than a result of the service. Here are some things to think about when selecting two similar groups to compare.

To increase the likelihood of getting results you can trust...



Create groups that had similar characteristics before the service was provided (balanced)



Consider whether the method used to assign participants to groups will balance any characteristics that can't be measured



Match on characteristics that you can measure and that are likely to affect the outcome



Include recipients and nonrecipients from several counselors or offices



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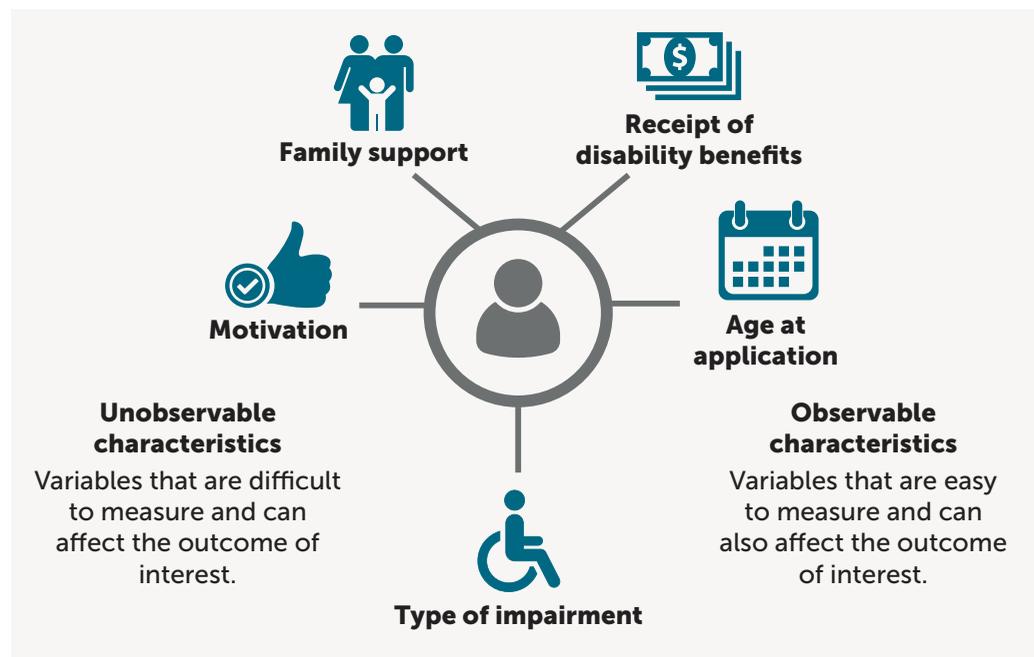
Conduct your own VR program evaluation at www.VREvalCoach.com

THINGS to CONSIDER

Considerations when choosing a comparison group: Similar characteristics



Every person has “observable” characteristics (which can be easily measured) and “unobservable” characteristics (which cannot be easily measured). Both types of characteristics can affect the outcome you are measuring. If your groups are not similar, then part of the difference you see in outcomes could be caused by the differences in characteristics, not by receipt of the VR service.



In a matched-comparison group design, you want to construct a comparison group that is as similar as possible to your service recipients. This starts with selecting a group that is reasonably comparable. The

VR Coach’s matching tool will help you further narrow down this group so that it is similar to your service recipients across several characteristics that identify as important for your evaluation.

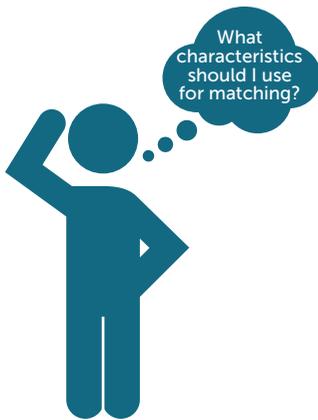
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Considerations when choosing a comparison group: Important observable characteristics



When conducting a matched-comparison evaluation, you will have to decide which variables to include when creating a comparison group that is similar to your treatment group. You may have more **variables in your data set** than you need.

You should select only the variables that could affect your outcome of interest if they were different between the two groups. For example, if the outcome you are measuring is the likelihood of a student VR client finding a full-time job after completing high school, you may only want to select socioeconomic status, race, gender, and impairment type as variables.

	Age	Socio-economic status	Disability	Extracurricular Activities	Outcome of interest
Customer ID	Age at application	SSI receipt	Primary Impairment	Student athlete	Employed at exit
167954	16	1	Autism	1	1
135497	17	0	Deafness	0	1
157948	18	0	Traumatic brain injury	1	0
134957	17	1	Autism	0	1
165297	17	0	Learning disability	1	0
146852	18	1	Deafness	0	0

.....
 Including more variables than you need could make it harder to find a similar comparison group.

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Considerations when choosing a comparison group: Unobservable characteristics



Even if your treatment and comparison groups are equivalent on observable baseline characteristics, they may have different unobservable characteristics. This is particularly likely if you created your groups based on clients or counselors who volunteered to receive a service or are frequent recipients (see the “Volunteers” box).

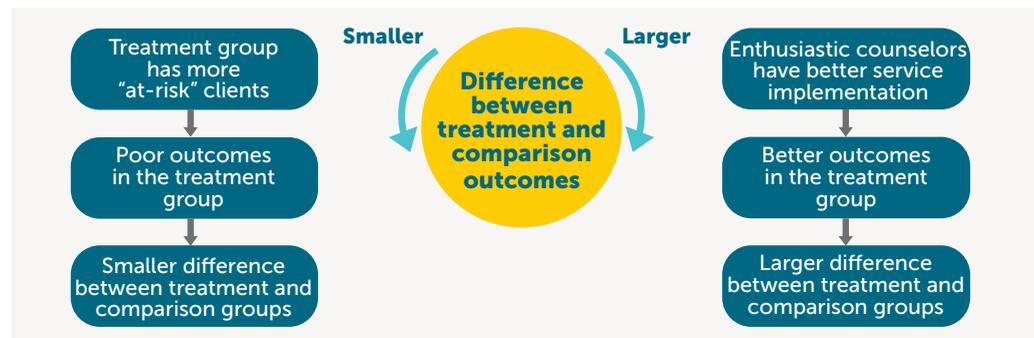
WHEN IS THE MEASURED EFFECT TOO SMALL?

Unobservable characteristics can make the effects of a service look smaller than they really are (negative bias). For example, say a counselor selects youth clients to receive a service based on her personal knowledge of an adverse home or family situation. Such external factors might worsen the performance of these “at-risk” clients, making the service look like it had a smaller impact on the treatment group than it otherwise would have.

WHEN IS THE MEASURED EFFECT TOO LARGE?

Unobservable characteristics can make the effects of a service look larger than they really are (positive bias). For example, if an enthusiastic counselor is more likely to fully implement a program—or a motivated client is more likely to give the program his full effort—then you might see a larger impact on the treatment group than you would with less enthusiastic or motivated participants.

VOLUNTEERS
When you assign people to a treatment group based on who volunteers, you may introduce bias. Those who volunteer are likely different in unobservable ways from those who do not. They may be more motivated clients or counselors—or clients who face fewer pre-existing barriers. These differences could affect the outcomes you are measuring.



When there are unobservable characteristics that you cannot control for, you cannot tell whether differences in your outcomes are due solely to the service or to unobservable characteristics.

Think about what characteristics could be present and whether your method for selecting your treatment and comparison groups—such as using volunteers—could introduce unobservable differences between the groups.

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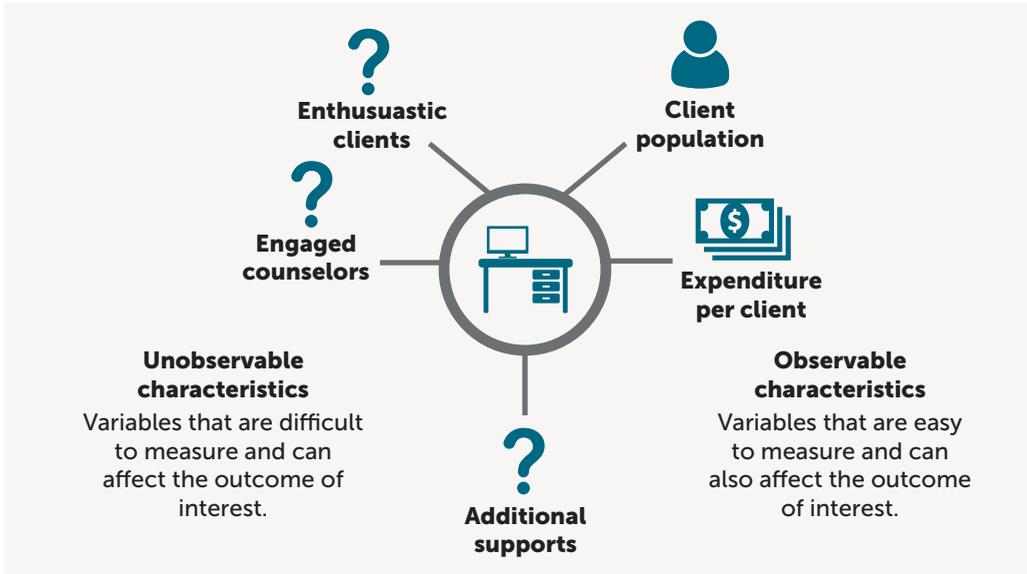
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Considerations when choosing a comparison group: **Counselors and office characteristics**



Just as individual clients have observable and unobservable characteristics, so do different VR counselors and offices, and these characteristics could affect the outcome you are measuring. When the treatment and comparison counselors or offices are similar, you can assume that their unobservable characteristics are comparable and thus do not skew the results. But if the counselors or offices are not similar, then part of the difference you see in outcomes could be caused by the differences in characteristics—not by the service.

Consider unobservable characteristics as early as possible. If you suspect that there are differences across counselors or offices, you may want to modify your evaluation to reduce the chance that those differences will skew your results. Your findings brief, report, or stakeholder presentation should note potential differences in unobservable characteristics.



When you are assigning counselors or offices to the treatment or comparison group and you are interested in the effect of a service on client outcomes, be sure to check the baseline equivalence of both counselor or office characteristics and client characteristics. For example, the clients in

the offices may have similar impairments and backgrounds, but differences in funding levels across treatment and comparison offices could affect the clients' outcomes. Or the funding could be similar across offices, but differences between clients could skew the outcomes.

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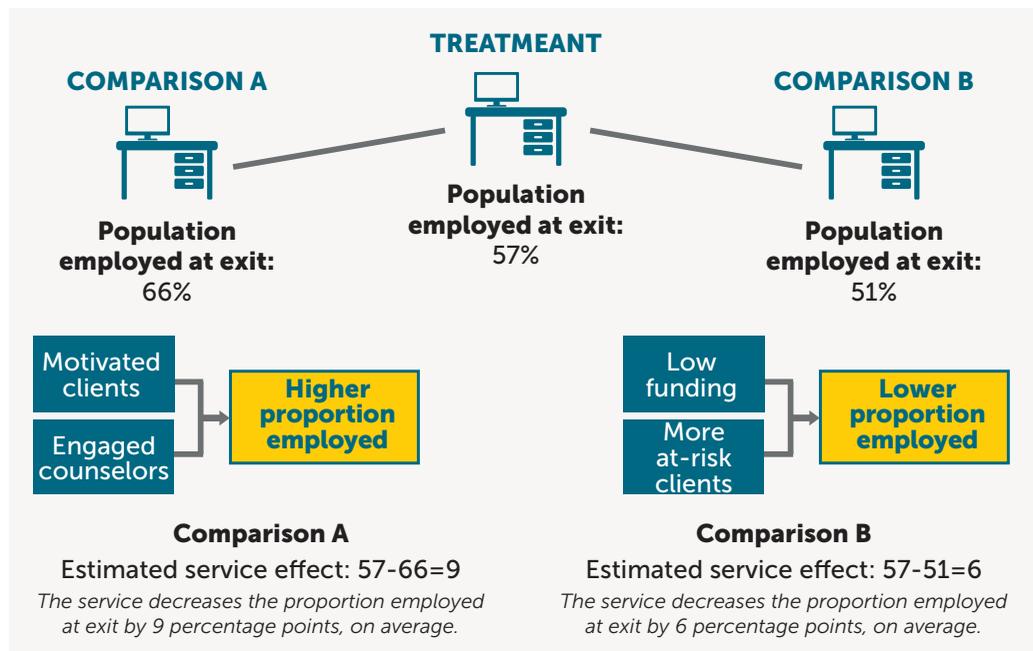


THINGS to CONSIDER

Considerations when choosing a comparison group: **The problem of one**



The more participants you include in your treatment and comparison groups, the more confident you can be in the results of your evaluation. This is because a larger number of participants reduces the likelihood that unobservable characteristics will skew the outcomes. But even with numerous participants in your evaluation, if the service is only assigned to one office, unobserved differences at the office level could affect the outcomes.



When you have only one counselor or office in the treatment or comparison group, you cannot know the actual impact of the service. Comparing one office to another is like comparing one individual to another—it's hard to determine what portion

of the difference is caused by the service and what portion is caused by differences in individual (or office) characteristics. Differences in characteristics can also make impacts look larger or smaller than they really are.

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