

DISCUSSION

Audience and Panel Participants: Ron Herning and Lance Bauer

Dr. Herning: The bottom line, I think, that I've tried to make very hastily by looking at a lot of studies is that we should not necessarily fall into the trap that happened in alcoholism with the focus on the P300 component. The message I'd like to leave with you is when you collect evoked responses, you get these other components. In the 30 studies I looked at in sons of alcoholics, only 5 of them really looked at the other components. Some of these deficits were before the P300, which suggests that perhaps whatever P300 process represents, it's getting faulty information from an earlier stage and that stage of cognitive processing needs to be considered also.

The second point is that there is some commonality in these populations at risk. I don't mean to suggest that the sensory and cognitive deficits are precisely similar in each, but there appears to be early sensory and cognitive deficits that are reflected in event-related potential components in these populations at risk for drug abuse.

Dr. Bauer: Dr. Herning, you just mentioned there may be some commonality in findings. Focusing specifically on the P300 literature, that's not always true; it depends greatly on the nature of the task. I'm thinking specifically of the literature on P300 effects of psychopathy or antisocial personality (ASP) disorder. You have reported data in the past showing reduced P300s in delinquents.

Dr. Herning: We found, in that study, reduced latency N1s and altered slow wave, but not P300 changes.

Dr. Bauer: In any case, there is a small body of findings suggesting reduced P300 amplitudes in individuals with ASP disorder or with psychopathy. There is also another perhaps equally small body of literature focusing mainly on prisoners that has found enhanced P300s. There are, I think, a number of possible explanations for these disparate results. These explanations have to do with whether or not drug abuse was assessed, what type of ASP one is studying, and whether it's maybe an aggressive or nonaggressive type that can all alter the P300 outcome.

But, given the fact that ASP disorder either increases or decreases P300 relative to normal, I think it does suggest that if one wants to look at the P300 effects of a family history of drug abuse, let's say, or a family history of alcoholism, careful attention must be given to ASP or psychopathy since that may mediate, or even moderate, the effects one is trying to demonstrate. That's the only point I wanted to make.

Dr. Herning: I think you're right in looking at it in that particular fashion. Just in looking at the early prisoner studies I'm not sure there was a good drug history obtained in those studies and that may explain the divergent results. There is a debate in the literature over whether the P300 increased or decreased, but certainly it was measured and it was affected.

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