ABSTRACT

The present investigation was undertaken with the intention of providing a means of assessment of aggression for the adult English speaking population. The scale was developed with the idea of making it as comprehensive as possible in the aspects it covered.

In order to fulfill this aim items were pooled from a large number of inventories that represented different aspects of aggression. For those aspects of aggression on which no inventories existed new scales were developed. Items that were felt to be repetitions were deleted. Where necessary items were modified and retained on the concurrence of three experts. Out of a total of 451 items 390 remained.

These items were processed along Thurstone's method of scale construction. Q-values and scale values were calculated. The median of the Q-values was found. All items above the median were rejected and those below were retained. In other words 193 were rejected and 197 retained.

These items along with the thirty nine which the judges felt were relevant formed part of the aggression scale that was tried out in a pilot study on 10 individuals. A stress scale was also introduced at this time as the information was to be used for validation. The purpose of the pilot study was to eliminate any items that were not understood by the least educated but English speaking individual belonging to the sample. As a result of the study nineteen statements were dropped. There remained 217 statements at this stage.
Data was collected on 566 individuals of the normal sample. All subjects were between 21 and 60 years of age with secondary school level of education and knowledge of English. The sample was drawn from educational institutions of the graduate and post-graduate level and from advertising and marketing organisations. Management trainees, doctors, nurses and housewives were also included in the sample. A total of 524 questionnaires could be treated as valid and used for analysis.

Data was also collected on the clinical population. It included neurotics, psychotics, personality disorder and criminal cases. A total of 139 cases were studied. Out of these 69 were matched with 73 of the normal population on age, sex, education and income.

Scoring of the aggression scale involved the multiplication of each raw score of an item with its corresponding weight. The statistical analysis applied to the data at this stage was factor analysis so as to provide the factorial validation of the scale. Factor analysis was a necessary step in addition to the content and construct validities already established. The content validity of the scale was established through item collection and item selection procedures. The construct validity was contributed through the application of Thurstone's technique of scale construction. Factor analysis was used to provide not merely factorial validation but also to provide valid scales of aggression in terms of factors that could emerge. The SPSS sub program at the TIFR was applied for the purpose. As the program could accommodate only 80 variables, suitable steps were taken to reduce the variables to fit the requirements of the program. Consequently 78 variables
were factor analyzed using the method of principal factoring with communalities in the diagonal. Eighteen factors with eigenvalues above 1.0 were retained and subjected to oblique rotation. A second-order analysis followed, using the method of principal factoring with communality estimates in the diagonal. Five factors with eigenvalues of 1.0 and above were retained and subjected to orthogonal varimax rotation.

The eighteen first order factors accounted for 57.8 per cent of the total variance and constituted the scales of aggression. These scales of aggression are: Impulse control, Hostile to Self (Negative), Material Destructiveness, Suspicion, Resentment towards others, Inhibited Hostility to others, Anger-rejected Hostility to others, Alienation Home-Environment, Self Critical, Low Threshold for Tolerance, Physical Aggression (Negative), Non-specific Hostility, Physiological Reaction (Negative), Angry Outburst, Physical Reaction, Verbal Aggression and Anger. The second order factors accounted for 50.2 per cent of the total variance and provided the major dimensions of aggression. These are: Anger, Indirect Aggression, Other-Directed Aggression, Self-Directed Aggression and Physical Aggression.

The clinical validation of the scale was carried out on matched normal and clinical samples. Results indicated that all scales differentiated the two groups significantly except Scale VI, Scale XIII and Scale XVI. The full scale differentiated the two groups significantly. Aggression was generally higher in the clinical sample than the normal sample.

Further validation was carried out by correlating the aggression scales with six stress areas and calculating
the significance of difference between the correlations of the normal and clinical samples. The results indicate that the eighteen scales of aggression and the full scale correlate significantly with at least one stress area in each of the two samples. At least one such correlation differentiated the two groups thus strengthening the clinical validity of the scale.

The reliability of the scale was assessed by the test-retest method which gave a correlation coefficient of 0.75. It was assessed also by the alternate form method which gave a correlation coefficient of 0.93. The coefficient alphas of the scales except for Scale XVII and XVIII were also significant thus contributing to the reliability of the scale.

The five second-order factors that emerged contributed to a five dimensional framework of aggression. On the basis of the statistical emergence of the factors speculations on a model of aggression were made. In its hierarchical order it is comparable to the models hypothesized by May (1972) and Marcovits (1973).

In conclusion it may be said that the present investigation resulted in the development of an objective, fairly comprehensive and reliable measure of aggression which is sensitive to varying intensities of aggression. The results of factorial validation shed light on multiple facets of aggression and contribute towards the understanding of the