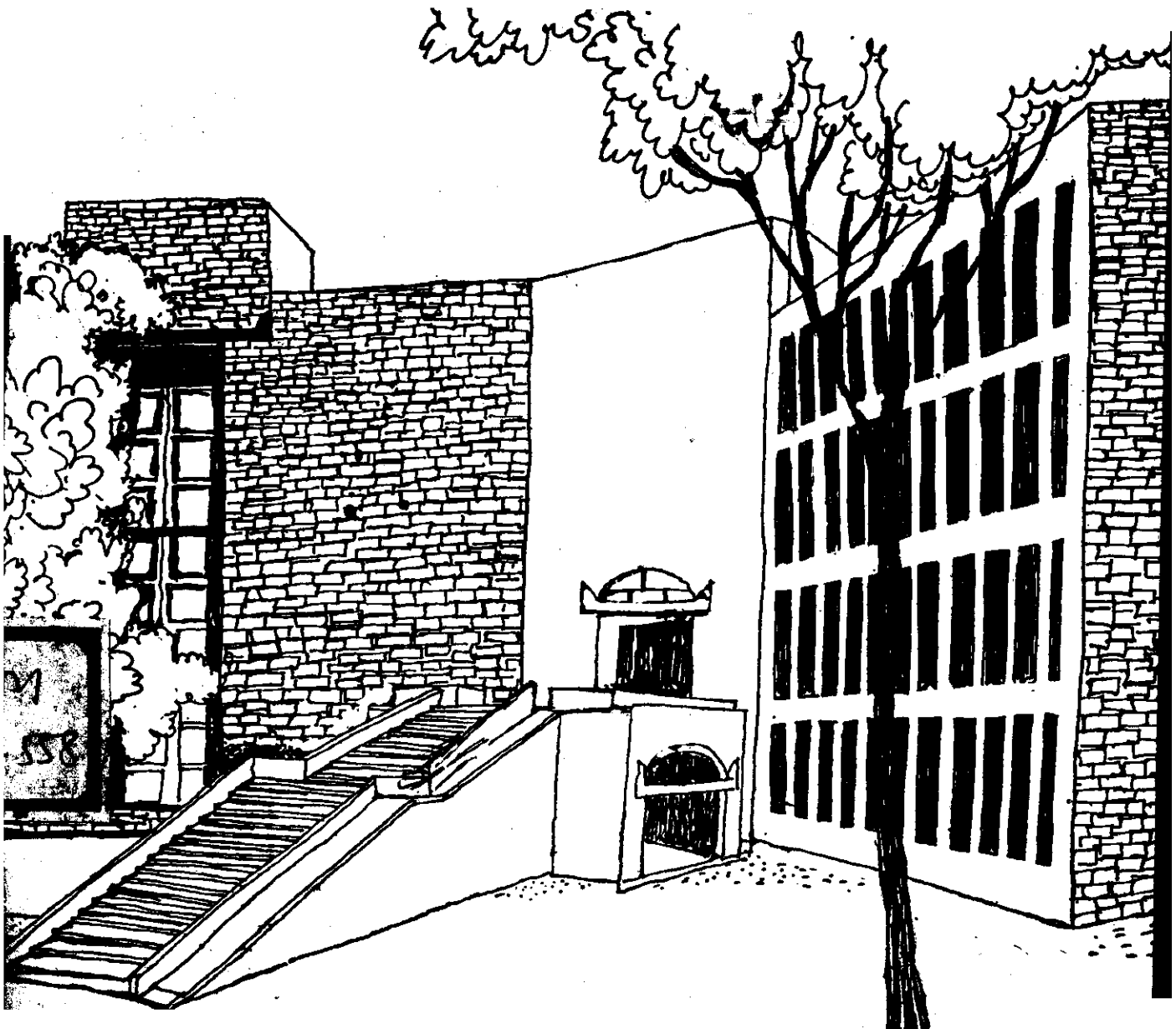


# Working Paper



THE PI MOTIVE : A BASE FOR DEVELOPMENT

By

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## THE PI MOTIVE : A BASE FOR DEVELOPMENT

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### Abstract

The paper presents the relevance, conceptual foundations, and operational measure of an important motive of professionals, and one that may be critical for socio-economic transformation. It is labelled the pioneering-innovating (PI) motive. The strength of the PI motive is assessed vis-a-vis five other motives for a sample of 750 professionals and professionals-in-the-making. Five hypotheses concerning the PI motive are tested. Four are supported while one receives mixed support. Several implications of the findings are discussed.

## Introduction

In poor countries like India, that have chosen to develop through a combination of governmental and private initiative, dynamic modes of functioning, both at the level of institutions and enterprises and at the level of individuals, may be essential for growth. In a developmental context, with a history of traditionalism and conservatism, individuals who wish to be discoverers, innovators, pioneers and creators of novel products, activities, processes, approaches, technologies, organizations, etc., may form an essential bridge between backwardness and modernity. While there has been some Indian work on change agent managements (Maheshwari, 1978; Khandwala, 1983; D'Souza, 1984), there is much less on change agent types of individuals. Indian empirical studies of entrepreneurs, for example, have largely been of individuals who set up or wanted to set up independent businesses (Nandy, 1979; Patel and Shrivastava, 1978). Barring a few biographies of great pioneers like Tata (Harris, 1959), Walchand (Khanolkar, 1969), Lalbhai (Tripathi, 1981), etc., there have been virtually no large sample studies of Schumpeterian-type innovative entrepreneurs (Schumpeter, 1934). The present study hopes to contribute to the study of change agency by identifying and measuring the pioneering-innovating motive (PI motive for short), and reporting the results for a sample of 750 professionals and professionals-in-the-making (that is, students under training as professionals.)

Among various groups in a developing society, professionals (managers, educators, health specialists, entrepreneurs, engineers, trainers, accountants, designers, etc.) may be particularly important agents of social change. Generally from middle class, upward mobile family backgrounds (Sharma, 1976) and living in a sea of illiterates and semiliterates, they tend to be socialised early into playing modernising or change agent roles. Their prolonged exposure to Western technologies and Western ideas in colleges and professional institutions is likely to strengthen their modernity orientation. Since the PI motive may be an important attribute of modernising elites in mixed economies like India, it may be useful to measure it among various groups of professionals. This may facilitate the development of technologies for identifying, selecting, and training professional change agents for various transformational missions. Thus, a study of the PI motive may significantly contribute to the identification and nurturance of a particularly precious human resource.

Besides the possible social relevance of studying the PI motive, there may also be sound academic reasons for studying it. In recent decades a variety of human needs and motives have been identified and studied. Some of the more important ones are the need for personal growth and self-actualisation (Maslow, 1954; Alderfer, 1972), the achievement, power, and affiliation motives (McClelland, 1961), and the extension or altruistic motive (Pareek, 1968). The PI motive taps a motive or need not captured or not captured fully by any of these needs and motives. McClelland's need for a unique accomplishment, an ingredient of his achievement motive (1961), comes close to the PI motive, but its determinants and consequences, and its relations with the other ingredients of the achievement motive with which it is generally aggregated, such as the need to do better than one's competitors or a standard of excellence, have not been reported. A recent study of 568 biologists, chemists, and physicists (Busse and Mansfield, 1984) found that the scientist's need for originality is significantly correlated with the number of articles published and citations received. This suggests that the PI motive, too, on the assumption that it overlaps with the need for originality, may be a significant predictor of pioneering and innovating behaviour.

#### Conceptual Foundations of the PI Motive

The PI motive, as conceptualised, has two related underpinnings: the need for unique path-breaking accomplishments (pioneering) and the need for transforming the status quo (innovating). Generally speaking, a unique accomplishment does tend to change the status quo and open up new avenues, and often impels recourse to novel or creative means, and conversely, a transformation of the status quo often has to be accomplished by pioneering actions. Thus, the PI motive may represent a need to transform the status quo in unique, or at least, uncommon ways, and may often impel the person to creative, non-conformist behaviours.

The PI motive shares some features with two other well-researched motives, but also differs from them in significant respects. The self-actualisation need (Maslow, 1954) shares the concern for growth and change with the PI motive, but while the self-actualisation motive is concerned with actualising one's potential, including creativity, the PI motive is concerned with unique, innovative and path-breaking achievements rather than merely "doing one's thing." The achievement motive (McClelland, 1961)

is concerned with task achievement, as is the PI motive, but while the achievement motive is concerned with achievement on all kinds of tasks (including unique tasks and also more humdrum tasks), the PI motive is concerned with transformational tasks. To take an example, a salesman who likes to achieve the targets given to him by his boss may be a high achiever, but not necessarily a high scorer on the PI motive, while a salesman who wants to try out unorthodox selling methods even if there is a risk of failing to reach his target may be high on the PI motive but not necessarily high on the achievement motive. Besides, the PI motive may be far more risk laden, for both pioneering and innovating are risky activities - the probabilities of failure are often greater than those of success. The skills preferred for pursuing the PI motive may also differ. While the knowledge and mastery of efficient, well-tried techniques may be seen as essential by the high achiever, the high PI person is more likely to be interested in identifying and pursuing uncommonly tried, unorthodox approaches.

#### The Operational Measure of PI

Since PI in reality may be a high cost motive, whose psychic and other costs may not be readily apparent, it was thought desirable to build costs into the instrument measuring PI. For this, first a number of situations were identified. For each situation the respondent was asked to allocate 30 points among six alternative responses to the situation. Each of the six alternatives tapped a different motive. The six included the PI motive. This way a zero-sum conflict (Schelling, 1960) was created: a person could give more points to the PI alternative only by reducing the points available for other motives. Five other motives, all of them significant in a developing country context were the competitors of the PI motive. The first was the growth or self-development motive, somewhat akin to the self-actualisation motive of Maslow, which may be an important motive in professional elites, at least in India (Maheshwari, 1983; Soares, Valecha, and Venkataraman, 1981; Singh, 1979); the second was the effectiveness motive, somewhat akin to McClelland's achievement motive and White's competence motive (1959);

another value that may characterise modernity in a traditional society, especially among professionals. Two other motives that may represent the socio-historical heritage of a traditional and poor society, were the status and the safety motives. The last was the conscientiousness motive measuring concern for others, and the need to fulfill one's family and other obligations, which may be partly a heritage of a social obligations oriented traditional society, but in part also represents the modern good citizen ethic. The costs of PI (as also of other motives) were further accentuated by building an approach-avoidance conflict (Lewin, 1948) in each of the six alternatives for a situation.

An example of a situation with six alternatives (not used in the data reported in this paper) may clarify the procedure. The respondent is asked to allocate 30 points to the six alternatives a to f listed below (no ties allowed; a minimum of 1 point to be given to an alternative and a maximum of 15; decimals not permitted):

"I prefer a spouse who is:

- a. Quite original and gifted, even if somewhat moody and unpredictable.
- b. Very obliging and helpful, even to the point of being somewhat gullible.
- c. Strongly inclined to develop his/her talents, even if this means some neglect of family duties.
- d. Rich, even if somewhat plain.
- e. Highly achievement oriented, even if a bit aggressive.
- f. From a high status family, even if a bit snobbish."

The six alternatives above seek to measure respectively the PI, conscientiousness, growth, safety, effectiveness, and status motives. It may be observed that in each alternative, something that may be generally considered desirable (gifted spouse, helpful spouse, self-development oriented spouse, rich spouse, achievement oriented spouse, and a spouse from a high status family) is associated with something that may be generally considered undesirable (moody spouse, gullible spouse, spouse who neglects family duties, a plain spouse, an aggressive spouse and a snobbish spouse), thus creating an approach - avoidance conflict in the respondent. It was hoped that such a conflict may also minimise the social desirability problem.

This sort of a scale structure seeks to mimic a relatively harsh world in which people have to trade off between alternative goals, and positive as well as negative outcomes are likely no matter what the choice. This choice-as-stress model may or may not be universally applicable. It seems applicable in developing societies like India in which alternative (to traditional) life paths are opening up due to socio-economic development and modernisation, but in the context of a resource-poor and turbulent environment, trade offs between alternative mixed outcomes are usually inescapable. Thus, the scale may be particularly useful in social environments in which choice is possible but costly. A copy of the instrument can be made available on request.

For measuring PI and the other motives, ten situations were used. These were (1) the respondent's priorities on a holiday; (2) main aim in life; (3) preferences in the work situation; (4) preferences in the home situation; (5) preferences for certain types of career; (6) attractiveness for certain types of persons; (7) preferences for certain types of biographies; (8) the use of Rs. 20000 received by the respondent among specified alternatives (9) approaches to accomplishing a tough task; (10) ambitions for one's child (present or prospective). The respondent's scores for the ten situations for each motive were aggregated. These scores were transformed into percentages by multiplying by 100 and dividing by 300 (the total of the scores for the ten situations). Thus, the strength of a motive was its percentage score of the total for all motives. Since the respondents had to allot, for each situation, at least one point out of 30 but no more than 15 points, the minimum possible score for each motive was 3.33% and the maximum possible score was 50%.

### Hypotheses

This study is principally one of identifying a valid and reliable measure of the PI motive. However, some hypotheses emerged early in the study, and are stated below:

1. Given that the PI motive is inherently risk laden, the stronger the PI motive the weaker would be the safety motive.
2. Given that the PI motive represents a facet of modernity in a largely traditional-ridden society, and the status motive represents a facet of a traditional, ascriptive social heritage, the stronger the PI motive the weaker will be the status motive.



3. Given that the growth and effectiveness motives are, with the PI motive, facets of modernity in a largely tradition-ridden society, the stronger the PI motive the stronger will be the growth and effectiveness motives.
4. Since the PI motive represents a creative urge, the more congenial the person's environment to creative activity, the stronger will be the PI motive.
5. Since the PI motive represents an urge to differentiate oneself from the herd, the stronger the PI motive the more distinctive will be the career and other choices the person makes.

#### Reliability and Validity of the PI motive

The operational measure of PI turned out to have reasonably good reliability and validity. The ten item PI motive had a reliability (Cronbach's alpha) of 0.81. This is well above the minimum .5 reliability recommended by Nunnally for exploratory research (Nunnally, 1967:226). It compares very favourably with the reliabilities found by Busse and Mansfield (1984) for their need for originality scale. These ranged from .55 to .73 for 3 groups of scientists. The test - retest reliability for a sample of 32 MBA students was .78, the interval between the two administrations being 4 months.

To validate the scale, contrasting groups were identified from each of two institutions, a technologically sophisticated and innovative engineering company, and one of India's leading institutes of management, also known for its pioneering and innovative role in management education and research in India. In the engineering company, the organization development manager who had extensively interacted with various departmental groups of the company, identified a group he believed was relatively highly innovative (the R and D group) and one he believed was much less innovative (the accounting group). The writer identified two groups in the management institute on the basis of his intimate knowledge of the organization, one of doctoral students (the high PI group) and the other of administrative support staff (the low PI group). The prediction was that the R and D group's PI score would be significantly higher than that of the accounts group, and the score of the doctoral students would be significantly higher

than that of the administrative support staff. A further pair of groups from the management institute was identified. This pair consisted of students who had registered for a course on creativity (believed to be high on the PI motive) and a sample who had not registered for this course (believed to be low on the PI motive). Table 1 shows the mean scores for all six groups. The differences were, as expected, all statistically significant.

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Table 1 about here  
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It was also predicted that those high on the PI motive would prefer to work in a pioneering type of organization rather than one with job security and good emoluments. A sample of professionals (N = 160) who had completed the PI instrument also ranked seven alternative long term careers for themselves (see Table 2). As Table 2 shows, the PI motive was significantly related to the preference for working in a pioneering organization (even when its viability was in doubt) and to aversion to working in a high job security, good emoluments kind of an organization.

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Table 2 about here  
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Data

Since the intention was to develop an instrument that would validly measure the PI motive of professionals, the instrument was administered to a wide range of Indian professionals: professional managers, entrepreneurs, designers, researchers and scientists, doctors, trainers, etc. The sampling was opportunistic. Table 3 shows the mean scores of various groups of professionals and also the mean score of a semi-professional group, the administrative support staff, (accountants, secretaries, supervisors of administrative and clerical activities, etc.). As the table shows, the scores range substantially, from 13.5% for the support staff to 23.7% for designers and design students. Researchers and scientists expectedly outscored groups like entrepreneurs and managers. Although entrepreneurs scored more than managers, the difference was not significant. To place the scores in Table 3 in perspective, it is useful to bear in mind that the theoretical range of PI (that is, the lowest and the highest possible scores) is from 3.3% to 50%. Thus, even the designers and the researchers and scientists scored well below half of the highest possible score. More cheerfully, perhaps, it is worth noting that the lowest score, that of administrative support staff, was about four times that of the lowest possible score. The data suggest that the PI motive, while not burning brightly in the breasts of Indian professionals, is not a mere cinder either.

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 Table 3 about here  
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Perhaps a better idea of the relative strength of the PI motive vis-a-vis the other five motives can be had from Table 4. The table shows that PI is not the dominant motive of Indian professionals. The effectiveness and the growth may be the strongest motives of Indian professionals, followed by the PI motive. But the differences are not large. What perhaps is especially interesting is that the three modernity motives (effectiveness, growth, and PI) together seem to be significantly stronger than the three more or less inherited from the traditional culture (safety, status, and conscientiousness). The

modernity motives total 58% versus 42% for the traditionality motives. If conscientiousness is left out, on the ground that even a modernising society needs conscientious citizens, the average of PI, growth, and effectiveness motives substantially exceeds the average of safety and status motives. This seems heartening in the context of a very poor society seeking to raise living standards through modernisation spearheaded by various types of professionals.

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 Table 4 about here  
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### Tests of Hypotheses

Table 5 shows the inter-correlations of the 6 motives for a sample of 750 professionals. The first row in the table shows the correlations of the PI motive with the other 5 motives. The correlation of  $-.62$  between the PI and safety motives strongly supports the first hypothesis of a negative relationship between the two. The second hypothesis postulated a negative relationship between PI and status. The hypothesis is supported. The third hypothesis, of a positive relationship between PI and growth and PI and effectiveness motives is only partially supported. While the correlation between PI and growth is significantly positive, it is negative between the PI and effectiveness motives. The negative correlation suggests that at the margin, professionals tend to choose between effectiveness and pioneering, rather than choose both. This may be because while both aim at high task achievement, perhaps they diverge in the tasks that are pursued. Quite possibly, the effectiveness oriented professional tends to choose activities in which his previous training predisposes him to do well, that is, he chooses familiar activities and familiar means for performing them. The PI-oriented person, on the other hand, lured by the thrill of possible pioneering, discovery, innovation, etc., tends to choose relatively off-beat, unfamiliar activities and possibly tends to pursue them in off-beat ways.

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 Table 5 about here  
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Table 6 shows the correlations of the PI motive with ten dimensions of the person's environment that global research suggests are congenial to creativity (Khandwalla, 1984: ch.6). Each dimension was a summation of the respondent's ratings of three environments: his or her recollected childhood environment, recollected school environment, and perceived current social environment. The sample was 160 professionals. The table shows that all ten environmental dimensions were correlated significantly with PI, and thus there is good support for hypothesis 4. Table 6 suggests that a stimulating environment and one that encourages and rewards creativity may especially nurture the PI motive.

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 Table 6 about here  
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Table 7 shows the differences between a sample of 20 relatively high scorers on the PI motive and a sample of 20 relatively low scorers on the motive. Both samples were drawn from a sample of 51 MBA students who had registered for a course on creativity. Age and background-wise, there were no significant differences between these two groups. The top 20 on PI constituted the "high" group and the bottom 20 constituted the "low" group. Both samples were asked to list their aims and life goals, their hobbies, etc. These were merged, and all aims and goals, hobbies, etc., that appeared more than once were eliminated. Therefore, what remained were uncommon aims and hobbies. The table shows that the high PI group outscored the low PI group 9 to 4 on uncommon aims and 23 to 8 on uncommon hobbies. Thus, hypothesis 5, that stronger the PI motive the more unusual the aims and activities seems to be supported.

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 Table 7 about here  
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Both samples were also asked to indicate formative life experiences. Table 7 also shows uncommon formative experiences. Here, too, the high PI group outscored the low PI group 8 to 3. Several formative experiences reported by the high PI group are very painful experiences. A scanning of 92 biographies of outstanding pioneers and innovators of the 19th and 20th centuries (Untermeyer, 1955) also highlighted the role of often tragic, high stress, maturing experiences in childhood in the life of these "makers of the modern world".

Another significant difference was with respect to family obligations. The low PI group outscored the high PI group 8 to 1 on meeting family obligations being a major aim. This was also consistent with the sizeable negative correlation of  $-.37$  between PI and conscientiousness for the whole sample of 750 professionals.

These differences were found between two groups of students from the same institution; both interested in creativity (as evidenced by their registration in an elective on creativity). Although they were labelled "high" and "low", the so-called low group's PI average (19.6) was higher than most professional groups listed in Table 3. It is likely, therefore, that the instrument measuring PI is a fairly reliable, valid, and sensitive one, and could be used for identifying those with a strong pioneering innovating orientation.

### Discussion

Modernising elites in a developing country often face agonising choices: between innovating, reforming, pioneering, and creating on the one hand, and conforming to the status quo, and seeking safety and status in a largely ascriptive society on the other. Measuring the modernity drive is useful for identifying those who can play change agent roles, for developing their motivation and change agent skills, for designing organizational systems for nurturing them, etc. The pioneering-innovating motive may be a very important ingredient of this modernity drive. This paper has presented a way of measuring it, the reliability and validity of its measure, data pertaining to the strength of this motive in Indian professionals and several sub-groups of professionals, and data for testing five hypotheses concerning the PI motive. The major findings are:

1. The PI may be a strong, but not the **strongest**, of the motives of Indian professionals.
2. The strength of the PI motive varies significantly for different groups of professionals, with those involved in research, development, design type of activities having the highest scores, and managers having among the lowest scores.

3. Professionals tend to have significantly higher PI scores than non-professionals (e.g. administrative support staff).
4. As judged by the strength of negative correlation, the strongest trade-off professionals tend to make vis-a-vis PI is with respect to safety. Thus, those professionals that are safety conscious tend to shun PI and those that want to pioneer or innovate, tend to sacrifice safety. There are also significant trade-offs between PI and conscientiousness, PI and effectiveness (i.e. getting tasks efficiently accomplished), and PI and status. Thus, PI is, psychologically, an expensive motive, for it requires a person to sacrifice safety, social status, social approval (through fulfilling social obligations), and organizational rewards attending upon efficiently discharging one's allotted tasks. This high cost may be one reason why pioneering and innovative behaviour may be relatively rare. With the possible exception of the growth motive, none of the other four motives seem quite to be as costly.
5. The PI motive seems to be nurtured by a creativogenic environment, that is, an environment that is stimulating, challenging, and rich in problems, and rewards or supports creative and innovative behaviour. In turn, the high PI person tends to select off-beat careers, hobbies, and life interests.

There are several implications of these findings. First of all, the negative correlation between the PI and the effectiveness motive calls into question the validity of McClelland's measure of achievement motivation (McClelland, 1961). The latter aggregates the need for unique accomplishment with the need for getting tasks accomplished efficiently. McClelland's measure of achievement motivation may fail to discriminate between a professional who may become an agent of change and one who may not even want to try to be one.

Secondly, if a society such as India, wants its professionals to be agents of change, it will be necessary to reduce the perceived costs of pioneering and innovating. Training in the skills of being a change agent, easier access to financial assistance for pioneering or innovating activity, better technical training, greater access to profitable and socially relevant opportunities for pioneering and innovating, greater social recognition of pioneering and innovating, etc., should significantly reduce the perceived costs of pioneering and innovating, and thereby stimulate PI behaviour.

Thirdly, if the PI impulse is to be strengthened, the formative environment will need to be changed. Schools will need to reward and support innovative behaviour. The preponderance of moral and conscientious heroes will need to be reduced. Lives and achievements of innovators, pioneers, adventurers, discoverers, reformers, entrepreneurs, creators, revolutionaries, and so forth will need to be highlighted in school curricula. Rote learning will have to give way to problem and discovery oriented teaching materials.

Fourthly, the issue of whether the PI personality is healthy or sick needs to be researched. Freud has argued (1963) that creative activity is neurotic in origin, that is, creativity is a way a person torn by inner conflicts and feelings of guilt seeks relief from his or her inner oppressors. A study of entrepreneurs (not necessarily of pioneering innovator types, though) did indicate a neurotic basis for wanting to be an independent businessman (Collins and Moore, 1970). However, Freud's thesis has been challenged (Storr, 1976). In this study, too, the positive correlation between PI and growth, and the negative correlations between PI and safety and PI and status, suggest that the PI personality may be closer to the healthy rather than the sick personality. On the other hand, the negative correlation of PI with conscientiousness suggests that the PI may tend to be a self-centered rather than a socio-centric person. But only further indepth studies can resolve the question. The issue is an important one. For, if the PI is a neurotic, or worse, a psychotic, driven by megalomania, he could do much damage to himself and to others. If the PI is a healthy personality, he may indeed, through his vision, drive, and ingenuity, become a significant instrumentality of socio-economic transformation.



Finally, the profile of the Indian professional that this study suggests is at variance with what the Indian cultural personality is supposed to be. The Indian cultural personality is supposed to be affiliative, dependency-prone, status-oriented, conformist, low in achievement motivation, etc. (Sinha, 1980; Nandy and Kakar, 1980). On the other hand, the profile of the professional revealed by this study is of a person with a strong effectiveness, growth, and PI orientation, and a weak safety and status orientation. In part, this is to be expected, for in the Indian context, to be a professional is to be strongly influenced by Western norms of personal growth, personal efficacy, pioneering and innovating, and so forth. Anyway, the study suggests potential for conflict for the Indian professional vis-a-vis the mass of society. But this potential for conflict can be turned into a potential for playing a leadership role (as was played by professionals like Gandhi, Nehru, Patel, Prasad, Rajagopalachari, etc.). This can be done if the Indian professional with a strong PI orientation is given training in leadership (team building, human relations, effective communications, etc.) If the institutions training professionals could supplement their technical and professional curricula with leadership training, the Indian professional could become an effective and trusted agent of change, rather than be an urbanite dis-trusted by the masses and the have-nots.

REFERENCES

- Alderfer, C.P. (1972), Existence, relatedness, and growth. New York : Free Press.
- Busse, Thomas V. and Mansfield, Richard S. (1984), Selected personality traits and achievement in male scientists. Journal of Psychology, 116 : 117-131.
- Collins, U. and Moore, D. (1970) The organization makers. New York: Appleton - Century - Crofts.
- D'Souza, Keith, C. (1984), Organizations as agents of social change. Vikalpa, 9 : 233-247.
- Freud, Sigmund (1963), The paths to the formation of symptoms. Lecture XXIII in Introductory lectures on psychoanalysis. London : Hogarth and Institute of Psycho-analysis.
- Harris, Frank (1959), Jamssetji Nusserwanji Tata : A chronicle of his life. 2nd edition. Glasgow : Blackie.
- Khandwalla, Pradip N. (1983). PI management. Vikalpa, 8 : 220-238  
(1984). Fourth Eye : Excellence through creativity. Allahabad : Wheeler.
- Khanolkar, G.D.(1969), Walchand Hirachand : Man, his times, and achievements. Bombay : Walchand & Co.
- Lewin, Kurt (1948), Resolving social conflicts. New York : Harper.
- Maheswari, B.L.(1978), Decision styles and organizational effectiveness. Hyderabad : Administrative Staff College of India.
- (1983), Indian executives' expectations from organization. Management and Systems Review, special number : 13-27.
- Maslow, Abraham(1954), Motivation and personality. New York : Harper.
- McClelland, David C.(1961), The achieving society. Princeton, N.J. : Van Nostrand.
- Nandy, Ashis (1979), Motives, modernity, and entrepreneurial competence. Journal of Social Psychology, 91 : 127-136.

- Nandy, Ashis and Kakar, Sudhir (1980), Culture and personality. In U. Pareek (ed.), A survey of research in psychology 1971-76 (Part I, pp. 136-162). Bombay : ICSSR and Popular Prakashan.
- Munnally, Jum C. (1967), Psychometric theory. New York : McGraw - Hill.
- Pareek, Udai (1968), A motivational paradigm for development. Journal of Social Issues, 24 : 115-122.
- Patel, V.G. and Srivastava, A. (1978), Small enterprise performance : Relevance of managerial competence. ASCI Journal of Management, 7 : 136-150.
- Schelling, Thomas, C. (1960), The strategy of conflict. Cambridge, Mass : Harvard University Press.
- Schumpeter, Joseph A. (1934) The theory of economic development. Cambridge, Mass : Harvard University Press.
- Sharma, B.R. (1976), Professionals in the making : Their social origin. Economic and Political Weekly, XI, 9
- Singh, Pritam (1979), Occupational values and styles of Indian managers. New Delhi : Wiley Eastern.
- Sinha, J.B.P.(1980), The nurturant task leader: A model of the effective executive. New Delhi : Learning Concept.
- Soares, F., Valecha, G., and Venkataraman, (1981), Values of Indian managers : The basis of progress. Indian Management, 20, 10 : 10 : 32-38.
- Storr, Anthony (1976), The dynamics of creation. Hammondsworth, Middlesex : Pelican.
- Tripathi, Dwijendra (1981), The dynamics of a tradition : Kasturbhai Lalbhai and his entrepreneurship. New Delhi : Manohar.
- Untermeyer, Louis (1955), Makers of the modern world. New York : Simon and Schuster.
- White, R.W.(1959), Motivation reconsidered : The concept of competence. Psychological Review, 66 : 292-333.

Table 1

MEANS AND STANDARD DEVIATIONS OF CONTRASTING  
SAMPLES ON THE PI MOTIVE

	"High" Mean	Sample Std. Dev.	"Low" Mean	Sample Std. Dev.	Difference (1-3)
<b>1. <u>"Hi Tech" engineering company</u></b>					
R and D staff (N=14)	18.8	4.5			
Accounts staff (N=14)			12.4	3.0	
Difference					6.4
<b>2. <u>Leading management school</u></b>					
Doctoral students (N=19)	23.4	4.7			
Administrative support staff (N=37)			13.8	3.4	
Difference					9.6
<b>3. <u>MBA students of a leading management school</u></b>					
Students interested in creativity* (N=81)	24.1	8.6			
Students not inter- ested in creativity* (N=33)			15.9	5.3	
Difference					8.2

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\* Those registering for an elective course on creativity were deemed interested; those not registering but volunteering for administration of various tests were deemed not interested.

Table 2

PRODUCT MOMENT CORRELATIONS OF PI MOTIVE WITH  
RANKINGS OF CAREER CHOICES

N = 160 Professionals

<u>Long term career choices</u>	<u>Correlations with PI motive</u>
1. A career in a highly results-oriented organization where one's rise depends entirely on one's competence, and incompetence or failure to achieve results can result in one being fired.	.15
2. A career in an organization that offers job security and reasonably high earnings and perks, though growth prospects may be modest.	.28*
3. A career in an organization that enjoys very high prestige, though the work involved may not be all that interesting.	.19
4. A career in an organization that performs some very important socially relevant function in society, even though the pay etc. are modest.	-.07
5. A career in an organization that offers tremendous challenges and scope for actualising one's potentialities and learning of skills, but there is no glamour attached to it.	-.06
6. A career in a pioneering organization that is committed to remaining one of a kind, so unique are its products or mission, even if there is uncertainty about its long term viability	-.43*
7. A career as an entrepreneur.	-.10

Note : A negative correlation implies a positive relationship between PI and importance of career to respondent. A positive correlation implies a negative relationship.

\*  $P \leq .01$  (2 tails).

Table 3

PI MOTIVE SCORES OF VARIOUS PROFESSIONAL GROUPS

<u>Group</u>	<u>Sample size</u>	<u>Mean Score</u>	<u>Std. Deviation</u>
1. Students and faculty of an elite design institute	77	23.7%	4.8%
2. Researchers and scientists	69	21.2%	7.0%
3. MBA students of an elite management institute (mostly those interested in creativity)	177	20.6%	6.4%
4. Applicants for junior managerial positions in a large, diversified company	57	18.7%	4.5%
5. Miscellaneous professionals (engineers, doctors, priests, etc.)	65	18.4%	4.8%
6. Entrepreneurs and prospective entrepreneurs (that is, those having completed an entrepreneurship training programme)	90	17.4%	6.1%
7. Trainers of a leading entrepreneurship training institute	29	16.7%	5.6%
8. Practicing managers from a variety of organizations	135	16.6%	6.0%
9. Administrative support staff	51	13.5%	4.7%

Table 3

PI MOTIVE SCORES OF VARIOUS PROFESSIONAL GROUPS

<u>Group</u>	<u>Sample size</u>	<u>Mean Score</u>	<u>Std. Deviation</u>
1. Students and faculty of an elite design institute	77	23.7%	4.8%
2. Researchers and scientists	69	21.2%	7.0%
3. MBA students of an elite management institute (mostly those interested in creativity)	177	20.6%	6.4%
4. Applicants for junior managerial positions in a large, diversified company	57	18.7%	4.5%
5. Miscellaneous professionals (engineers, doctors, priests, etc.)	65	18.4%	4.8%
6. Entrepreneurs and prospective entrepreneurs (that is, those having completed an entrepreneurship training programme)	90	17.4%	6.1%
7. Trainers of a leading entrepreneurship training institute	29	16.7%	5.6%
8. Practicing managers from a variety of organizations	135	16.6%	6.0%
9. Administrative support staff	51	13.5%	4.7%

Table 4

MEANS AND STANDARD DEVIATIONS OF THE STRENGTH OF  
SIX MOTIVES

N = 750 Professionals

	<u>Rank</u>	<u>Mean</u>	<u>Std. Deviation</u>
Effectiveness motive	1	20.0%	4.8%
Growth motive	2	19.6%	5.6%
Pioneering-innovating motive	3	18.9%	6.4%
Conscientiousness motive	4	17.8%	5.8%
Safety motive	5	13.9%	5.1%
Status motive	6	9.8%	4.3%



Table 5

PRODUCT-MOMENT CORRELATIONS OF PI MOTIVE WITH FIVE  
OTHER MOTIVES

N = 750 Professionals

	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
1. PI motive	.31*	-.34*	-.37*	-.28*	-.62*
2. Growth motive		-.27*	-.42*	-.34*	-.45*
3. Effectiveness motive			-.11	-.08	-.04
4. Conscientiousness motive				-.24	.09
5. Status motive					.23
6. Security motive					

\* Significant at  $P \leq .01$  (2 tails)

Table 6

PRODUCT MOMENT CORRELATIONS OF CREATIVITY SUPPORTIVE  
DIMENSIONS OF ENVIRONMENT  
WITH PI MOTIVE

N = 160 Professionals

<u>Environmental Dimensions</u>	<u>Correlation</u>
Stimulating tasks and interactions	.35**
Reward and encouragement to creativity	.30**
Patient hearing to innovative ideas	.19*
Availability of constructive feedback on innovative efforts from knowledgeable persons	.25**
Opportunity to learn from innovative instructors	.20*
Diversity of opinions	.23**
Freedom of action coupled with intolerance of shabby work	.17*
Respect for pioneers, innovators, and creators	.24*
Reasonable physical and financial facilities to pursue "wild" ideas	.22*
Commitment of boss figures to creativity and innovation	.21*

\*  $P \leq .01$  (one tail)

$P \leq .05$  (one tail)

Table 7

**DIFFERENCES BETWEEN "HIGH" PI AND "LOW" PI SCORES**

Sample : 20 high scoring MBA students and  
20 relatively low scoring MBA students

High PI scorers

Low PI scorers

Uncommon aims and life goals

- |  |                                       |
|--|---------------------------------------|
| 1. To be a test commentator  | 1. To be able to understand people    |
| 2. To develop diagnostic skills for understanding directions organizations should take   | 2. To teach in a boarding school      |
| 3. To develop talents in household electronics   | 3. Guide next one or two generations  |
| 4. To raise funds to uplift the masses   | 4. Seek moksha (spiritual liberation) |
| 5. To want to be a prime minister  |                                       |
| 6. Social upliftment through building productive organizations using indigenous know-how |                                       |
| 7. To obtain physical and mental self-control  |                                       |
| 8. To strive for excellence through fine arts  |                                       |
| 9. To be a complete and true artist  |                                       |

Uncommon hobbies

- |                                  |   |
|----------------------------------|---|
| 1. Collecting t-shirts and jeans | 1. Environmental improvement                                      |
| 2. Writing PJ's on notice board  | 2. Collecting published articles                                  |
| 3. Filling questionnaires        | 3. Gliding  |
| 4. Sculpture                     | 4. Organizing sports  |
| 5. Posters                       | 5. Keep in touch with all new products and think of new products. |
| 6. Wild life conservation        |   |
| 7. Golf                          | 6. Keep in touch with government policies and their implications. |
| 8. Billiards                     |   |