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Correlation Between Reaction Time and Intelligence in Psychometrically Similar Groups in America and India

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The relationship between psychometrically tested reasoning ability, or general intelligence (Raven's Progressive Matrices), short-term memory (forward and backward digit span), and measures of reaction time (RT), including visual and auditory simple RT and four degrees of choice RT, was investigated in groups of unskilled workers, mostly of below average, borderline, or retarded mental ability, selected in the United States and in India. Both groups showed parallel phenomena with respect to the relative difficulty of the various RT tests, their factor structure, and their theoretically expected correlations with psychometric intelligence, although the correlations were lower (and generally nonsignificant) in the Indian group, most likely because of this group's greater restriction in range of ability. The findings, overall, are consistent with other recent studies of RT and intelligence, which indicate that our standard IQ tests reflect basic cognitive processes, particularly speed of information processing, involved in individual differences in intelectual ability, and not merely differences in specific acquired knowledge, skills, or cultural background.

INTRODUCTION

As early as 1862, Sir Francis Galton, the founder of differential psychology, hypothesized a relationship between reaction time (RT) and general mental ability, or intelligence. Although the earliest attempts to test this hypothesis

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The first study was performed in Oakland, California, by Drs. Anima Sen and A. K. Sen at the University of California, Berkeley, in 1979. The following year, Dr. A. R. Jensen was a visiting lecturer at the University of Delhi, where the second study was conducted by Indu Arora.

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were notably unsuccessful (mainly because of methodological, psychometric, and statistical shortcomings), in recent years Galton's hypothesis has been reexamined empirically, with some success. Jensen (1979, 1980a, 1980b, 1981, 1982a, 1982b) has reviewed elsewhere virtually all of the major studies of the relationship between RT and intelligence, from Galton to the present; recent studies from Jensen's laboratory largely bear out Galton's original conjecture (Jensen & Munro, 1979; Jensen, Schafer, & Crinella, 1981; Vernon, 1981; Vernon, in press; Vernon & Jensen, in press). In general, the findings suggest that individual differences in performance on traditional psychometric tests of general mental ability, or IQ tests, reflect something more than just differences in acquired knowledge and skills; they also reflect psychologically more basic differences in information processing speed and efficiency.

The fact that measures of RT in task paradigms, such as those in the present study, which have virtually no intellectual content, should be found to be significantly correlated with scores on nonspeeded verbal and nonverbal psychometric tests involving complex reasoning, vocabulary, analogies, general information, and the like, is a psychologically surprising and interesting phenomenon. Experimental-analytic pursuit of this phenomenon could eventually prove to be scientifically rewarding, because the basic processes involved in RT are seemingly much simpler and hence much more amenable to hypothetico-deductive experimental analysis than is the case for performance on the very complex cognitive tests traditionally used for measuring intelligence. If RT and IQ are correlated, it could mean that they share certain basic processes in common, and the nature of these processes may be more readily understood by studying the relatively more accessible facets of RT than the scarcely analyzable test scores obtained from traditional mental tests, which are the end results of inordinately complex cognitive processes.

Because the RT-IQ correlation is counter-intuitive to many psychologists, Jensen's research, in this early stage, has centered on establishing the reality of the phenomenon and its generality across various RT paradigms and psychometric tests, and in different populations and groups varying in age and in their average level of psychometrically tested intelligence.

The present study is one more in this vein. It's aims are (1) to examine the correlation between RT and intelligence in groups which fall on the IQ scale somewhere between the average and the clearly mentally retarded (a segment of the IQ distribution which had not yet been studied in Jensen's laboratory), and (2) to determine if similar RT phenomena are found in such groups when they are selected from highly differing cultural backgrounds—in the present study, Americans in Oakland, California, and Indians in Delhi, India. Unfortunately, because of certain differences between the RT apparatuses used in terms of absolute RT scores is unwarranted. Therefore, the main concern of this study is with the relationships among the RT and psychometric test variables *within* each group, and in the similarities *between* the groups in the *pattern* of the internal relationships among variables.

METHOD

Subjects

American. A total of 58 *Ss*, approximately two-thirds of them males and one-third of them females, was given the complete battery of psychometric and reaction time tests. Of these 58 *Ss*, 37 were white and 21 were nonwhite (Negro, Mexican-American and Oriental). (The nonwhite group includes no Indians.) All *Ss* were employed in unskilled manual work in a factory which, in part, is also a "sheltered workshop," in Oakland, California. Most, but not all, of the *Ss* would be classified as borderline or mildly mentally retarded on the basis of standardized IQ tests. The mean IQ of the group was between 80 and 85. Their ages ranged from 18 to 72 years, with a mean age of 33 years, 7 months ($SD = 12$ years, 10 months).

Indian. A total of 45 *Ss*, all males, was drawn from Class IV employees in Delhi University. This class of workers comprises peons, sweepers, and watchmen. Their ages ranged from 18 to 50 years, with a mean of 27 years, 11 months ($SD = 7$ years, 4 months).

Psychometric Tests

All *Ss* were given Raven's Standard Progressive Matrices (RPM), a nonverbal test of reasoning ability general intelligence, based on seeing certain systematic relationships among a number of geometric figures. In numerous studies the RPM has been found to have high loadings on the *g* or general intelligence factor, when it is factor analyzed among any large and diverse battery of cognitive ability tests, whether they be verbal, nonverbal, or performance tests. The RPM was administered to *Ss* in small groups without time limit; *Ss* were encouraged to attempt all items.

Also, all *Ss* were individually given tests of forward digit span (FDS) and backward digit span (BDS). These are primarily tests of short-term memory ability, although both tests are also slightly loaded on the *g* factor, BDS generally more so than FDS, probably because of the more complex cognitive demands made by BDS than by FDS. The testing procedure of FDS and BDS followed the directions for these tests given in the manual of the Wechsler Adult Intelligence Scale (Wechsler, 1955).

Reaction-Time Tests

Simple RT-Visual (SRT_V). The visual stimulus, a white light, appeared in the 2 cm aperture of a black box. The subject (*S*) responded as fast as possible by pressing a pushbutton located near the aperture. The *S*'s RT (i.e., the time interval between the light's going "on" and the *S*'s pressing the button) was recorded in milliseconds. Preceding each presentation of the reaction stimulus (RS), the *S* was given a verbal "ready" signal by the examiner (*E*), which was followed, after a random interval of 1 to 4 seconds, by the presentation of the RS. Following verbal instructions, with demonstration by *E* and a few practice trials, a total of 20 test trials was administered in this fashion. The *S*'s score on the SRT_V test was the mean RT over the 20 test trials.

It should be noted that the very same piece of RT apparatus was not used in testing the American and Indian groups, although the essential features of the procedure were the same for both groups. In the American study, the standard Gerbrands reaction timer was used. In the Indian study, a reaction time device designed to do essentially the same things as the Gerbrands was specially constructed by the Psychological Laboratory in Delhi University. Nevertheless, it is well known that even slight differences in equipment design contribute some degree of apparatus-specific variance to the RT measurements, and therefore we shall place no emphasis in this study on the absolute differences between the groups in RTs per se. Because of the unknown magnitude of the effects produced by the differences in apparatus, direct comparison of the mean RTs in the two groups is not warranted.

Simple RT-Auditory (SRT_A). The apparatus and procedure are the same as in SRT_V, except that, instead of the visual stimulus, an auditory stimulus is presented as the RS. In the American study, using the Gerbrands RT apparatus, the auditory stimulus was a "beep" sound, terminated by the *S*'s response; in the Indian study, a buzzer sound was used.

Choice RT. The apparatus used for this test in the American study has been used in all of Jensen's studies of RT and intelligence and is most completely described in the article by Jensen and Munro (1979). The apparatus consists of a response panel, painted flat black, with a central "home" pushbutton and eight green jeweled lights with closely adjacent pushbuttons arranged in a semicircle of 6-inch radius around the "home" button (see Figure 1). A set of removable black plates covers the response panel so as to expose successively 1, 2, 4, and 8 of the light/button arrays, thereby varying the informational complexity of the CRT task over the range from 0 to 3 BITs of information. (In terms of information theory, the amount of information in a multiple-choice stimulus array is measured as the number of binary divisions of the choices that will reduce uncertainty to zero, hence our measure of the amount of information, or BITs, in a given light/button array is $\log_2 n$, where *n* is the number of light/button alternatives in the array.) In the testing procedure, the *S* presses down the home button, hears a preparatory signal (a 1-second "beep") and, after a random interval of 1 to 4 seconds, one of the lights goes on. As soon as one of the lights goes on, *S* removes his index finger from the

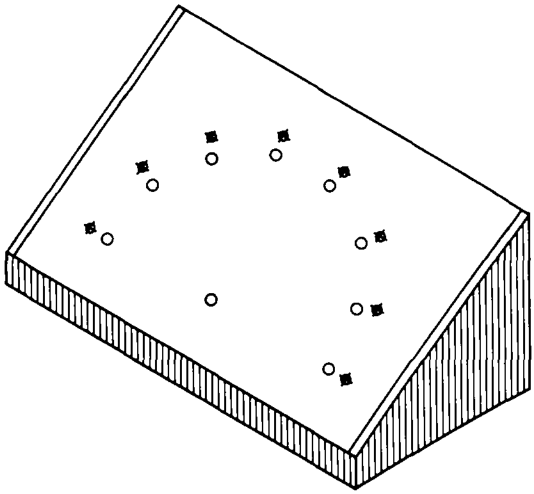

FIGURE 1. Subject's response console of the RT-MT apparatus. Pushbuttons indicated by circles, green jeweled lights by crossed circles. The "home" button is in the lower center, 6 in. from each response button.

home button and presses the button adjacent to the light, turning it off. *S* is instructed to do this as quickly as possible on each of 80 trails: 20 trials each with either 1, 2, 4, or 8 lights/buttons exposed (corresponding to 0, 1, 2, and 3 BITs). On each trial, two measurements are recorded in milliseconds by separate timers: reaction time (RT) and movement time (MT). RT is the interval between the light's going on and the *S*'s releasing the home button. MT is the interval between the *S*'s releasing the home button and the *S*'s pressing the home button adjacent to the light. The choice RT and MT for a given number of light/button alternatives is always indicated by corresponding subscripts, e.g., CRT_1, CRT_2, etc., and MT_1, MT_2, etc.

The CRT apparatus used in the Indian study was similar to the apparatus described above, but it had two important differences. First, the number of light/button pairs in each array consisted of 1, 2, 3, and 4 alternatives, corresponding to 0, 1, 1.58, and 2 BITs. Second, only total response time was recorded (in milliseconds) on each trial; that is, no distinction was made between RT and MT. The total response time is the interval between the lights going on and the *S*'s pressing the button adjacent to the light; hence it comprises what, with Jensen's RT-MT apparatus, is separated as RT and MT. Because of these important differences in apparatus, we cannot make direct comparisons of CRT across the two studies. In the Indian study, as in the American, each *S* was given a total of 80 trials: 20 trials at each of the four levels of complexity corresponding to 0, 1, 1.58, and 2 BITs.

RESULTS AND DISCUSSION

Psychometric Tests

Table 1 shows that the American and Indian groups are highly similar in their performance on the three mental tests which were identical in form and procedure in the two studies. The groups do not differ significantly on any of the tests. The groups' differences on the RPM and FDS yield *t*s of less than 1, and the t for BDS is 1.60, which falls short of significance at the .01 level of confidence. In terms of the English normative data on the RPM, both groups, on average, fall below the 25th percentile. The total range of RPM scores goes from mentally retarded to above average in both groups (4 to 51 in the American, and 9 to 48 in the Indian). The American group has significantly greater variability ($F = 1.98$, $df = 57/44$, $p < .05$).

Reaction Time Variables

Table 2 summarizes the data on the RT tests. The coefficient of variation reflects the sample variability relative to the mean, and, as can be seen in Table 2, indicates the greater variability of the American group on all of the RT measures. Overall, the American group shows almost twice as great a *CV* as the Indian group. (The *CV* is appropriate in this case, as the RT measurements represent a true ratio scale.) This is consistent with the American group's significantly greater variability on the RPM test.

Although direct comparisons of these groups are not strictly warranted, because of the unknown effects of the differences in apparatus used in the two studies, it may seem surprising that the RTs of the American group are consistently (and significantly) slower than the RTs of the Indian group—surprising especially in the case of the CRTs, because one would imagine that the American group should show smaller CRTs, since in their case the CRT represents only reaction time (RT), whereas for the Indian group it represents

TABLE 1.
Means and Standard Deviations of Psychometric Variables in American and Indian Groups

Variables		American	Indian
Raven's Progressive Matrices	*M*	24.53	24.33
	SD	14.12	10.03
Forward Digit Span	*M*	5.31	5.16
	SD	1.45	1.09
Backward Digit Span	*M*	3.25	2.91
	SD	1.21	0.95

TABLE 2.
Means, Standard Deviations, and Coefficients of Variation of Reaction Time Measurements (in Milliseconds) in American and Indian Groups

Variables		American	Indian
CRT_1	*M*	513.40	226.67
	SD	157.60	50.21
	CV	30.70	15.37
CRT_2	*M*	590.17	347.72
	SD	178.25	50.62
	CV	30.20	14.56
CRT_3	*M*		433.66
	SD		81.05
	CV		16.22
CRT_4	*M*	689.28	499.81
	SD	208.86	81.05
	CV	30.30	16.22
CRT_8	*M*	878.12	
	SD	283.46	
	CV	32.28	
SRT_V	*M*	351.10	305.26
	SD	124.73	60.80
	CV	35.53	19.92
SRT_A	*M*	366.62	233.76
	SD	160.62	49.79
	CV	43.81	21.30

both RT and movement time (MT). The differences in apparatus, however, make it impossible to interpret this difference. The apparatus and procedures are more alike in the case of SRT_V and SRT_A (i.e., simple reaction time to a visual or an auditory stimulus), and here, too, the American group is significantly slower. But again, because the apparatuses are not identical, not much can be made of the group difference. If identical apparatuses had been used for both groups, however, and a significant difference still was found, it would be highly interesting, for, assuming a correlation between RT and psychometric *g*, the finding of a significant difference in RT between groups that does not differ on psychometric tests (such as the RPM) would constitute prima facie evidence that either the RT test or the psychometric test (or possibly both) is a biased measure of *g* with respect to the two groups in question (Jensen, 1980a).

A striking example of the degree to which apparatus specificity can affect RT may be seen in Table 2, by comparing the means of CRT_1 and SRT_V within either the American or Indian groups. Both CRT_1 and SRT_V are cases of simple reaction time (to visual stimuli) and both formally correspond to 1 BIT in information terms. Yet the means of CRT_1 and SRT_V differ greatly *within* the same groups, and in opposite directions *between* the two groups.

Hick's Law. The general finding that RT increases linearly as a function of BITs has come to be known as Hick's law, as this regularity was first noted by Hick (1952). The presented data were appropriately plotted to see if they conform to Hick's law within each group, with the results shown in Figure 2. The data points fall very close to the least-squares fitted linear regression lines in each group. For the American group, the regression is RT = 488.75 + 119.33 BITs; for the Indian group, RT = 221.39 + 135.87 BITs. Within each group, Hick's law is clearly borne out. The regression for the American group may be compared with that of 280 university (Berkeley) students who were tested by Jensen (1982a), with the same RT-MT apparatus and procedure: RT = 299.4 + 28.0 BITs. The regression for 218 students in a vocational college (average IQ of 107) who were tested on the same apparatus was RT = 348.7 + 34.1 BITs. The regressions of RT on BITs for *S*s in these groups, which are above-average in intelligence, obviously have much lower intercepts and especially lower slopes than the corresponding regression for the unskilled factory

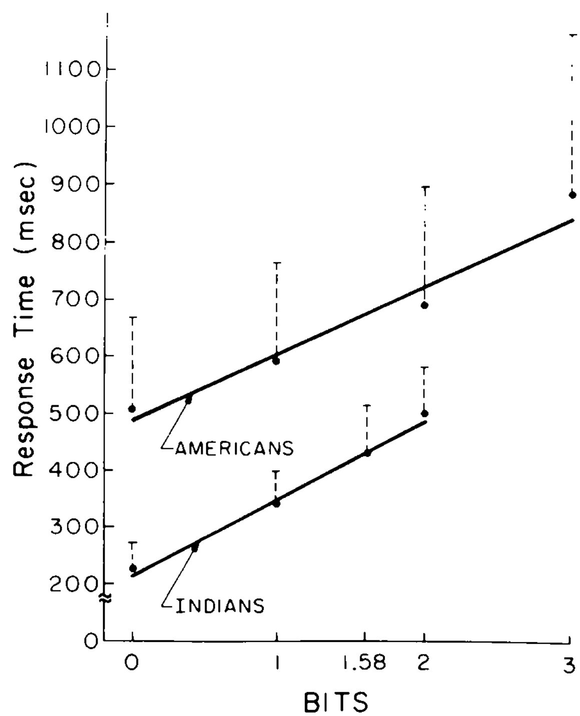

FIGURE 2. Mean response time as a function of BITs, for American and Indian groups. Vertical dashed lines indicate the standard deviation of the response times (i.e., interindividual variability).

workers, who averaged below the 25th percentile of the British norms in general intelligence as measured by the RPM.

The intercept of the regression reflects both ability and apparatus parameters. The slope of the regression probably reflects apparatus effects to a somewhat lesser degree. To test whether or not the groups differ significantly in the slope of the regressions, the slope of the regression of RT on BITs was calculated individually for each *S* and averaged over all *S*s. The mean slopes are 119.33 ($SD = 78.13$) and 136.14 ($SD = 33.24$) for the American and Indian groups, respectively. (Note that these figures are virtually identical to the slopes computed from the averaged data points in Figure 2.) The difference between the slopes for the two groups does not approach significance ($t = 1.47$). It is noteworthy that not a single *S* in either group showed a zero or negative slope. Hick's law holds for individuals as well as for group averages.

Movement time. MT in the CRT test was measured only in the American sample. The results are consistent with what has been found in all other studies: MTs are faster than RTs, and MTs do not increase across BITs. In the present study, the mean MTs (in the American group) are: $MT_1 = 443.6$, $MT_2 = 426.3$, $MT_4 = 451.0$, $MT_8 = 447.4$, with an overall mean of 442.11.

Correlations between Variables

Table 3 shown the intercorrelations among age (in months), the three psychometric tests, and the six RT variables. The signs of all of the correlations involving RT variables have been reversed, because *lower* RT indicates better performance, whereas *higher* scores on the psychometric tests indicate better performance.

Age. As can be seen in Table 3, age shows predominantly negative correlations with level of performance; that is, younger *S*s tend to outperform older *S*s, and this holds true in both the American and Indian groups. The interpretation of the negative correlations between age and performance is somewhat problematic in the present study, because these groups are not random or representative samples of the general population. The negative age correlations are less likely to be indicative of true changes in test performance as a function of age than they are indicative of a selective factor in the present groups. As these individuals were obtained in quite unskilled jobs, it seems likely that the more highly able persons would be more apt to move out of these jobs at a somewhat earlier age to assume somewhat more skilled types of work. Hence, there would arise a negative correlation between age and ability among those remaining in the unskilled jobs. If this is indeed the situation, then statistically controlling age, i.e., partialling it out of the correlations among the test variables, would amount to removing covariance actually attributable to dif-

TABLE 3.
Correlations (Decimals Omitted) for American (Above Diagonal) and Indian (Below Diagonal) Groups

Variables	1 Age	2 RPM	3 FDS	4 BDS	5 CRT_1	6 CRT_2	7 CRT_4	8 CRT_8	9 SRT_V	10 SRT_A
1 Age		-35	07	03	-20	-26	-34	-44	-27	-30
2 RPM	-17		32	29	34	31	33	36	35	36
3 FDS	-26	33		67	20	15	04	04	20	17
4 BDS	-38	38	39		37	31	14	10	18	18
5 CRT_1	-07	19	17	29		80	62	55	41	43
6 CRT_2	-32	20	19	36	58		74	66	56	67
7 CRT_3	-22	22	22	40	50	66		76	47	51
8 CRT_4	-24	11	11	25	46	54	68		44	48
9 SRT_V	-16	17	17	15	50	31	44	27		86
10 SRT_A	-33	-03	-03	18	50	62	38	24	30	

Note: Variables 5 through 10 have been reflected (i.e., correlations reversed in sign), because lower RT scores indicate better performance.

ferences in mental ability. We should, in such a case, put more stock in the raw correlations uncorrected for age. However, because of our uncertainty regarding the origin of the age correlations in the present samples, we have partialled out age in some of the correlation analyses.

Test of equality of correlation matrices. A statistical test (Jennrich, 1970) of the significance of the difference between the American and Indian correlation matrices was applied to the 10×10 matrix including age and to the 9×9 matrix of partial correlations among all the test variables after age was partialled out. In both cases, the American and Indian correlation matrices differ from one another significantly beyond the .02 level of confidence. (For raw correlations, $\chi^2 = 68.12$, $df = 45$, $p < .02$; for age-partialled correlations, $\chi^2 = 58.17$, $df = 36$, $p < .02$.) Most of the difference is due to the generally larger correlations for the American group, most probably because it has greater variance on all of the variables than does the Indian group, in which the more restricted range of ability has attenuated the intercorrelations among variables. The *pattern* of correlations, however, is quite similar for the two groups, as can be seen in their highly similar factor structures.

Factor analysis. The 9×9 matrix of age-partialled intercorrelations was subjected to a principal factor analysis (with estimated communalities in the main diagonal). The two factors with eigenvalues greater than 1 are shown in Table 4. (A principal factor analysis of the raw correlations [i.e., unadjusted for age] was also performed. Although the factor loadings are somewhat larger than with the age-partialled correlations, the pattern of factor loadings is practically identical, as shown by congruence coefficients of 0.99 in both groups.) The first unrotated factor is the general factor of this matrix; with its largest loadings on the RT variables, it can be characterized as a general reaction time factor. The second factor, which accounts for only about half as much total variance as the first factor, is significantly loaded only on the psychometric tests. But, note that two loadings of the psychometric tests, especially of the RPM, are divided between the two factors, and that the psychometric tests have moderate and significant loadings on the general RT factor.

The high degree of similarity of the first factor across the two groups is shown by a coefficient of congruence of 0.98. (Factors with congruence coefficients above .95 are conventionally regarded as the same factor.) The groups are less similar on the second factor, with a congruence coefficient of only .81. Again, probably because of the greater restriction of range in the Indian group, the first factor accounts for a substantially smaller percentage of the total variance in the Indian (38.5%) than in the American (46.8%) group.

It is also noteworthy that BDS, which Jensen (Jensen & Figueroa, 1975) has shown elsewhere to be more highly *g*-loaded than FDS, is also more aligned with the RPM than is FDS, in the factor analysis; BDS is more highly loaded on the first factor (general RT) than on the second factor, which has its highest loading on FDS.

Correlation between RT and general intelligence. The RPM is often considered as a marker test for Spearman's *g* factor, the general factor which all complex tests of mental ability share in common and which is conventionally characterized as general intelligence. To what extent is RT correlated with scores on the RPM? The factor analysis in Table 4 gives some indication,

TABLE 4.
Principal Factors (Unrotated) in American and Indian Groups

	American		Indian	
Variables	Factor 1	Factor 2	Factor 1	Factor 2
RPM	.40	.25	.26	.50
FDS	.36	.75	.22	.51
BDS	.44	.68	.40	.43
CRT_1	.74	−.01	.75	−.07
CRT_2	.88	−.16	.78	−.15
CRT_3			.81	.04
CRT_4	.75	−.29	.61	−.05
CRT_8	.67	−.25		
SRT_V	.71	−.06	.48	−.01
SRT_A	.79	−.12	.52	−.45
% Var.	46.8	18.1	38.5	17.5

showing RPM loadings of .40 and .26 on the first factor in the American and Indian groups, respectively.

The similar-sized loadings of all of the RT tests on the first factor means there is a large general factor common to all of the RT tests, and that the various RT tests do not differ very much on this factor. The most straightforward measure of this factor, therefore, is simply the unit-weighted sum of all six of the RT measures after each of these has been converted to a standard score. The total reaction time score (Total RT) obtained in this way was correlated with the RPM. Both the raw and the age-partialled correlations are shown in Table 5. In the American group, both the zero-order and the age-partialled correlations between RT and RPM are significantly beyond the .01 level. Total MT (which was measured only in the American study) also shows approximately the same correlations with RPM (and with age) as does Total RT. RT and MT are quite highly correlated (.72) in this group. A multiple correlation (R) was computed between RT and MT (as the independent variables) and RPM (as the dependent variable). The $R = .44$ ($p < .01$); the shrunken $R = .43$. With age partialled out, $R = .36$ ($p < .05$); the age-partialled shrunken $R = .34$.

The considerably lower (and nonsignificant) correlations in the Indian group are due, at least partly, to the much lesser variance of all of the variables in this group. Although the Indian group's correlations fall short of statistical significance when $N = 45$, they are doubtlessly truly greater than zero. This is evidenced by the fact that the correlations (zero-order and age-partialled) between RT and RPM are of the same sign and of similar magnitude for all six of the RT tests. Moreover, when the total Indian group is divided into those *S*s who scored above and those *S*s who scored below the median on RPM, the two groups differ significantly ($p < .05$) in mean RT, showing the

TABLE 5.
Zero-Order and Age-Partialled Correlations between Total RT[1], Total MT[1], and RPM

	American		Indian	
Variables	Zero-Order r	Age-Partialled r	Zero-Order r	Age-Partialled r
RT × RPM	.43**	.34**	.23	.19
RT × Age	−.38**		−.26*	
Age × RPM	−.35**		−.17	
MT × RPM	.40**	.32**		
MT × Age	−.31**			
MT × RT	.72**	.69**		

[1]RT and MT variables have been reversed in sign, so that better performance on RT and MT is positively correlated with better performance on the RPM.
*$p < .05$, 1-tailed test
**$p < .01$, 1-tailed test

following mean differences (in milliseconds) on the six RT tests: $CRT_1 = 35$, $CRT_2 = 22$, $CRT_3 = 51$, $CRT_4 = 21$, $SRT_V = 57$, $SRT_A = 44$, with an overall mean difference of 38 msec. Hence, the results obtained in the Indian study, although they are less impressive evidence of a relationship between RT and intelligence than was found in the American study, are not at all in conflict with the results in the American study or of other studies of this type (see Jensen, 1982a for a comprehensive review).

CORRELATION BETWEEN REGRESSION SLOPE OF CRT ON BITs AND RPM

As was seen in Figure 2, CRT increases linearly as a function of BITs, i.e., the amount of information conveyed by the reaction stimulus. The *slope* of the regression of RT on BITs is a measure of the increment in RT per BIT of information; the reciprocal of the slope ($\times$ 1000) is a measure of the *speed* of information processing in terms of BITs per second. The mean speed of information processing for the American and Indian groups is 8.38 and 7.35 BITs/sec., respectively. They do not differ significantly. For comparison, the mean speed for 280 university students is 35.71 BITs/sec. (Jensen, 1982a, Table 1, p. 124).

If speed of information processing is viewed theoretically as a prime factor in general intelligence, one should hypothesize a positive correlation between the speed measure (i.e., reciprocal of the slope of RT on BITs in the CRT task) and RPM scores. The correlations obtained in the American and Indian groups are +.21 and −.04, respectively. Neither r is significant at the .05 level, although the r of +.21 is significant at the .06 level with a 1-tail test. Because speed is negatively correlated with age (−.35 for Americans, −.21 for Indians), the age-partialled correlations between speed and RPM were also calculated, being +.10 and −.13 for Americans and Indians, respectively. Both rs are nonsignificant. Although the speed (or slope) measures have been found to be significantly correlated in the theoretically predicted direction with intelligence test scores in a number of studies, the correlations are usually quite small, most likely because of the quite low test-retest reliability of the slope parameter for individual *S*s. In this respect, the American groups' results are quite in keeping with the results of previous studies. The anomalous result in the Indian group study, in this respect (the only study to date in which the direction of the obtained r is opposite to theoretical expectation), could be due to the reliability of the slope of RT on BITs for individuals being greatly attenuated by the fact that the response times in the Indian group study are really an amalgam of both RT and MT, and MT has an average slope of zero. In brief, the CRT apparatus used in the Indian group study, as well as the restricted range of ability in this group, make the study ill-suited for a proper test of the hypothesized positive correlation between the measure of speed of information processing and scores on RPM.

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