

ROD-AND-FRAME TEST PERFORMANCE AMONG NAVAL AVIATION PERSONNEL

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Following an empirical and theoretical review of the literature on field dependence-independence (Long, 1974) and a brief investigation into possible biasing variables on the rod-and-frame test (Long, 1973), an informal research program investigating the potential utility of this perceptual-style dimension in Naval aviation was undertaken. A significant portion of this work involved the administration of the rod-and-frame test (RFT), the most popular index of the field dependence-independence perceptual style, to various groups within the Naval aviation community. These included rather large samples of Aviation Officer Candidates, student pilots ($M = 33.65$, $SD = 19.51$, $N = 103$) and Naval Flight Officer Candidates, non-pilot flight officers ($M = 33.46$, $SD = 20.36$, $N = 124$) assigned to the Naval Training Command, Pensacola, Florida. In addition, RFT scores were obtained for smaller samples of test pilots ($M = 17.05$, $SD = 10.28$, $N = 21$) and F-4 fighter aircraft pilots ($M = 20.3$, $SD = 10.4$, $N = 45$) assigned to the Naval Air Test Center, Patuxent River, Maryland (W. Helm, personal communication, 1974), and for a sample of Landing Signal Officers, experienced Naval pilots who direct aircraft carrier landing operations ($M = 18.8$, $SD = 7.0$, $N = 57$; Britton, 1974). It can be seen that the three experienced pilot groups have significantly lower, i.e., superior, RFT scores than the two student aviator samples ($p < .001$ for all t test comparisons). Neither the three pilot groups nor the two student groups differed significantly among themselves ($p > .10$). A small sample of male and female college students from a local university who were also administered the same RFT under identical conditions provides some comparative basis for these aviation samples ($M = 50.66$, $SD = 22.01$, $N = 12$). All five aviation samples differed significantly from the small college sample ($p < .01$ for all t test comparisons). These latter results are consistent with the previous findings of Cullen, Harper, and Kidera (1969) that civilian airline pilots were relatively field independent. However, the large differences between the experienced Naval aviators and the Naval flight students were somewhat unexpected, and it is presently unknown whether these differences represent an aviation training effect on RFT performance or a selection effect within the training program such that field-dependent individuals are relatively less likely to complete aviation training. Subsequent research is underway.

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