A

T. Malinowski
PSY 505-01
Critique I
29 October 2004

Critique of Defensive Hostility and Coronary Heart Disease

From the outset, this article hypothesizes that "angiographically determined coronary artery disease (CAD) is associated with a combination of high cynical hostility and high social defensiveness" (463), which the article terms defensive hostility. In order to measure defensive hostility, the researchers use a scale of cynical hostility, the Ho scale of the Cook-Medley Hostility Scale, and a scale of social defensiveness, the Marlowe-Crowne Social Desirability Scale (MCSDS). These measures appear to be adequate representations for hostility and social defensiveness. As well, the use of a standard of 50% or more blockages (stenosis) of one or more of the three major arteries seems to be a sufficient definition of CAD by medical appraisal.

In order to combine both of these factors, individuals rated as high hostility and high social defensiveness were considered the sample group of defensive hostility (DH). The means by which they were assessed as high or low within the scales is questionable. The researchers referenced the Janner median approach as their tool for designating a score as high or low (465). Every score which was greater than or equal to the median score was considered high. This leaves much doubt as to the range of scores, and how many approached the median yet were designated high or low without regard to variation.

good

Perhaps a better method would be to divide the scores into three categories and discarding data in the middle, leaving high and low scores. As well, if these scales are not normed, it is difficult to say what an expected normal score is. The entire sample may have scored high or low, compared to the average population. It would be useful to know what the typical range is for the scales used.

Additionally, the researchers discuss previous research performed by others which used the same scales as this study (468). However, when referring to the high and low groups, it is not indicated whether these studies used the same scale. There is no indication of a standardized scale for the high and low hostility or social defensiveness measures. So again, the group which was studied for this research may have fallen into another study's high or low group overall, whereas here scores are indicated as being either high or low.

The researchers attempted to reduce confounds by surveying medical records for diagnoses of alcoholism, diabetes, hypertension, and hypercholesterolemia. They also collected data on age, body mass index, education, marital status, smoking, and income. Significance was found for age and trends toward significance for diabetes and marital status were discovered (465-466). The statistics used to attempt to control for these factors after the shown significance are not sufficient enough to rule out the effect. It would be advantageous for the authors to control for these potential confounds from the beginning, however it is noted that this is preliminary research and these issues could be further investigated with additional studies. Using an ANOVA to attempt to identify confounds as independent variables may be used at times to rule out the effects, however it is not as sound a method as controlling for the factors initially. It gives the appearance

What would you have used to analyze these data?

as though the researchers were attempting to fix a major flaw with data supporting their hypothesis.

There are other issues which arise from critiquing the methods of this research. The individuals who were chosen were surveyed on the eve of their cardiac catheterizations. This is a notable event which might invoke various feelings of cynicism, nervousness, or other responses. These responses may have a serious effect on the self-reports which were used to identify cynical hostility and social defensiveness. This is noted in the authors' discussion section, but not controlled for in the study.

There is also room for speculation as to how subjects respond to self-report surveys when left with the checklists overnight. Those individuals who were married at the time may have received visits from their spouses during the evening and their spouses may have filled in the questionnaires. This may account for the initial near-significance ($p=0.07$) found between marital status and defensive hostility (466).

As well, it should be noted that there are individuals who believe that an alpha level this low in medical research should be considered significant as there appears to be a greater probability of treating the effects positively, and with medical concerns it would be better to have an effect most of the time than miss out on opportunities to aid in another's health. This having been said, the approach to significance demonstrated by the ANOVA of a Ho main effect with MCSDS and diabetes and also the point-biserial correlation between number of vessels blocked and diabetes should not be ruled out by an ANOVA attempting to rule out diabetes as an independent variable. This issue is omitted in the discussion section.

Overall, with this paper considered initial research, it highlights points for further research to develop. One of the major flaws to be considered is running statistics until it is shown to rule out the significance of an effect, which was shown to be at least approaching significance. As well, it is difficult to say whether the low and high DH scores were able to be generalized to the average population. The authors note the limitations of the population chosen, however they neglect to identify whether their median is comparable to the larger population's median.

References

Jorgensen, R.S., Frankowski, J.J., Lantinga, L.J., Phadke, K., Sprafkin, R.P., Abdul-Karim, K.W. (2001). Defensive Hostility and Coronary Heart Disease: A Priliminary Investigation of Male Veterans. *Psychosomatic Medicine, 63,* 463-469.

Don't need a ref section in a critique