Personality characteristics of South African Navy divers

I read with interest the carefully designed and thought-provoking study by Van Wijk and Waters regarding personality characteristics of South African Navy divers (1). All the same, their paper raises questions regarding the reliability and validity of the instrument they used to assess personality. It also seems that some of their conclusions deserve greater emphasis and additional comments with respect to the existing literature on the personality characteristics of Navy divers and submariners, and the comparisons they made between the Million Index of Personality Styles (MIPS) and the 16 Personality Factor Questionnaire (16 PF).

The instrument we used to assess personality characteristics in U.S. Navy divers was the Millon Index of Personality Styles (MIPS). An initial psychometric evaluation of the MIPS revealed internal consistency, test–retest reliabilities across all samples, and convergent validity which was established by strong correlations between the MIPS and existing measures of personality (2,3). Prior reliability and validity determinations of the 16 PF, which was the instrument used by Van Wijk and Waters, were not discussed. Of course, this information is important if conclusions are to be drawn regarding the internal and external validity of their study findings. Consequently, it is worth noting that the test–retest reliability of the 16 PF and correlations between the 16 PF and other measures of personality have been shown (4).

Van Wijk and Waters referenced a study by Dembert and colleagues (5) who used the Minnesota Multiphasic Personality Inventory (MMPI) to conclude that 197 Navy divers scored well within normal limits. Although the Dembert study involves one of the largest samples of military divers to date and the MMPI is a widely administered personality test, the MMPI may suboptimally characterize Navy divers because it was originally designed to assess the personalities of medical and psychiatric patients (6,7). Contrarily, Van Wijk and Waters astutely note that the version of the 16 PF they used was designed for non-clinical populations (1). Importantly, theirs may be one of only a few studies using an instrument designed for non-clinical populations to characterize the personality traits of Navy divers (2).

An interesting feature of the study by Van Wijk and Waters was a statistical comparison of 16 PF scores between South African divers and submariners. This comparison only yielded significant differences for factor F (Enthusiasm, which was higher in divers) and factor Q1, (Conservatism, which was higher in submariners, with a high score indicating individuals who tend to experiment and think freely) (1). Since the profiles of divers and submariners differed in only 2 of 15 scales, Van Wijk and Waters questioned whether the 16 PF can be used to differentiate divers from other risk professions. However, it is also worth considering that their study may not be adequately powered to demonstrate statistical differences for more than 2 out of 15 factors, since there are only 100 and 85 subjects in the diver and submarine samples, respectively. More importantly, having worked closely with both U.S. Navy diving and submarine personnel, I would consider the finding of increased enthusiasm in divers to be accurate. Yet, like Van Wijk and Waters, I would anticipate submariners to display conservative traits. Indeed, a study on the personalities of U.S. Navy submariners by my colleagues, Moe et al., (8) revealed that submariners tend to be workaholic and strongly focused on standards.

Van Wijk and Waters contrasted the personality traits of South African Navy divers based on the 16 PF, and findings of our study which profiled the personalities of U.S. Navy divers using the MIPS (2). Van Wijk and Waters acknowledged the difficulty in reconciling an apparently conflicting conclusion; namely, that the 16 PF described Navy divers as having a high group orientation (Q2, with low scores indicating social group orientation, a “Joiner,” and a sound follower), whereas the MIPS characterized Navy divers as displaying the “individuating” trait (self-fulfilling, independent, ego-centric) (1,2). A possible reason, they propose, is that the South African diving community is elite and close-knit. However, I readily submit that these adjectives also apply to U.S. Navy divers, who must complete a rigorous course of physical training, who are relatively few in number, and
who serve effectively together for extensive periods in environmentally demanding settings.

More striking, it seems, are the similarities between results from the 16 PF and MIPS instruments with respect to personality characteristics of South African and U.S. Navy divers. Van Wijk and Waters underscored a parallel between a high enthusiasm score on the 16 PF and a high optimism score on the MIPS. Yet, if one carefully studies Millon’s descriptions of the MIPS factors (2,3), additional similarities seem to emerge. Although the 16 PF factor E+ (dominance, aggressive, competitive) was not among the four most descriptive traits in the Van Wijk study, South African Navy divers did have an elevated score in this realm. In particular, U.S. Navy divers’ MIPS trait of individuating (independent and egocentric) may correlate with South African divers’ 16 PF score for O- (low scores indicating confidence, self-assurance, insensitivity to peoples’ approval or disapproval) (1,2,4). Likewise, U.S. Navy divers’ MIPS trait of controlling (forceful, domineering, aggressive, competitive, fearless) seems to correlate with South African Divers’ 16 PF scores for E+ (dominance, aggressive, competitive) and H+ (adventurous, low phy-ilogic reactivity to threat, boldness in physical danger situations) (1,2,4). Ultimately, however, it must be conceded that attempts to compare two measures of personality will be restricted by each of these instruments’ unique designs, and that analyses regarding these types of observational studies are limited by the need to use descriptive terms.

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REFERENCES:

The author responds:

Dr Beckman offers a number of enlightening comments, and I need to thank him for pointing out that the reliability of the 16PF and correlations with other measures of personality have been shown (1).

His expansion of further possible similarities between the results of the Million Index of Personality Styles (MIPS) (2) and the 16 Personality Factor Questionnaire (16PF) (3) make for interesting reading, especially given the ubiquitous expectation that naval divers per se constitute a rather unique group. I concur with his hypotheses of potential correlations, and further research using more than one personality instrument may be an interesting way to confirm this.

Our comparison of the divers with submariners showed little difference between the two groups (3), although our experience suggests that the two groups would portray different group profiles on the 16PF. The small numbers will have contributed to the lack of differentiation, but the instrument itself may not have been sensitive enough to discriminate between the two groups.

Our experience suggests that experienced (and usually older) divers and submariners conform more to the "typical" profile for their respective groups. It can therefore be hypothesized that the young age of some of the sailors may have influenced the group profile, through the process of less exposure resulting in less opportunity for different profiles to crystallize.

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REFERENCES