

Factor-Outcome Webs

Obj. 3.11: Create a factor-outcome web to visually diagram a health problem.



You decide to conduct a primary research study on drinking and driving. For this project you have to collect your *own* data. Your ultimate goal is to reduce the number of injuries and deaths resulting from drinking and driving. But with access to only a small sample size, it will not be possible for you to collect data on drunk driving and injuries/deaths directly. So instead you decide to trace back to the antecedents to the problem, the factors that contribute to the occurrences of drinking and driving in the first place. List as many ideas as you can below to answer the following questions.

What influences teens to drink alcohol? What influences them to drink and drive?

DISCUSS

You consider studying the following **risk factor (RF)** or **protective factor (PF)** and **outcome (O)** pairs. With a partner, brainstorm and add two more ideas to the list below:

1. How is **having one or more friends who engage in binge drinking** associated with the **likelihood for teens to binge drink**?
2. How is **education on drinking and driving in high school** associated with the **teenagers' attitudes towards drinking and driving**?
3. How is **lack of parental supervision** associated with the **likelihood for teens to attend parties where alcohol is served**?
4. How is _____ **(RF/PF)** associated with the _____ **(O)**?
5. How is _____ **(RF/PF)** associated with the _____ **(O)**?



One method for collecting, organizing, connecting, and studying the multitude of risk and protective factors associated with a health problem is to create a type of visual organization tool (similar to a mind map) called a factor-outcome web.

Factor-Outcome Web: A tool used to show the relationship between risk or protective factors and associated outcomes, made by connecting variables with bubbles and arrows, pointed in the direction of hypothesized influence.

It is very important to realize that when we study health factors, one risk factor may be an outcome for other risk factors, so really the two terms are interchangeable at times. For example, if knowledge of the risks of drinking and driving may be a protective factor for the outcome of avoiding the behavior of drinking and driving, but this knowledge may also be an outcome of the protective factor of mandatory drinking and driving education in schools. This can be represented as:

$Pf_B \rightarrow Pf_A \rightarrow O_A$

Education \rightarrow **Knowledge** \rightarrow **Not Drinking & Driving**

Therefore, it may be easier to think of this type of map as a VARIABLE map, since it is simply connecting different variables that could influence a problem.

In another example:

$Rf_B \rightarrow Rf_A \rightarrow O_A$

Cigarettes smoked by family member(s) \rightarrow **Smoking** \rightarrow **Lung cancer**

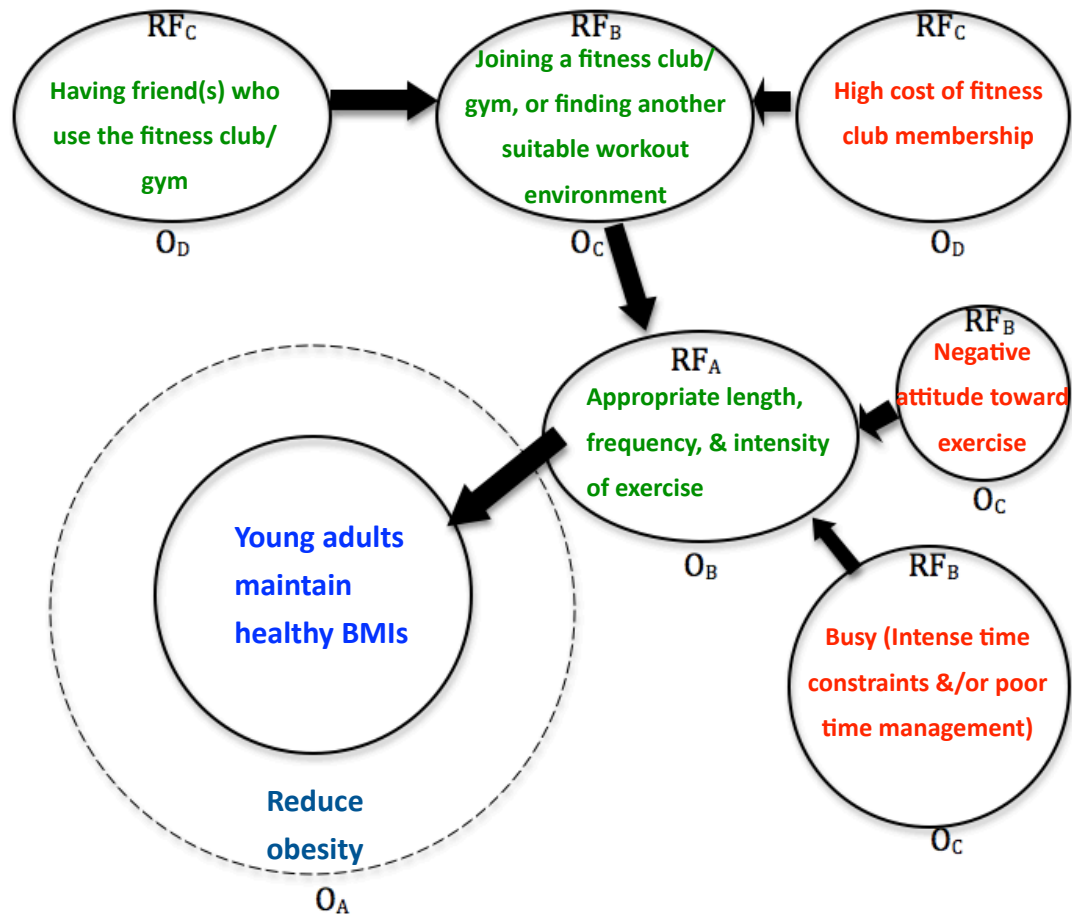
The risk factor of cigarette smoking in the home may increase an adolescent's likelihood to smoke, and this in turn influences their likelihood to develop lung cancer.



An antecedent can be defined as, "something that came before something else and may have influenced or caused it." How many antecedent factors (risk or protective) can you think of that would influence someone's decision on whether to join a gym?

NEW
INFO

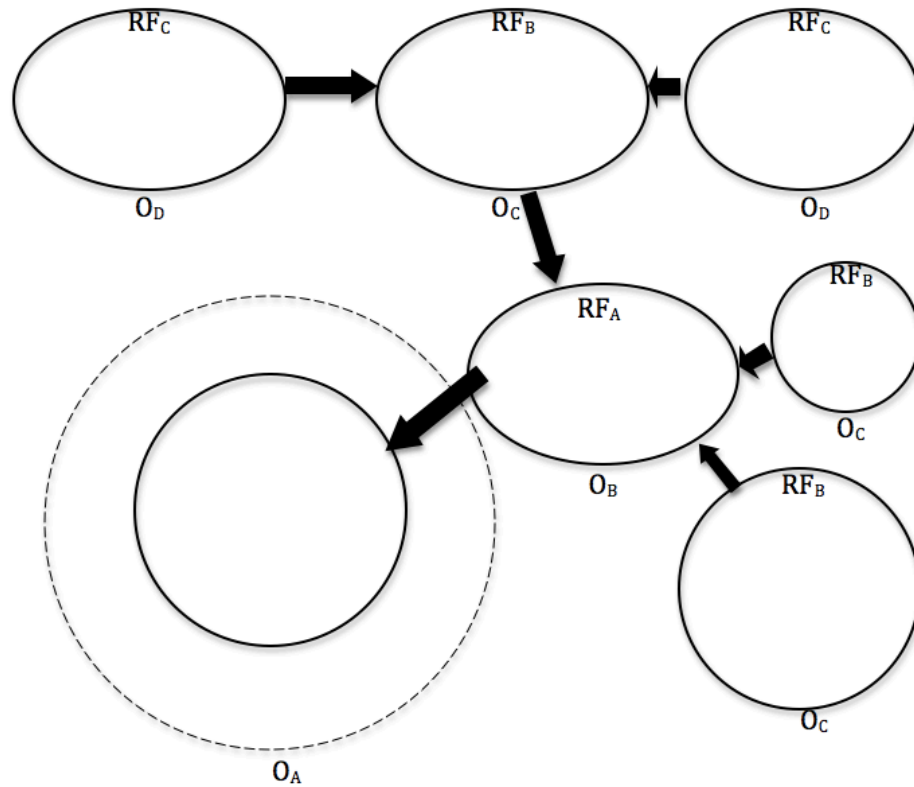
Visually, there are many ways you can connect your variables (risk factors, protective factors, and outcomes) in a web. In the diagram below, you see labels for different “chains” of connected risk and protective factor, outcome pairs. It is important to note that the construction of a web like this is not to be confused with PROOF that there are any associations or causal links between the variables (although there may indeed be), rather it is a way to organize thinking and should be viewed strictly as a thinking tool.



This is just a snapshot of what part of this web might look like. It would be nearly impossible to include ALL the variables that influence a health issue, but you should try to be as comprehensive as possible. Also note that you can have discretion over how you write your variables. You may choose to always keep them neutral (ex: healthy eating behavior), or choose to assign them as a risk factor (negative, ex: eating unhealthy) or protective factor (positive, ex: eating healthy). Ultimately the choice is yours, but you may find it easier to pick one method and stick with it for the sake of consistency. Another helpful method to keep the variables in each bubble simple (the ones above are fairly detailed), is to use an even greater number of bubbles and keep the center bubbles as the main idea (ex: exercise), while adding surrounding bubbles with details (ex: frequency, intensity, length).



Now it is your turn to practice. Come up with any health issue that you might want to study more. Fill in the diagram below, or create your own web in the space below it.





1. What is a Factor-Outcome Web? (Describe in your own words.)

2. In the space below, create a simple Factor-Outcome web that includes the following five bubbles:

- (1) Asthma attack
- (2) Intense exercise
- (3) Access to inhaler
- (4) Knowledge of personal triggers
- (5) Quality asthma education during physician visits



Write a paragraph explaining the benefits and drawbacks to creating a Factor-Outcome Web when researching a health issue.