

Paper Assignment 1

Phil 12: Logic and Decision Making

Write a short paper (1-2 pages, double-spaced, typed) on the question assigned for your section. These are to be turned in at the beginning of class on Tuesday, **13 November 2007**. Present your answers entirely in your own words—do not quote material either from the website or the lecture powerpoints. There is no need to quote anyone else, explain everything in your own words. Clarity, precision, and accuracy are all essential for a good paper.

A01: Monday, 8am

Your colleagues have done a study in which they found that athletic ability is a predictor of moral rectitude (how morally upstanding someone is). The Pearson coefficient is -0.99 . They have achieved statistical significance of $p < 0.001$. Twenty-five years from now, your daughter (make appropriate changes if you prefer to write about your son) brings home the star college basketball player, saying she is in love with him and they are going to marry. A man having good moral rectitude is a necessary and sufficient condition for you to want your daughter to marry that man. She has never heard of a Pearson coefficient or a p -value. Explain very carefully to her why you do or do not want her to marry this man, making her understand clearly what the Pearson coefficient is and what the p -value means (you do not need to say anything to her about necessary and sufficient conditions, and you may assume that the operational definitions your colleagues used for athletic ability and moral rectitude have excellent construct validity and that the fact that 25 years has passed is irrelevant). Please do not recapitulate the scenario in your paper; just start explaining things to her based on the scenario.

A02: Monday, 4pm

You are a middle-aged professional, and you've just come up for a promotion at your place of employment. You now have the chance to get a job that pays significantly more, involves fewer hours of work, provides five months of vacation time per year, and permits travel to exotic locales. But it will be a competitive process, since you're contending with several other candidates for this dream job. The only problem is this: the boss is referencing a paper published by your colleagues which shows a correlation between collegiate writing acumen and future success. (They found a Pearson correlation coefficient of 0.71 and a statistical significance of $p < 0.3$.) Furthermore, your collegiate writing abilities were demonstrably poor: you were a terrible writer who never progressed much beyond a mediocre high school level of writing. So now you're (rightly) concerned that your boss's use of this paper as a way to predict future success may weigh against your ability to secure the job. Make a case for why your boss shouldn't use this scientific paper as a way to rule out job candidates. Make sure to convey your understanding of correlation and significance. You don't need to repeat this scenario; just get straight to the point about why you ought not to be immediately ruled out as a candidate based on this paper.

A04: Friday, 1pm

You are a political analyst working for a US senator who is a member of the Republican party. Naturally, your boss seeks reelection in 2008. Your job is to advise her on how she should situate herself politically on a scale ranging from conservative to liberal to maximize her chances for

reelection. Being on top of the relevant literature, you are aware of a recent paper published by your colleagues. The paper claims that there is a correlation between the degree to which reelected senators voted conservatively during the previous term and their state's political orientation as reflected by the vote share of the 2004 Republican presidential ticket in that state. In other words, the more support the Republican presidential candidate had in that state in 2004, the more conservative were the senators that were reelected in that state in 2006. Your colleagues have found a Pearson coefficient of 0.76 and a statistical significance of $p < 0.2$. Your boss seeks reelection in a "blue" state in which less than 45% of the voters voted for the Republican ticket in 2004. Your boss has never heard of a Pearson coefficient or a p -value. Explain very carefully to her to what extent this study suggests that she should or should not vote conservatively for the remainder of the term, making her understand clearly what the Pearson coefficient is and what the p -value means (you may assume that the operational definitions your colleagues used for conservative voting behaviour has excellent construct validity and that the fact that almost four years have passed since the last presidential election is irrelevant). Please do not recapitulate the scenario in your paper; just start explaining things to her based on the scenario.