The Misguided Search for the "Magic Bullet."

What Factors affect Academic Achievement in College

- Studying
- Completing homework
- Attending class
- Keeping up with reading
- Keeping a schedule
- Forming a study group
- Sitting in the front
- Being engaged in class

Small Differences are Still Important

Is one variable the most important?

Can the one most important cause of academic achievement be identified?

Of what value is it to identify it?

When our old Nemesis rears its head…

Due to pre-existing biases or highly emotional subjects..

We tend to forget or ignore the principle of multiple causation.

And fall prey to…
The Temptation of the Single Cause Explanation

Sometimes multiple Variables (A and B) may work **ADDITIVELY** to affect an outcome. In such cases the variables are called additive, as in the case on the right, where the presence of each variable is associated with the score increasing 50 points.

Small Differences are Still Important

Is one variable ever the cause of anything in psychology?

One variable which accounts for a greater proportion of the behavior of interest may be the most important

But only all the variables TOGETHER rather than them SEPARATELY can best account for the behavior.

**The Concept of Additivity**

**The Concept of Interaction**

Sometimes multiple Variables (A and B) may work **INTERACTIVELY** to affect an outcome. In such cases the variables are called interactive because the influence of one depends on the status of another variable.
The concept of multiple causes involves even more complexities than you might have thought at first. Not only is it necessary to track down and measure the many individual factors that may influence the behavior in question, but it is also necessary to investigate how these factors interact.

For Example….

A farmer that in debt kills banker and himself...
WHY?
A inner city resident kills someone...
WHY?
What is the difference?

To Top it Off…

All of the complex problems that psychologist analyze are multiply determined!!