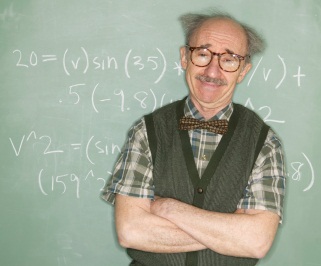
Instructions: Dr. Dimwit is unfamiliar with the “third variable problem” and the dangers of inferring causation from correlational research. He has made some mistakes, as you see below. For each scenario, provide an alternative explanation (i.e., a THIRD VARIABLE) that Doctor Dimwit hasn’t considered*.*



**A correlational study by Friedman and Mare (2014) shows** that parents of college grads live two years longer than parents whose kids didn't graduate high school.

Dr. Dimwit concludes: “I’d love to have a higher life expectancy. I guess I should make sure my daughter finishes college!”

What is an example of a THIRD VARIABLE related to the finding that parents of college grads live two years longer than parents whose kids didn't graduate high school? In other words, Dr. Dimwit understands this correlation as, encouraging your kid to finish college will lead to/cause a parent to live longer. What is an example of an additional variable that influences both whether or not a student finishes college and, separately, the parents’ life expectancy?

**A correlational study by Rampell (2010) shows that students at private colleges have higher college GPAs than students at public colleges.**

Dr. Dimwit concludes: “I want my daughter to get a high GPA so she can get into law school. Therefore, I will make sure to send her to a private college.”

What is an example of a THIRD VARIABLE related to the finding that students at private colleges have higher GPAs than students at public colleges? In other words, Dr. Dimwit understands this correlation as, attending a private college will lead/cause a student to have a higher GPA than attending a public college; what is an example of an additional variable that influences both the college a person attends and the person’s college GPA?

**A correlational study by Mehl & colleagues (2010) shows that people who report higher life satisfaction also tend to engage in more small talk.**

Dr. Dimwit concludes: “Who wouldn’t want higher life satisfaction?! I guess I should make more of an effort to engage in small talk, so that my life satisfaction will increase.”

What is an example of a THIRD VARIABLE related to the finding that people who report higher life satisfaction engage in more small talk than people with lower life satisfaction? In other words, Dr. Dimwit explains this positive correlation between life satisfaction and frequency of small talk by concluding that engaging in small talk causes higher life satisfaction; what is an example of an additional variable that increases both life satisfaction and frequency of engaging in small talk?

**ANSWER KEY**

**A correlational study by Friedman and Mare (2014) shows** that parents of college grads live two years longer than parents whose kids didn't graduate college.

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What is an example of a THIRD VARIABLE related to the finding that parents of college grads live two years longer than parents whose kids didn't graduate high school? In other words, Dr. Dimwit understands this correlation as, encouraging your kid to finish college will lead to/cause a parent to live longer. What is an example of an additional variable that influences both whether or not a student finishes college and, separately, the parents’ life expectancy?

A third variable could be: Parental motivation. Highly motivated parents might stay on top of their children throughout their school years and drill into them the importance of completing college. Less motivated parents might not pay much attention to their children’s education, and let their children drop out of school. In addition, highly motivated parents might be highly motivated in all areas of their lives, such as with regard to their personal health. Highly motivated parents might be motivated to maintain a healthy diet, to exercise, and to not smoke (or to quit smoking), which could increase their life expectancy. Thus, higher parental motivation increases the likelihood that their kid will finish college AND, separately (i.e., for other reasons), increases the parents’ life expectancy.

A common incorrect answer is: Kids who graduate college will make more money than kids who don’t graduate college, and for that reason will be able to care for elderly parents better than kids who don’t graduate college. This answer is incorrect because “making more money” is not a “third variable.” Remember that a third variable separately influences each of the original two variables, and suggests that the original two variables are probably not causally related. This incorrect answer suggests a reason WHY the original two variables ARE causally related; that’s not what a third variable does.

**A correlational study by Rampell (2010) shows that students at private colleges have higher college GPAs than students at public colleges.**

Dr. Dimwit concludes: “I want my daughter to get a high GPA so she can get into law school. Therefore, I will make sure to send her to a private college.”

What is an example of a THIRD VARIABLE related to the finding that students at private colleges have higher GPAs than students at public colleges? In other words, Dr. Dimwit understands this correlation as, attending a private college will lead/cause a student to have a higher GPA than attending a public college; what is an example of an additional variable that influences both the college a person attends and the person’s college GPA?

A third variable could be: going to a challenging, preparatory high school. Going to this type of high school (vs. having a high school experience that doesn’t challenge the student academically) might make a student more prepared for the difficulty of college-level work, and being more prepared will lead to better GPAs. In addition, the guidance counselors at this type of high school might encourage their students to apply to and attend private schools, because those counselors believe private is better. Thus, going to a challenging, preparatory high school increases the likelihood that a student will attend a private college AND, separately (i.e., for other reasons), increases the likelihood that a student will have a high college GPA.

Another third variable could be: socioeconomic status. Private colleges are often more expensive than public (state-funded) colleges; the higher one’s socioeconomic status, the more likely one will be to be able to afford going to a private college. Also, having higher socioeconomic status might mean that the student will be less likely to have to work at a job while attending college, and more likely to be able to afford a paid tutor, both of which could increase GPA. Thus, higher socioeconomic status increases the likelihood that the student will attend a private college AND, separately, increases the likelihood that a student will have a high college GPA.

A common incorrect answer is: faculty members at private colleges give out higher grades than faculty members at public colleges. This answer is incorrect because it does not refer to a “third variable”. Instead, this incorrect answer explains WHY going to a private college leads to / causes better grades. You want to find a variable that ultimately shows that the original two variables are only correlated because they are both influenced by a third variable.

**A correlational study by Mehl & colleagues (2010) shows that people who report higher life satisfaction also tend to engage in more small talk.**

Dr. Dimwit concludes: “Who wouldn’t want higher life satisfaction?! I guess I should make more of an effort to engage in small talk, so that my life satisfaction will increase.”

What is an example of a THIRD VARIABLE related to the finding that people who report higher life satisfaction engage in more small talk than people with lower life satisfaction? In other words, Dr. Dimwit explains this positive correlation between life satisfaction and frequency of small talk by concluding that engage in small talk causes higher life satisfaction; what is an example of an additional variable that increases both life satisfaction and frequency of engaging in small talk?

A third variable could be: having a busy, stressful life. The more a person has a busy, stressful life, the lower his or her life satisfaction will be (because he or she never has time to relax and have fun). Also, the more a person has a busy, stressful life, the less time he or she would have for small talk (because he or she is too busy to stop and chat). Or to re-phrase, the less busy and stressful a person’s life is, the higher the person’s life satisfaction will be, and at the same time, the less busy and stressful a person’s life is, the more time the person would have for small talk.

A common incorrect answer is: People who are satisfied with their lives are always in better moods than people who aren’t satisfied with their lives, and when a person is in a good mood they are more likely to stop and chat than when a person is in a bad mood. This is incorrect because mood is not a “third variable.” Mood is a variable that explains why life satisfaction causes an increase in the likelihood of engaging in small talk. You need to identify a “third variable,” which shows that life satisfaction and small talk are only correlated because they are both causally influenced by a third variable.