Rabbit platelets were aggregated by rabbit, bovine and turtle collagen. No measurable ADP or ATP was released from thrombocyte preparations exposed to collagen in nine out of eleven experiments.

When 5×10^{-5} M ADP was incubated for 10 min in TRP with PEP-PK in the concentration given, the ADP was completely converted to ATP as measured by the firefly flash method or by the lactic dehydrogenase-NADH method. The presence of PEP-PK in a cell preparation to which turtle or bovine thrombin was added did not inhibit aggregation of the thrombocytes (Fig. 1). Thrombin induced the release of ADP and ATP from resuspended cell preparations. The average values from three experiments, expressed as 10^{-9} moles/10^9 cells, were 4·3 ATP and 7·0 ADP.

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GENERAL

Economic Growth and Anxiety

THIS communication is prompted by our total disagreement with the interpretation of the high correlation between "national" levels of anxiety and economic growth rates provided by Lynn[1]. We examine here the interpretation of the correlation and the assumptions on which Lynn's analysis rests.

On the basis of a correlation of 0·715 between "national" levels of anxiety (as assessed among groups of male students) and economic growth rates between 1950 and 1965, Lynn concludes that there is a tendency for "high anxiety countries to have better growth rates". He argues that anxiety is a causal factor in the motivation of efficient work which, in turn, is an important factor in the promotion of economic growth. If we assume, for the moment, that this correlation is valid for the purposes of Lynn's analysis, it is just as likely that economic growth rates influence national levels of anxiety as vice versa. Cattell[2], the collector of the cross-national anxiety data, has stated: "One can perhaps generalize that anxiety is determined more by economic status and the fanaticism of political disagreements than by differences in family upbringing or the infantile weaning, etc., trauma about which clinicians have woven fascinating theories" (page 121).

Furthermore, Lynn does not consider the possibility that this high correlation is partly or largely the result of some common underlying factor(s). Yet this could be the case. For example, the four highest anxiety levels and economic growth rates are registered by France, Japan, Germany and Italy, all nations defeated or occupied during the Second World War. It is not inconceivable that the anxiety levels of a majority of the male student subjects of these four nations were influenced by wartime or immediate post-war experiences. It would be interesting to know whether these student populations display "high" incidence rates of alcoholism and suicide. Nor is it inconceivable that the economic growth rates of these four nations between 1950 and 1965 were influenced by the war and its aftermath.

While the use of the Cattellian measures of anxiety in this context has much to commend it, Lynn overlooks many important questions. Cattell argues against an over-emphasis on the total score of his psychologically composite anxiety scale, having shown that, in university groups in the United States and the United Kingdom, there are considerable differences in the underlying pattern of fairly similar aggregate anxiety scale scores[3]. Published normative data for student and general population groups indicate a higher level of anxiety among students[4]. It also appears that the characteristics revealed as those of effective leaders in industry and commerce are, in the case of the subscales composing the anxiety measure, the exact opposite of those indicating high anxiety[4].

Contrary to Lynn's assertions, male university students are by no means a reasonable sample of either the "working population" or the "leadership" in any of the eleven nations used in the analysis. In all these nations there are obvious differences between the male student and working and leadership populations in age structure, educational background, career prospects and sex composition, to list only four important factors. Furthermore, the male student populations of these eleven nations are far from comparable. They vary enormously in social class origins, amount and source of income, career prospects and size as a proportion of their age group in the general population, as well as in other significant variables. It is even almost certain that the groups of students whose anxiety scores are available do not reasonably represent the eleven national student populations. For example, the anxiety statistic for the United States was obtained from students with a "fundamentalist religious outlook" studying in three "New England" universities. The anxiety statistic for the United Kingdom was obtained from ninety-two industrial administration students and a smaller group of education students[3].

The economic growth rates used by Lynn refer to fifteen specific years, not a long or a representative period of time when considering economic development. If a period of 30 or 50 years were used in the analysis the correlation coefficient might be reduced to insignificance. A different 15 year period might produce a different statistically significant correlational pattern. It would appear that a long period or some kind of time sampling procedure needs to be used in this type of analysis.

We feel that Lynn's interpretation of the data presented is not only erroneous but also misleading. Perhaps Cattell's[2] own conclusion on this problem of the relationships between economic performance, political circumstances and national anxiety levels should have been given more consideration:

"Let us . . . recognize that social psychologists will be able to give more exact answers to such questions only when a larger number of countries have been reliably sampled with standard anxiety scales" (page 120).

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