A Rebuttal of the National Safety Council's Defense of DDC

Adrian K. Lund
Allan F. Williams

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Insurance Institute for Highway Safety, Watergate 600, Suite 300, Washington, D.C. 20037

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In May, 1984, the Insurance Institute for Highway Safety (IIHS) released a study entitled, "The Effectiveness of Post-Licensure Driver Training: A Review of DDC Literature."* This review concluded that post-licensure driver training such as the National Safety Council's (NSC) Defensive Driving Course (DDC) should not be relied on to reduce crashes. The review found that the 19 studies of DDC's effectiveness, based on analysis of the strength of their methods, did not show reductions in crashes for those who had taken the course. Although other post-licensure driving courses have received too little empirical evaluation to provide independent estimates of their effects, the available data indicated that they were probably no more effective than DDC.

In August, 1984, the National Safety Council (NSC) produced a lengthy document entitled, "A Response by the National Safety Council to the Insurance Institute for Highway Safety Study Entitled 'The Effectiveness of Post-Licensure Training: A Review of Defensive Driving Literature' May 2, 1984." This NSC response discussed 11 points of disagreement with the Institute review; it held that the IIHS review was in error, that DDC is effective, and that IIHS subsequently misrepresented the study findings in the publication, The Year's Work, 1983-84. The issues raised in the NSC response have little merit and do not affect the conclusions of the IIHS review.

^{*}For publication purposes, the title has been changed to "A Review of the Literature Evaluating the Defensive Driving Course" and minor changes have been made in the text; none of these changes substantially affect the original results or conclusions.

The IIHS Review

The data on which the review's conclusions were based are summarized in Figures 1 and 2, which appeared in that paper. In each figure, studies of DDC are grouped into three categories on the basis of the strength of their methods. The terms "weak, inadequate, and strong" indicate the degree to which the studies included appropriate control groups and reliable measures of crashes and violations. Only methodologically strong studies can provide valid estimates of reductions in crashes and violations. This is confirmed by the pattern of results given in the figures, which shows the estimates of the effectiveness of DDC decrease as the methodological rigor of the studies increases.

DDC is associated with a decrease in violations in the strong studies (Figure 2). Thus, the review concluded that DDC may reduce violations, even though the estimates of its effects were not significant in most studies. For crashes, however, the pattern is one of no effect (or offsetting positive and negative effects) in strong studies; the conclusion that DDC should not be relied on to reduce crashes was based on this finding.

NSC's Claim of Errors in IIHS Review

It should be noted that the NSC response did not present any new evidence about DDC; hence, the IIHS review appears to have been comprehensive of the available literature. Nor did NSC's response contest the design flaws found in some of the studies.

NSC maintained that there were design problems with the studies that the review identified as "strong." Those problems do not invalidate

the strong studies; however, rejecting these studies would indicate that there are <u>no</u> valid tests of DDC's effect on crashes. In that case, reliance on DDC to reduce crashes would still be unwarranted.

NSC criticized as scientifically invalid the review's conclusion that reliance on such courses to reduce highway losses is unwarranted. According to NSC, "the most sweeping scientific opinion the authors could propose is that it is not known [emphasis in original] if DDC can be relied upon to prevent highway losses." NSC's criticism is nonsense: if it is not known whether DDC reduces crashes, it would be folly to rely on the course to do so.

NSC objected to the inclusion of studies of high school students and chronic traffic violators, claiming that the absence of effect in these studies might have occurred because the course was not designed for such groups. However, DDC is used extensively with chronic violator populations, and there is no evidence that the response of high school students to DDC is different than the response of older drivers. Thus, these populations are legitimate for analysis. Moreover, if such populations are excluded from consideration, there are even fewer strong studies of DDC and still no scientifically valid evidence of its effectiveness. (NSC accepted the results for some groups of traffic violators without explaining why these groups were acceptable and others were not.)

Finally, NSC objected to placing more reliance on state crash records in preference to driver self-reported crashes. Self-reports need not always be inferior to state records; however, self-reports are subject to memory and distortion problems that may be affected by DDC (for example, people who have taken DDC may wish to make it appear

successful). Whatever the limitations of state records, they should permit better estimates of the effect of DDC. Although the reliance on state records did lower the power of studies to find statistically significant differences, this was mitigated somewhat by considering the overall pattern of results rather than the statistical significance of individual studies.

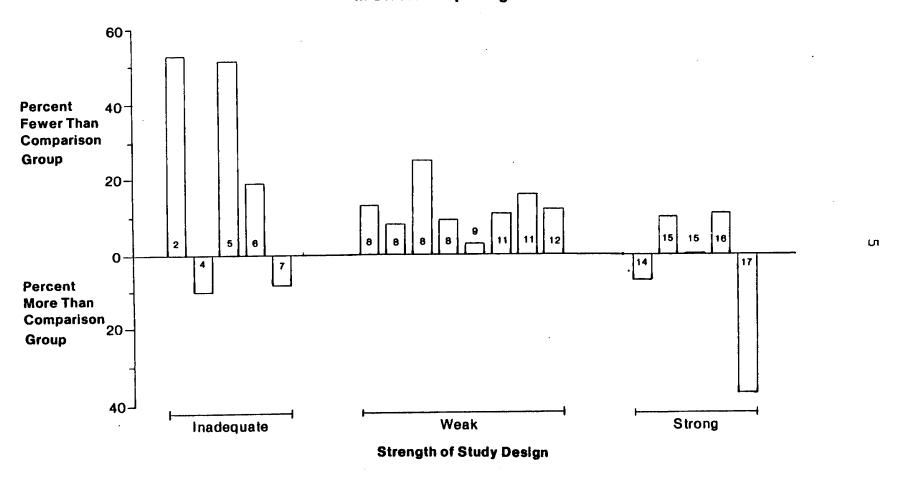
NSC's Claim that DDC is Effective

NSC argues that the review data actually support the effectiveness of DDC, if the evidence from weak studies is accepted and if studies of certain driver populations are excluded. Neither of these conditions is scientifically justified. The pattern of the data (i.e., the negative association between methodological rigor and the estimated effects of DDC) confirm that the findings of weak and inadequate studies are unreliable. NSC's criteria for excluding certain populations are a posteriori and inconsistent.

Misrepresentation of Findings in Other Publications

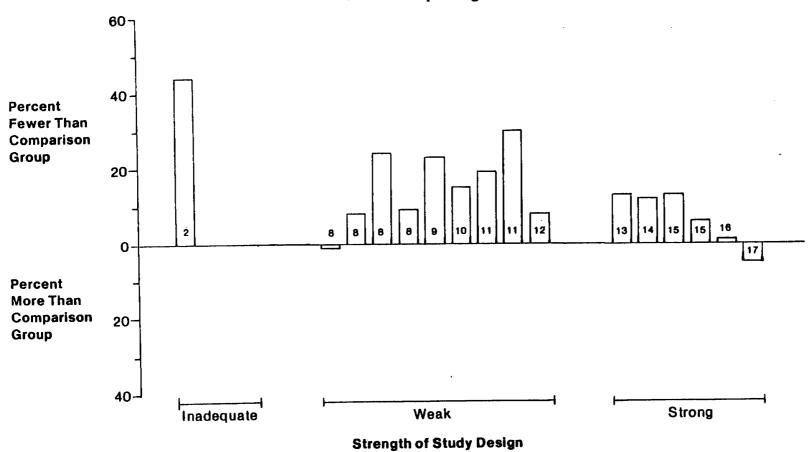
NSC refers to <u>The Year's Work, 1983-84</u> in which Figures 1 and 2 were reproduced with different labelling. The new labelling was incorrect; this error was found shortly after the first copies were circulated and corrected in all subsequent copies. The error was unfortunate, but it should be noted that the text of <u>The Year's Work</u> did not claim a harmful effect of DDC, which presumably is the implication of the error that concerned NSC.

FIGURE 1
Crashes of DDC Graduates Relative to Comparison Drivers
In Studies Reporting Crashes



Note that numbers in bars identify the studies as presented in the table

FIGURE 2
Violations of DDC Graduates Relative to Comparison Drivers
In Studies Reporting Violations



Note that numbers in bars identify the studies as presented in the table

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