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Iowa's young leaders: characteristics, organizational environments, and career orientations

Rita Ann Jensen

Iowa State University

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Iowa's young leaders: Characteristics, organizational
environments, and career orientations

Jensen, Rita Ann, Ph.D.

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U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

Iowa's Young Leaders: Characteristics, organizational

environments, and career orientations

by

Rita Ann Jensen

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INTRODUCTION

Success attracts attention. For some people, success even carries with it celebrity status. High calibre athletes, award winning entertainers, effective national leaders, victorious generals, and an occasional Nobel laureate enjoy national and international publicity. Rockefeller, Carnegie, Hunt, Ford, and, more recently, Peters, Ioccoca, Walton, and Naisbitt are names associated with success. The public acknowledges the accomplishments of the successful, perhaps wondering exactly what brought these people their success or what high achievers have that others do not.

There are those who are recognized because of their study of the successful. Possibly the most widely acknowledged among these researchers is Lewis Terman (Terman & Oden, 1959), who, along with Oden, conducted longitudinal studies of individuals that scored high on tests of intelligence. Benjamin Bloom (1985), known for his concept of mastery learning as well as his outspoken criticism of public education, studied the process of talent development in young people. George Gallup, Jr. and Alec M. Gallup (1986), following in the footsteps of George Gallup, Sr., chronicled the American success story by interviewing Marquis' Who's Who in America designees.

Charles Garfield (1986b), a mathematician and psycholo-

gist, also studies successful, high achieving individuals--
people he refers to as peak performers. His findings,
along with those of Terman, Bloom, Gallup, and Gallup,
reveal that the answer to the question of what high achiev-
ers have that others do not is "very little." In fact,
Garfield concludes that "...the difference between peak
performers and 'everybody else' is much smaller than 'every-
body else' thinks" (Trubo, 1983, p. 56)--a conclusion which
leads him to suggest that peak performers are trained, not
born. Garfield sees peak performance as a result of the
alignment of individuals' personal missions, job require-
ments, and organizational environments.

Need for the Study

Although Garfield, as well as Bloom, Gallup, and
Gallup, touches on the question of organizational environment
as it relates to performance, his main focus is the study of
peak performers, their characteristics, skills, and quali-
ties. His data suggest that peak performers indicate a
preference for freedom in their organizational environments
and that they perform best when their environments match
and support their personal goals and objectives. However,
specifics and elaboration on the role of organizational
environment and its effects on high productivity are lacking.

Akin and Hopelain (1986) describe organizational
environment as the culture of productivity and outline the

types of people, teamwork, work structure, leaders, and management which characterize it. Amabile (1983) focuses on organizational environment and its influence on creativity. However, neither Akin, Hopelain, nor Amabile's work focuses specifically on environments and cultures high achievers prefer. Consequently, a logical next step is a study which simultaneously considers organizational environment and peak performers.

If those in positions of leadership and authority--whether they be managers, supervisors, presidents, officers, mayors, teachers, coaches, or parents--could identify the organizational environments preferred by peak performers and the cultures that enable peak performers to achieve even greater productivity, leaders could then work to create those environments and cultures. In choosing to do so, they would be acting to maximize the quantity and quality of peak performers' output, with the end result being increased productivity for organizations. The following study constitutes an initial step toward the goal of identifying variables which may contribute to the development and productivity of peak performers.

Purpose of the Study

The purpose of this study was to examine the characteristics, personal development, organizational environments, and career orientations of peak performers. Successful

individuals recognized for their leadership potential were
surveyed. The target population consisted of two groups.
One group included the women and men who participated in
"Leadership Iowa," a program sponsored by the Iowa Associa-
tion of Business and Industry. The second group included
individuals selected as "Up-and-Comers" by the editorial
staff of the <u>Des Moines Register</u>.

Leadership Iowa participants are individuals who, at the
time of selection, were between the ages of 25 and 40 and who
were chosen on the basis of leadership potential, community
activities, involvement in professional organizations, and
their responses to open-ended questions relating to how they
might use their Leadership Iowa experiences to benefit their
communities, state, and professions. Up-and-Comers must be
under 40 years of age when selected and must be recognized
for distinction in business, industry, or agriculture, as
well as for leadership in their communities and state. When
the two groups were merged, similar criteria for inclusion
were noted, as were several individuals who belonged to both
groups. Throughout this discussion, the combined population
of Leadership Iowa participants and Up-and-Comer designees
are referred to as Iowa's Young Leaders.

Gallup and Gallup's "The Great American Success Quotient
Test" (1986), an inventory whose respondents indicate
to what degree several factors contributed to their success,

was used to collect information regarding subjects' characteristics and personal development patterns. Amabile's "Work Preference Inventory" (1985) assessed participants' career orientations, according to the dimensions of outward orientation, compensation orientation, and task-satisfaction orientation. Finally, Amabile's "Work Environment Inventory" (1987) recorded respondents' perceptions of their current organizational environments and the environments they find ideal for facilitating their creativity.

As Borg and Gall (1983) suggest, this research was based on existing theory, with rationale and justification for the study offered in the preceding section, as well as in the review of literature. The present study represented a logical next step which builds upon existing research regarding the characteristics and development of the successful (Terman & Oden, 1959; Bloom, 1985; Gallup & Gallup, 1986; Garfield, 1986b), as well as existing research regarding several facets of organizational culture and its effects on productivity (Amabile, 1983; Akin & Hopelain, 1986).

This study also met Cheng and McKinley's (1983) three criteria of practical relevance, applicability of findings, and specificity. Since the subjects' responding to the survey function within a broad spectrum of oranizational environments, the research is relevant to many different fields (e.g., management, education, industry, human resource

development). The study went beyond theory to practice, thus making its findings readily applicable to the situations of many practitioners. Finally, although a study focusing on peak performers, their characteristics, development, career orientations, and organizational environments involved many factors that have direct or indirect impact on the variables being studied, the objective and intent of the study were specifically defined and outlined.

Research Questions

The following research questions address the purpose of the study:

1. What characteristics do Iowa's Young Leaders share?

2. What developmental patterns do Iowa's Young Leaders share?

3. What factors do Iowa's Young Leaders identify as contributing to their success?

4. Do Iowa's Young Leaders demonstrate an outward orientation, compensation orientation, or task-satisfaction orientation in their work?

5. How do Iowa's Young Leaders describe their current organizational environments?

6. What characterizes the organizational environments which Iowa's Young Leaders describe as ideal for facilitating their creativity?

7. Are there significant differences between the current

organizational environments of Iowa's Young Leaders and the organizational environments they describe as ideal for facilitating their creativity?

Limitations of the Study

Some limitations were inherent to this study. First of all, the study focused on a restricted population, which limited the generalizability of the findings. In addition, not all subjects chose to complete the survey. The sampling system was based on voluntary participation, as opposed to random selection. As Borg and Gall (1983) point out, there can be significant differences between people who choose to participate in studies and those who do not. Consequently, this condition further restricts the generalizability of the study's results.

A second point to consider is that all of the data collected were based on participants' perceptions of their own characteristics, abilities, preferences, and organizational environments. Consequently, any study results and conclusions are based totally on subjective data in the form of self report.

In addition, limited resources dictated the size of the study, as well as the decision to utilize questionnaires rather than interviews as the primary method of data collection. The result was less data upon which to base conclusions, due to the smaller number of subjects and because

questionnaires typically elicit less information from respondents than do personal interviews.

Finally, another limitation which must be acknowledged is the low subscale reliabilities which two of the "Work Environment Inventory" (WEI) subscales produced in this study. Although Amabile has obtained moderately high to high reliabilities with her WEI subscales in previous research, that was not the case in the present study with two of the sixteen subscales. Specific subscale reliabilities are reported in the RESULTS chapter.

Definitions

1. Iowa's Young Leaders: For purposes of this study, the combined population of Leadership Iowa participants (selected by the Iowa Association of Business and Industry) and Up-and-Comer designees (selected by the Des Moines Register editorial staff).

2. Peak Performer: "...the man or woman who possesses the ability to achieve impressive and satisfying results, not just once or twice but repeatedly, consistently" (Garfield, 1986b, p. 15).

3. Zone of Peak Performance: The point where job requirements, personal mission, and organizational environment intersect; that place where a performer's personal mission aligns with "...the specific demands of a job and the overall environment and objectives of an organiza-

tion. It is a place for major productive impact, an
optimal leverage point for one's abilities" (Garfield,
1986b, p. 278).

4. Work Environment/Organizational Environment: The
   day-to-day social and physical environment in which one
   does most or all of one's work (Amabile, 1987).

5. Work Group: The people with whom one works most closely
   on a day-to-day basis (Amabile, 1987).

6. Organizational Culture: The basic assumptions which
   operate within an organization, as reflected by the
   behavior and the value-led outward manifestations (e.g.,
   structure, management style, physical setting) of those
   unstated assumptions.

REVIEW OF LITERATURE

Introduction

A comprehensive review of the literature relevant to the study of peak performance and peak performers involves many different elements, as well as a list of contributors that literally extends from A to Z (Adams, 1986 to Ziglar, 1986). In the following review, an effort is made to discuss the major variables associated with the study of peak performers. Perhaps the first point to acknowledge is the variety of terminology and definitions used to describe those who are the focus of the study. Characteristics of the successful are then compiled, based on operational definitions and study results.

A second obvious, yet crucial, point to consider is that outstanding performers do not operate in vaccuums. There-fore, this review of literature incorporates an examination of the environments in which the successful perform. One must also acknowledge that peak performers are found in almost every area of human endeavor. They come from manage-ment, the arts, the service sector, business, industry, and education. Consequently, any artificial divisions which appear in the literature are ignored, in an attempt to portray a unified cross section of the literature.

The third major area focuses on attempts which have been made to facilitate the development of peak performers and

efforts which have been undertaken to help people acquire the attributes and skills of peak performers. This final area speaks to the merit of study of the successful, for it is one task to study those who have proven themselves exceptional. It is yet another to enable others to become exceptional.

Terminology, Definitions, and Characteristics

Garfield: Peak performers

"There is a kind of everyday hero whom many of us admire: the man or woman who possesses the ability to achieve impressive and satisfying results, not just once or twice but repeatedly, consistently" (Garfield, 1986b, p. 15). Charles Garfield refers to such people as peak performers and suggests that they share common attributes. Garfield, whose study of peak performers dates back to 1967 (Garfield, 1986a), began his research by asking chief executive officers and senior managers to name the most outstanding leaders in their fields. He then conducted lengthy interviews with the 310 individuals whose names were cited most often (How good executives become great ones, 1985).

As a result of his research, Garfield pinpoints characteristics which he states all peak performers share. In addition, he concludes that these traits are learned, as opposed to being innate, and that "...the difference between peak performers and 'everybody else' is much smaller than

'everybody else' thinks. The peak performers know that it's a small difference, but other people erroneously believe that the gap is much wider than it really is" (Trubo, 1983, p. 56). These statements contain a great deal of truth when they are considered within the context of people of similar abilities who apply their abilities with varying degrees of success. Many people fail to maximize their abilities, fail to commit to a mission, fail to leverage their abilities, fail to find their zone of peak performance--in effect, fail to acquire and utilize the skills which Garfield identifies as being common to peak performers.

Garfield's conclusion that the traits of peak performers can be learned certainly carries implications for the area of training and development, and Garfield has not hesitated to capitalize on these implications. He makes applications of his findings to athletic training (Garfield, 1984a), as well as to management training (Garfield, 1984b, 1987). These applications are discussed in greater detail later in this review.

In stressing the point that peak performance skills can be acquired, Garfield suggests that anyone can be a peak performer (1986b). The degree to which one chooses to agree or to disagree with this suggestion is dependent upon the interpretation one places on it. Certainly each person's best is not equal to every other person's best performance.

Garfield himself acknowledges the role of innate ability when he states that peak performers are characterized by passion and preference, restlessness, their use of acquired information, and their INHERENT TALENT (1986b).

In his 1986 book Peak Performers, Garfield delineates six characteristics which he, based on his research, concludes are common to peak performers. They follow here, accompanied by a brief description of each.

Missions That Motivate: Peak performers find what they want to do and do it. They choose passion and preference over expertise, meaning they do not limit their choices by looking at what they do not know how to do or what they cannot do. If they really want to pursue a particular course of action, they acquire the skills that course necessitates. When they do not know what their missions are, finding their missions becomes their mission.

Results in Real Time: This point relates to the acquiring of needed skills. Peak performers highly value self-development and consider themselves life-long, autonomous learners. They find ways to meet their goals. They build on their strengths and leverage their abilities.

Self-Management Through Self-Mastery: This attribute includes the three components of self-confidence, bimodal thinking, and mental rehearsal. Peak performers firmly believe in their own abiliies to succeed. They utilize both

micro and macro thinking when looking at opportunities; they can see the big picture, as well as analyze the interconnections and details. When contemplating and preparing for critical incidents, they rehearse the situation in their minds; they envision themselves successfully completing the transaction or activity.

Team Building/Team Playing: This is the corollary to self-management. Peak performers bring out the best in people and contribute to an environment which motivates others to perform at the maximum of their potentials. They also make effective use of communication strategies and clearly articulate the mission to others.

Course Correction: Peak performers utilize feedback to self-correct and to stay in alignment with the mission. They make use of formative self-evaluation, as well as their ability to look at the same problem from all angles (flexibility) in order to better understand the situation.

Change Management: Peak performers survive and excel because they anticipate, adapt, and act. They recognize when it is necessary to update the mission and to accommodate a changing environment or a changing situation.

In a 1983 article, Trubo presents Garfield's characteristics of peak performers in a different format. In some respects, this listing lends itself more easily to analysis than the 1986 list. Therefore, it appears here as Figure 1.

1. Foresight, and the ability to carry out effective, strategic planning.

2. A drive toward transcending previous levels of accomplishment.

3. High levels of self-confidence and self-worth.

4. A high need for responsibility and control.

5. High communication and salesmanship skills.

6. Utilization of mental rehearsal for "critical incidents" or "key situations."

7. Little need for outside praise or recognition.

8. A superior ability to take creative risks, rather than getting stuck in a "comfort zone."

9. The ability to accept feedback and self-correct.

10. A proprietary attitude that encourages peak performers to assume ownership of ideas and products.

Figure 1. Peak performer characteristics (Trubo, 1983)

One final concept which Garfield utilizes to clarify his findings is what he calls the zone of peak performance (1986b). This zone is included as Figure 2. Garfield defines it simply as a place to stand. It is a definition which refers to the words of Archimedes (Garfield, 1986b), who is said to have proclaimed that, given a lever and a place to stand, he could move the Earth. Garfield's place to stand is the point where job requirements, personal mission, and organizational environment intersect. It is that place where a performer's personal mission aligns with "...the specific demands of a job and the overall environment and objectives of an organization. It is a place for major productive impact, an optimal leverage point for one's abilities" (Garfield, 1986b, p. 278). Garfield contends that, if one observes peak performers over time, it becomes clear that one of their major talents is finding a place of personal power. Peak performers search for a place to stand stems from their appreciation of leverage. They understand that their personal missions have the greatest chance of success when undertaken from the vantage point of a place of personal power. They know that "...when they have the abilities that a job requires, and work in an environment that supports what they do, they encounter relatively little resistance" (Garfield, 1986b, p. 279).

Personal

Mission

Job

Requirements

Organizational Environment
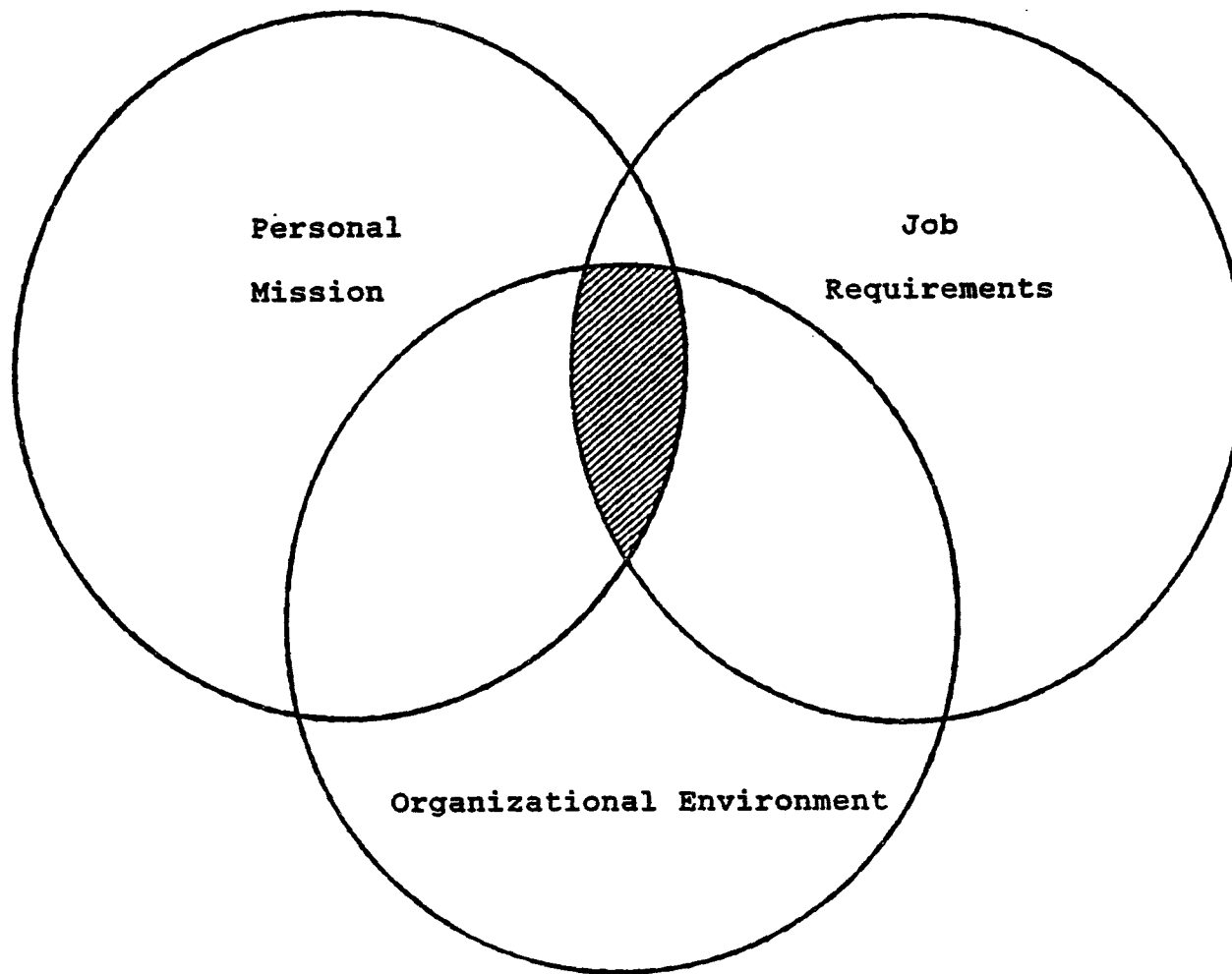
Figure 2. Garfield's zone of peak performance (1986b)

Gallup and Gallup: Successful Americans

Gallup and Gallup (1986) also studied peak performers, albeit with different terminology and with different definitions than those employed by Garfield, and also concluded that success is not necessarily attributable to mystical qualities or supernatural abilities. In their book, The Great American Success Story, Gallup and Gallup (1986) present the results of their study of high achievers--high achievers as defined by inclusion in Marquis' Who's Who in America. Based on their survey of Who's Who in America designees, Gallup and Gallup pinpoint twelve general traits that regularly recur among top achievers. These traits emerged from respondents' self-appraisals, as high achievers attempted to describe the inner strengths that directly contributed to their success.

Gallup and Gallup readily acknowledge that the twelve traits they identify in some cases overlap and in other cases are somewhat difficult to define. However, they contend that, regardless of the limitations which result from separating the various traits into these categories, there is no doubt that, when considered as a whole, they constitute the closest thing to a success personality which they can find. Consequently, Gallup and Gallup do attempt to define and analyze each trait as described by respondents. A synopsis of their respondents' descriptions follows.

1. Common Sense:

*   The most common quality possessed by respondents.

*   Seventy-nine percent of participants awarded themselves a
    top score of A in this category.

*   Sixty-one percent said common sense was very important in
    contributing to their career success.

*   Respondents defined common sense as "...an ability to
    render sound, practical judgments on the everyday affairs
    of life" (Gallup & Gallup, 1986, p. 57).

2. Specialized Knowledge in a Chosen Field:

*   The second most common personal characteristic possessed
    by top achievers.

*   Three fourths of respondents rated themselves in the top A
    categories.

*   Some respondents emphasized the need to renew continually
    both knowledge and interest in their fields of expertise
    if they wished to experience success over an entire
    lifetime.

3. Self-Reliance:

*   Involves the ability to exercise willpower, the ability to
    set goals, and the courage to take the action necessary to
    bring about results.

*   Seventy-seven percent of all respondents gave themselves
    an A rating for self-reliance.

4. General Intelligence:

* An essential for any outstanding achievement in every field.

* Involves the natural ability to comprehend difficult concepts quickly and to clearly analyze them.

* Participants' general intelligence consisted of at least four elements: an extremely high IQ score, an extensive vocabulary, good reading skills, and good writing skills.

* Nearly nine of ten respondents gave their intelligence a rating of at least seven on a scale of zero to ten.

* Seventy-five percent rated themselves at the top of the scale of overall intelligence with scores in the A range.

5. The Ability to Get Things Done:

* Consists of good organizational ability, productive work habits, and hard work and diligence.

* Almost 75% of participants ranked themselves as very efficient in their ability to get things done.

6. Leadership:

* Sixty-seven percent of the higher achievers gave themselves an A in this category.

* The kind of leadership which most successful people exercise has its roots in motivation, rather than intimidation.

7. Knowing Right From Wrong:

* A quality which has apparently been instilled in high achievers, regardless of their religious convictions.

* While only 43% reported a strong belief in a supreme
  being, two thirds responded that they have very strong
  ethical and moral sensitivities.

8. Creativity and Inventiveness:

* Acknowledged as important personal skills by nearly two
  thirds of those responding.

* Most people seemed to feel that they arise from two key
  sources: people's reservoirs of natural talent and the
  quasi-metaphysical concept referred to as intuition or
  insight.

9. Self-Confidence:

* An inner feeling of assurance that rests upon the know-
  ledge that one is well prepared for the challenge at hand.

* A reasonable quality--not an excuse for taking foolish
  risks--but a rationale for taking intelligent, well
  calculated risks which possess some promise of success.

10. Oral Expression and the Need to Communicate Effectively:

* Points which were emphasized repeatedly.

* The majority of top achievers rated their oral skills at
  the top of Gallup and Gallup's scales.

11. Concern for Others and the Ability to Get Along With
    Other People:

* Emerged as important traits for the respondents.

* However, concern for others does not equate to "peace at
  any price."

12. Luck, Timing, Good Fortune, Being in the Right Place at
    the Right Time, and Serendipity:

* Play significant roles in success--assuming that the
  individual is otherwise capable.

* However, once presented with opportunities, people must be
  willing to pursue new ideas and new ventures.

* They must be willing to take intelligent risks; they must
  be willing to act.

Bloom: Development of talent

Benjamin Bloom and his colleagues undertook a four year
study of the development of talent in children (Bloom, 1985;
Brandt, 1985). The focus of Bloom's study was Americans who
had reached world class levels of accomplishment in their
particular fields, most before the age of thirty-five. These
people were interviewed to gain a retrospective picture of
the talent development process. Bloom initially planned to
focus his study on four distinct talent areas: (1) athletic
or psychomotor fields; (2) aesthetic, musical, and artistic
fields; (3) cognitive or intellectual development; and (4)
interpersonal relations. However, eventually the fourth
category was dropped from the study, as no criteria or method
of selection was found that could assure the research-
ers that individuals who had reached the extremes of develop-
ment in interpersonal relations would be included.

Ultimately, two fields representing each of the first

three talent areas were chosen for study, these being:

Olympic swimmers, world-class tennis players, concert

pianists, sculptors, research mathematicians, and research

neurologists. In each of these six fields, Bloom and his

colleagues contacted outstanding experts, teachers, and

scholars in order to establish selection criteria to use in

identifying people who had reached world-class levels of

attainment in their fields. These experts helped locate

contests, awards, and other existing selection methods by

which to identify the top twenty-five people in each field.

In some cases, researchers also made use of expert rankings

of a list of possible participants as a means of ensuring

that individuals who were finally selected met the criteria

of talent development, as well as the criterion of national

recognition by their fields' experts.

Based on previous study and experience in the field of

education and human development (e.g., Bloom, 1976), Bloom

concluded that there exist identifiable stages in each

individual's development. These stages were brought into

play in the 1985 study, as researchers wished to obtain

information regarding their subjects at each of the major

stages in their development. Consequently, Bloom set out to

determine the following:

1. The special physical, intellectual, or other relevant

    characteristics evident in the individual at an early

developmental period.

2. The role of the home in the guidance and support of the talent from the early years to later stages in the development.

3. The type and quality of instruction and guidance in the talent field available to the individual at different stages in his or her development.

4. The sources and types of motivation and reward and the special circumstances that gave encouragement and support to the individual at different stages in his or her development of the talent.

5. The amount of active learning time, practice, and other learning effort invested by the individual at each stage of development.

6. Any other factors the individual regarded as relevant to his or her discovery, development, and encouragement in relation to the particular field.

7. Finally, the ways in which these individuals developed habits, interests, and values that increasingly committed them to their special talent field and brought them to what we believe are the limits of learning in each of these fields.

(Bloom, 1985, pp. 12, 13)

As a result of Bloom's study, three major phases of development in the talent process emerged. The play and

romance stage is a period which includes enormous encourage-
ment of interest and involvement, freedom to explore,
stimulation, and immediate rewards. The second phase, that
of precision and discipline, is a period in which skill,
accuracy, and technique dominate. Generalization and
integration, the final phase, is a time when the development
of individuality and insight, as well as the realization that
the chosen field can be a significant part of one's life, is
the prevalent feature. Bloom sees these phases as emerging
from the interaction of the learner, the teacher, and the
chosen subject matter. Moreover, he speculates that "...it
is likely that a learner of any age could be guided through
these phases, in fact may have to move through them if
he or she is to learn something to the limit of what is
possible" (Bloom, 1985, pp. 434, 435).

In addition, Bloom asserts that his study of the talent
development process provides compelling evidence which
suggests that, "...no matter what the initial characteristics
(or gifts) of the individuals, unless there is a long and
intensive process of encouragement, nurturance, education,
and training, the individuals will not attain extreme levels
of capability in these particular fields" (Bloom, 1985, p.
3). Bloom also concludes that his research raises questions
about earlier views of inherent ability and aptitudes as
necessary prerequisites of talent development.

Coming from Bloom, such assertions are not surprising. For over forty years, he has conducted intensive research on school learning, his major conclusion being: "...almost all persons can learn if provided with appropriate prior and current conditions of learning" (Bloom, 1985, p. 4). In fact, Bloom states that 95% of school students would be very similar in terms of achievement, rate of learning, learning ability, and motivation if they all were provided with favorable learning conditions. Those familiar with Bloom's work will recognize the above statement as a main tenet of what Bloom calls mastery learning.

In this most recent research (Bloom, 1985; Brandt, 1985), Bloom takes the central thesis of his 1976 work--the potential equality of most human beings for school learning--and applies it to all learning, both inside and outside of schools. At the very least, Bloom's thesis leads him to speculate that there is a vast pool of talent existing in the United States. It also causes him to theorize that a combination of the home, schools, teachers, and society may greatly determine what part of this potential talent pool is developed--or that some combination of these variables may be responsible for much of the wasting of human potentiality.

Terman: Longitudinal studies of intelligence

Among the most well known research on high achievers are the longitudinal studies conducted by Lewis Terman. The

subjects of Terman's studies were children whose average age was eleven years. These children were selected for study based on their intelligence quotients, the goal being to study children whose IQs placed them in the top 1% of the population. Terman and his associates undertook this research to study: "(1) what intellectually superior children are like as children; (2) how well they turn out; and (3) what are some of the factors that influence their later achievement" (Terman & Oden, 1959, p. 2).

As of the 1959 printing of the fifth volume reporting the results of his studies, Terman had spent 35 years watching the study's gifted children pass through adolescence and youth into adulthood and on to the fuller maturity of mid-life. Follow-up studies indicated that superior children, with few exceptions, become able adults, superior in almost every aspect. However, as in childhood, the superiority was not equally great in all areas. The group's superiority was greatest in intellectual ability, in vocational achievements, and in scholastic accomplishment. Consequently, Terman concluded that the capacity and potential to achieve beyond the average can indeed be detected early in life through the use of tests of general intelligence.

However, not all of the subjects studied were highly successful. Terman and Oden (1959) noted that less successful subjects did not differ significantly in intelligence as

measured by tests, and that notable achievement necessitated more than a good deal of intelligence. After their 1940 follow-up of their subjects, Terman and Oden carefully analyzed the life histories of the 150 most successful and 150 least successful men among their gifted subjects. They did so in an attempt to identify some of the "nonintellectual factors that affect life success" (1959, p. 148).

As a result of their analysis, they discovered that personality factors are extremely important determiners of achievement and that correlations between success and variables such as emotional stability, mental health, and social adjustment were consistently positive rather than negative. The four traits on which the most successful and least successful differed most widely were: integration toward goals, persistence in the accomplishment of ends, freedom from feelings of inferiority, and self-confidence. Given the total picture, the groups' points of sharpest contrast were in all-round social and emotional adjustment and in achievement drive.

Terman and Oden (1959) acknowledged that their criterion of success reflected a bias in favor of achievement based on the use of intelligence. Their concern was with vocational accomplishment, as opposed to the attainment of personal happiness. They also acknowledged the existence of other criteria of success, other goals, and other satisfactions in

life. In light of this acknowledgement, the final question

they asked of their subjects was: "From your point of view,

what constitutes success in life?" Although respondents'

replies covered a wide range, the definitions most frequently

given fell into five categories, each being noted by 40 to

50% of the subjects (with one exception). No other defini-

tion was mentioned by more than 15% of the respondents, and

only two were noted by more than 10%. The five definitions

of life success most frequently mentioned were:

1. Realization of goals, vocational satisfaction, a sense of

    achievement;

2. A happy marriage and home life, bringing up a family

    satisfactorily;

3. Adequate income for comfortable living (but this was men-

    tioned by only 20 percent of women);

4. Contributing to knowledge or welfare of mankind; helping

    others, leaving the world a better place;

5. Peace of mind, well-adjusted personality, adaptability,

    emotional maturity.

Renzulli: Gifted behavior

Where Terman speaks of giftedness, Joseph Renzulli

(1977) directs his attention toward gifted behavior, as

opposed to innate giftedness. The distinction is crucial,

for behavior is something observable, where giftedness is

not. For Renzulli, gifted behavior occurs when people

exhibit an interaction among the three composite sets of traits of task commitment, above average ability, and creativity. Such a definition acknowledges the confounding variable of attitude; that is, no matter how much ability people have, if they do not apply it to a task, it serves no purpose. Renzulli's definition also has the advantage of not making IQ the be all and end all in identifying high achievers or people with the potential to be high achievers. Finally, Renzulli's definition acknowledges the creatively gifted. This is significant in that the two variables of intelligence and creativity appear to be only mildly correlated (Getzels & Jackson, 1962).

It is interesting to note the way Renzulli's definition of gifted behavior juxtaposes with Garfield's definition of the zone of peak performance, which was discussed earlier. As demonstrated in Figure 3, Renzulli's task commitment correlates with Garfield's personal mission, and Garfield's job requirements involve Renzulli's above average ability. In addition, Garfield's organizational environment facilitates Renzulli's creativity. Similar analogies can be drawn between Garfield's attributes of peak performers and the writings of several authorities in the field of education of the gifted (e.g., Betts & Knapp, 1980; Kaplan, 1977). This investigator's conclusion is that Garfield's peak performer

Personal

Mission

Job

Requirements

Task Commitment

Above Average

Ability

Organizational Environment

Creativity
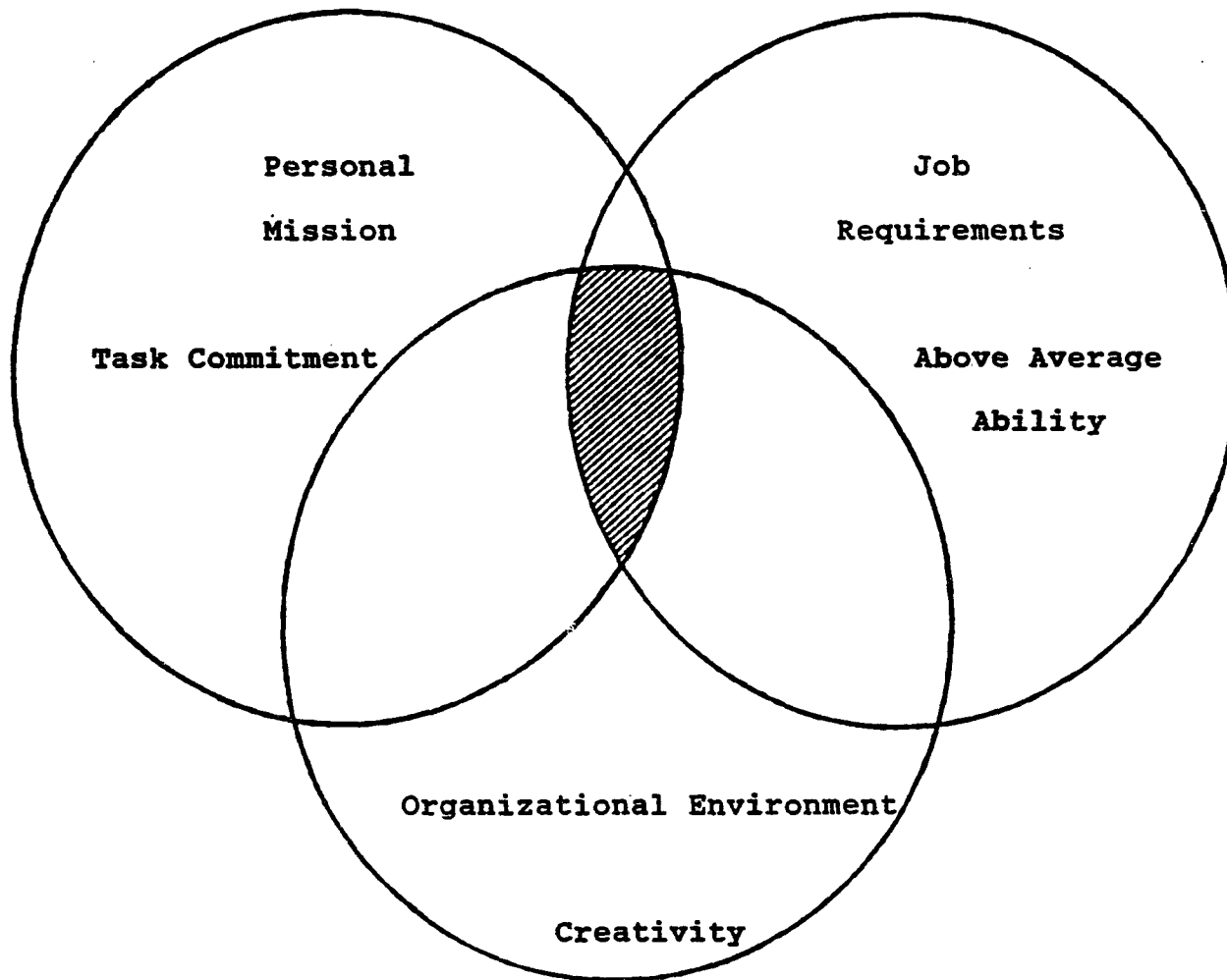
Figure 3. Juxtaposition: Garfield's zone of peak perform-
ance and Renzulli's gifted behavior

is exhibiting Renzulli's gifted behavior.

Although the focus of Renzulli's research is on develop-
ing programs for the gifted and talented (Renzulli, 1977;
Renzulli, Reis, & Smith, 1981), his work is notable here,
inasmuch as his definition of gifted behavior echoes the
thoughts of Garfield and Bloom, who emphasize that the
perceived differences between peak performers and others are
inflated and that almost anyone has the potential to reach
achievements equal to those of others. The work of Renzulli,
as well as others in the field of education of the gifted,
will be referenced later in this review, as their work has
implications for the development of peak performers.

Additional contributors

Garfield, Gallup, Gallup, Bloom, Terman, and Renzulli
certainly are not the only people ever to study peak perform-
ers, high achievers, successful people, gifted individuals,
or similar subjects with differing nomenclature. The popular
literature abounds with books on related topics written by
people with names such as Ziglar (1986), Robbins (1986),
Schumer (1986), Rowan (1986), Wyse (1983), and Gordon (1977).
There are the classics. The work of people such as Maslow
(1959, 1968), McGregor (1960), Dewey (1933), and Gardner
(1961) certainly has influenced the direction of later work.
The literature of academe and business has its contribution
to make as well, with names such as Baird (1985), Brand

(1987), Callahan (1978, 1986), Crosby (1968), and Whitmore (1980, 1986).

Of particular note here is the work which Stanley and Benbow (1986) conducted in regard to mathematically precocious youth. They studied gender differences in mathematical reasoning ability (Benbow & Stanley, 1982), and Benbow and Arjmand (1987) undertook longitudinal studies that focus on mathematically talented students. In the latter study, the researchers traced subjects' development and accomplishments during their college years. They found that the Study of Mathematically Precocious Youth could identify students at the age of twelve, who, ten years later, would be considered high mathematics and science achievers. They also found consistent gender differences in mathematics and science achievement. Finally, they investigated what factors relate to some, but not other students, becoming exceptionally high academic achievers by the end of college. The three composite variables of family characteristics and educational support variables; significant influences of a person, event, or educational intervention before the age of twelve; and attitudes toward mathematics and science discriminated between high and low achievers.

Finally, in another longitudinal study, George Vaillant (1977) selected 95 men who, in terms of health, achievement, self-reliance, and stability ranked at the top of their

Harvard classes of 1942-44. Through interviews, tests, and study by psychiatrists, psychologists, and anthropologists, Vaillant followed his subjects' progress for 35 years. He discovered that some of them reacted ingeniously to challenges throughout their lives and went on to succeed, while others remained locked in patterns of defeat.

In studying those subjects representing the 30 best and 30 worst outcomes, Vaillant discovered significant differences between the two groups with regard to several variables. For instance, the 30 worst outcomes were more likely to have experienced: a poor childhood environment, domination by their mothers in adult life, bleak friendship patterns at age 50, and little supervisory responsibility in their jobs. The 30 best outcomes were more likely: to choose careers which reflected identification with their fathers, to contribute more to charity, to have children whose outcomes were good or excellent, and to see their children admitted to the college they themselves had attended. Although Vaillant's group was atypical of the American population, his study provides one of the few thorough histories of specific individuals' life cycles and maturational processes.

In the preceding pages, differing terminology and definitions relating to the study of peak performers have been discussed. However, as a point of clarification, perhaps one definition of peak performance which does not

apply here should be noted. Some researchers (Cassel, 1985;

Privette & Landsman, 1983), notably Privette (1983) study

peak performance of a different kind. Their focus is

on peak experience and once-in-a lifetime exceptional

instances of brilliance and outstanding achievement; perform-

ance which exceeds any and all of individuals' previous

levels of accomplishment.

In contrast, the focus of this review of literature is

research which studies people whose performances are consist-

ently superior over time and the variables which affect them

and their performances. Perhaps one of the most influential

variables with direct impact on individuals' performances is

that of organizational environment (Garfield, 1986b).

Consequently, in the following section, organizational

environment and many of its components are discussed.

<div align="center">Organizational Environment</div>

Definitions

One of the major components of organizational environ-

ment is organizational culture, or perhaps one of the major

components of organizational culture is organizational

environment. Certainly they are two very closely related

concepts, each being an integral part of the other, each

affecting individual performance and productivity. Although

the term seen most often in the literature is "corporate

culture," the emphasis here is on organizational rather than

corporate culture. Since the term "organizational culture" is less restrictive, it can be used with reference to contexts other than corporations, thereby allowing an unrestricted view of the public sector, the non-profit private sector, and any other entity that resembles an organization.

Even a cursory look at the literature relating to organizational culture clearly reveals a variety of defini-tions. While the purpose here is not to provide a complete and unabridged compilation of definitions of culture, there is a need to impose some semblance of order and to somehow categorize the many views on organizational culture. Sathe (1985) takes strides in this direction when he suggests that the literature reflects two main divisions of thought regarding the definition of culture. He identifies these as the adaptationists and the ideationists.

Ideationists, such as Schein (1980, 1985, 1986) and Sathe (1983, 1985), contend that it is not enough to look at what is directly observable; assumptions are the focal point of their definitions of culture. For them, it is essential to go deeper and to look at what motivates the behavior, to understand the rationale behind the promotions, the physical setting, and the organizational structure. They agree that the tangible and observable are important, as well as obvious. What is not as obvious is how to interpret the

outward manifestations of culture. What do they mean and what do they signify? What are the underlying beliefs, the unstated assumptions, and the values which drive the behavior?

Schein and Sathe both delineate three different levels of culture, and the categories they provide mirror one another quite closely. Sathe describes the first level as "composed of technology, art, audible and visible behavior patterns, and other aspects of culture that are easy to see but hard to interpret without an understanding of the other levels" (1985, p. 234). He labels this level of culture with the term "organizational behavior patterns" or "behavior" and suggests that this first level is the slice of cultural reality upon which adaptationists focus. Schein refers to level one as "artifacts and creations" but describes it with words identical to Sathe's definition of behavior.

For Sathe, the second level of culture "reveals how people explain, rationalize, and justify what they say and do as a community; how they 'make sense' of the first level of culture" (p. 235). He terms it "justifications of behavior." Here Schein says "values" and describes them as testable only in the physical environment and by social consensus.

Finally, Sathe identifies the third level--the deepest-- as the level in which the ideational school is most interested. This level "...consists of the ideas and assumptions

that govern people's justifications and behavior" (1985, p. 235). Sathe denotes the third level as "culture" and defines it specifically "...as the set of important assumptions (often unstated) that members of a community held in common" (1985, p. 235). Schein labels this level as "basic assumptions" which are taken for granted, invisible, and preconscious. Here, at this deepest level, both Schein and Sathe speak of guiding principles, of founding values which drive and permeate the organization.

Continuing with Sathe's dichotomy of culture, adaptationists are those who focus on what is observable in organizations--the behaviors, artifacts, creations, organizational structure, communication flow, physical setting, who gets promoted, etc. Perhaps the most well known members of the adaptationists' school are Deal and Kennedy (1982), who stand fast by their definition of culture as "...the way we do things around here." This definition closely resembles what Sathe and Schein identify as the first level of culture and designate respectively as "behavior" and "artifacts and creations."

The issues of semantics and perspective may enter the discussion at this point. Are different people talking about the same concept with different labels? Are different people talking about different components of the same concept? Most likely; in fact, Barbara Benham Tye, in a 1987 article,

speaks of "change and the deep structure," and her definition
of deep structure sounds remarkably like Schein's "basic
assumptions"--the level of culture he designates as the
deepest.

Perhaps what is being heard one more time is the story
of the blind men and the elephant. Perhaps while everyone is
talking simultaneously and no one is really listening, they
are describing different parts of the same pachyderm.
Perhaps no definitive definition of organizational culture
exists. Culture is one of those abstractions that leads to
the realm called soft--a technical term designating anything
that does not lend itself easily to quantification.

Basically, Schein and Sathe occupy one end point on the
continuum of thought regarding organizational culture, and
Deal and Kennedy (1982; Deal, 1986) reside on the opposite
end point. Many others (e.g., Davis, 1984; Denison, 1984;
Ernest, 1985; Koprowski, 1983; Marshall, 1982; Metz, 1986;
Mulder, 1986; Schwartz & Davis, 1981; Silverzweig & Allen,
1976; Trice & Beyer, 1985) find themselves on points some-
where between the "staunch" adaptationists and the "pure"
ideationists. It seems obvious to conclude that both schools
of thought have something to offer, and, perhaps in reality,
they are not so far removed from one another.

Rationale for the study of organizational culture

It is both interesting and significant to note that
twenty, or even ten, years ago the study of organizational
culture was neither a hot topic nor the focus of serious
study. No one talked of the concept in the terms employed
today (priest, cabal, spies, creations, artifacts, etc.)
(Deal & Kennedy, 1982). Perhaps McGregor (1960) came closest
with his Theory X/Theory Y systems of management--a discus-
sion which focuses on the basic beliefs which guide managers'
thinking regarding their employees.

So why, in the 1980's, is a topic that no one seemed
to care about a few years ago receiving such unprecedented
attention? Naisbitt (1982) touches the heart of the issue
when he identifies the transition from an industrial to an
informational society. The key word is transition, for
whenever change is introduced into a system, there will be
anxiety, conflict, resistance, and, yes, somewhere in a small
corner there will be support. When implementing change, the
culture at work within an organization can operate to support
the status quo rather than the proposed change. Consequent-
ly, the important point is that studying organizational
culture can be a means of learning how best to introduce and
implement change and can also give clues as to what strate-
gies to employ to help the transition take place. A look at
the communications or steel industry brings the point into

focus. The people at Bell and Bethlehem Steel have learned experientially about "forced change" and the accompanying culture shock.

The Japanese also receive blame and/or credit for focusing America's interest on organizational culture. Not too long ago "Made in Japan" was commonly viewed as a misnomer for "Piece of Junk." Now the trade deficit that exists between the United States and Japan is an increasing cause of concern and conflict. In their attempts to understand what the Japanese were doing right, Americans began studying Japanese management styles and organizational structure to see what could be begged, borrowed, or stolen and put to work in the United States. American management also asked if the Japanese techniques would work for them. On their way to finding an answer, they began looking at their organizations' cultures in an attempt to determine what their cultures were, what might work for them, and what price they would have to pay to see it work.

From those beginnings came the interest in organizational culture. As is often the case, crisis and survival have been great motivators. It seems organizations no longer have the luxury of ignoring culture, especially in view of the observations of Naisbitt (1982) and others (Naisbitt & Aburdene, 1985) that the United States is a society in transition. Add to these the observations of Schein (1985)

and Deal and Kennedy (1982) that transition implies change, and change implies disturbing the existing culture. If organizations can no longer ignore culture, it naturally follows that perhaps there is much to be gained through learning to manage it.

The culture of productivity

All of the above brings the discussion back to the study of organizational culture, for prerequisite to managing culture is understanding it. Consequently, in hopes of managing culture in a manner which increases productivity, people study organizational culture. Prominent among those people are Akin and Hopelain (1986) who talk in terms of a "culture of productivity." They define culture as the acquired information used to interpret experience. and to generate social behavior. Following their definition, from their studies they conclude that, in order to study culture, one must look at five specific areas of the organization, these being: the types of people, teamwork, the work structure, those in charge, and management.

Akin and Hopelain state that, in a culture of productivity, the PEOPLE identify with the work and are motivated and hard working. The TEAMWORK is characterized by autonomy and self-direction. Leaders are chosen by the group based on their ability to do the work. The WORK STRUCTURE follows closely in line with the attributes of teamwork. There is

opportunity for work teams to organize their own work. THOSE IN CHARGE may be operating from formal authority or from functional authority. They mediate meaning for the work group and have influence upward in order to facilitate communication and support "downward." MANAGEMENT values productivity and results, rather than just activity. They facilitate an environment of trust and openness; they act with reliability and with dependability so others will know how to act. Management has high standards and expectations, but they achieve results without "bossing." Finally, they communicate the mission and learn from, as well as about, employees by listening, observing, and asking questions.

Akin and Hopelain suggest looking at the culture's legibility, coherence, and open-endedness to determine its strength and quality. They suggest that, if people can read the culture, if the culture reflects interconnections and an integrated system, and if that system is open as opposed to closed, the culture possesses strength and quality. Where organizations are focusing on strengthening cultures which promote productivity, they could definitely draw on the work of Akin and Hopelain. Where researchers are focusing on the study of peak performers and the role of the organizational environment as a component of the zone of peak performance, Akin and Hopelain also have something to offer.

The Development of Peak Performers

Several different variables affect the development of
peak performers. Among them are factors such as leadereship
skills, goal setting, communication skills, situational
constraints, and learning styles. In the following sections:
under the headings of: (1) Person-environment fit, (2)
Creativity, (3) Achievement motivation, (4) The role of
education, (5) The role of management, and (6) The role of
human resource development, research with implications for
the development of peak performers is discussed.

Person-environment fit

What happens when "the way we do things around here"
does not match the individual styles of those who operate
within the environment? Fraser and Fisher (1983) studied
student achievement as a function of person-environment fit,
and their findings suggest that, in individualized classroom
settings, person-environment fit can be as important as
individualization per se. In their study "...higher actual
individualization was associated with high learning levels
only among those classes whose students preferred individual-
ization" (p. 98), suggesting that "...student achievement is
likely to be greater in classrooms in which there is similar-
ity between the actual environment and that preferred by
students" (p. 98). Fraser and Fisher's hope is that teachers
will match actual classroom individualization with that

preferred by students for the purpose of enhancing student achievement.

Okabayashi and Torrance (1984) explored "...relationships between measures of style of information processing and readiness for self-directed study and failure of identified gifted students to achieve at a level commensurate with their measured intellectual abilities" (p. 104). The highest achievers in their study seemed to have developed the ability to use an integrative style of information processing (one which utilizes the specialized cerebral functions of both the left and right hemispheres), while the low achievers seemed to use a right hemisphere style of information processing.

Okabayashi and Torrance's findings suggest that the environments in which their subjects participate emphasize tasks and assignments which demand integrative methods of processing information, as opposed to either a left or right hemisphere style of functioning. Therefore, Okabayashi and Torrance suggest that the low achieving students in this study might benefit from learning how to integrate the right and left hemisphere methods of information processing. A possibility which Okabayashi and Torrance do not explore is that perhaps altering the learning environment of the low achieving students to match their preferred learning styles would result in an increase of their achievement levels. The question becomes: Should the person be made to fit the

environment or the environment be made to fit the person?

In addition to Fraser, Fisher, Okabayashi, and Torrance, several others (e.g., Dunn & Dunn, 1978; Dunn & Price, 1980; Gregorc, 1977, 1984) conducted studies which focus on learning styles. As Okabayashi and Torrance's study indicates, the topic of hemisphericity is closely related to that of learning styles. Buzan (1983), along with Wonder and Donovan (1984), stresses the importance of utilizing an integrated thinking style. Buzan speaks of using both sides of the brain, where Wonder and Donovan utilize the phrase "whole-brain thinking."

Wonder and Donovan, in particular, stress that most people demonstrate a preference for either a left brain or a right brain modality. They point out that sometimes employees who function primarily in a right brain modality find themselves working in organizations that function primarily in a left brain modality. The match is seldom comfortable and often is frustrating and/or unproductive, particularly if managers do not give their employees any flexibility in regard to how they perform their work. Research in the area of learning styles and hemisphericity definitely indicates that person-environment fit is a variable which can affect achievement and productivity.

Creativity

Many (e.g., Anderson, 1959; Campbell, 1977, 1980;

Feldhusen & Treffinger, 1977; Getzels & Jackson, 1962) have

studied creativity and have written on the subject, but few

have ventured to succinctly define it. Torrance defines

creative thinking as "the process of sensing gaps or disturb-

ing missing elements; forming new hypotheses concerning them;

testing these hypotheses and communicating the results,

possibly modifying and retesting the hypotheses" (1963, p.

80).

Crosby (1968) constructs a profile of the creative

personality by categorizing characteristics under four

aspects of behavior: perception, self-awareness, communica-

tion, and motivation. According to Crosby, the creative

person may exhibit traits such as: tolerance of ambiguity

(openness to variety in phenomena and preference for complex-

ity and imbalance in phenomena), breadth of interest,

perceptual control (flexibility and deferment of judgment),

personal complexity, self-assertion, verbal fluency, impul-

siveness, non-conformity, independence of judgment, and a

high level of drive.

In addition to identifying personal qualities and

specific tools which facilitate creativity, Crosby (1968)

notes that situational factors also can be a crucial variable

in either hindering or facilitating creativity. Crosby

concludes that, in the absence of a supportive environment, creative performance will be hampered severely, despite the presence of the other two requisites of personal qualities and specific tools. He lists routine, false sophistication, and personnel selected for their homogeneity in specified personal traits and in background as features of industry that may tend to negate creative efforts.

Amabile is another researcher who studies the role of environmental factors in relation to creativity. In an interview with Amabile, Kohn (1987, p. 56) discovered that "Amabile asked 120 research and development scientists to describe an event from their work experience that exemplified high creativity and one that reflected low creativity." What Amabile found was that, when describing both high and low creativity experiences, the scientists talked predominantly about the work environment, rather than about individuals' characteristics. Autonomy--freedom or its absence--was the variable most frequently mentioned. Amabile's respondents indicated that being given a clear overall direction for a project is useful, but they operate best when they have the freedom to choose how to accomplish the stated goals.

Amabile stresses that interactions between individuals and their environment are complex and that work settings do not affect all people identically. Personal qualities can dilute or intensify the impact of the work environment. She

speculates that people who are highly intrinsically motivated may be immune to environmental factors which others may find destructive. Such speculation leads her to the question: "Is there a way to bolster internal motivation, to 'immunize' people against the destructive effects of extrinsic rewards?" (Kohn, 1987, p. 57).

However, Amabile's attention does not merely focus on the question of environment's affect on creativity. Her three component model of creativity consists of: (1) domain-relevant skills, (2) creativity-relevant skills, and (3) task motivation (Amabile, 1983). Brief descriptions of each component follow.

1. Domain-Relevant Skills:

*   Include expertise in a particular field--the knowledge, technical skills, and talent relevant to that field.

*   Result from a combination of innate cognitive abilities, innate perceptual and motor skills, and formal and informal education.

*   Learning style is relevant here, for the more self-directed it is, the greater is the probability that expertise will be used creatively.

2. Creativity-Relevant Skills:

*   Include "appropriate cognitive style, implicit or explicit knowledge of heuristics for generating novel ideas, and conducive work style" (Amabile, 1983, p. 68).

* Are dependent on personality characteristics, training,
  and experience in idea generation.

* Can be taught by example. Parents and teachers can model
  for children how to take risks, consider different options
  for solving problems, and avoid mental ruts.

3. Task Motivation:

* Includes the individuals' own perceptions of their
  motivation for undertaking the task and their attitudes
  toward the task.

* Dependent upon: the "initial level of intrinsic motiva-
  tion toward the task, presence or absence of salient
  extrinsic constraints in the social environment, and
  individual ability to cognitively minimize extrinsic
  constraints" (1983, p. 68).

* Managers, teachers, and parents can encourage creativity
  by reducing the emphasis on extrinsic rewards.

* Attempts need to be made to immunize children against the
  creativity-killing effects of money, competition, and
  other rewards that prevail in an extrinsically oriented
  culture.

In short, Amabile concludes that people are more
creative if left alone to do what they enjoy. They are more
creative when engaged in tasks they find inherently challeng-
ing and fun, rather than those that are motivated by need for
status, material gain, or affiliation. Adams (1986) affirms

the credibility of what Amabile has to say with regard to motivation; however, he concludes that, for most people, creativity is motivated both intrinsically and extrinsically. Adams addresses reality when he acknowledges that most people will remain heavily influenced by extrinsic motivations. Consequently, Adams focuses on "pushing," stating that natural creativity is not enough and that most people have the desire to accomplish things that do not happen naturally.

Adams and several others (e.g., de Bono, 1971, 1972, 1983; Feldhusen & Treffinger, 1977; Mitroff, 1978; Neimark, 1986; Ray & Myers, 1986; and Rowan, 1986) offer their versions of creativity development plans, some of which focus on the heuristics and skills involved in the creative process and others of which focus on the affective components of the creative process. Sidney Parnes' Creative Problem Solving Process (1981) is an example of a creativity development plan that focuses on heuristics and skills. Parnes advocates it as a systematic method of addressing problems to be solved and decisions to be made. Its steps include:

1. Mess Finding (recognizing that all is not well)

2. Data Finding

3. Problem Finding

4. Idea Finding

5. Solution Finding

6. Acceptance Finding

7. Plan of Action

8. Action

Roger von Oech, president of Creative Think (a consulting firm that seeks to stimulate creativity and innovation in business), presents a plan for the development of creativity, a plan whose main focus is on the affective. Von Oech identifies attitudes, which he terms mental locks, that can interfere with the creative process. In his 1983 book entitled <u>A Whack on the Side of the Head</u>, he offers two main reasons why people fail to "think something different" more often. First, von Oech states that, for most of what people do in life (e.g., driving a car, riding in an elevator, waiting in lines), they have no need to be creative. Secondly, he contends that, when people do need to generate new or different ways to accomplish their objectives, their own status quo thinking and more-of-the-same attitudes get in the way. These "mental locks" often prevent people from acting on their potential creativity (1983, p. 9):

1. The Right Answer.

2. That's Not Logical.

3. Follow The Rules.

4. Be Practical.

5. Avoid Ambiguity.

6. To Err Is Wrong.

7. Play Is Frivolous.

8. That's Not My Area.

9. Don't Be Foolish.

10. I'm Not Creative.

Certainly some or all of the above locks may be in operation within most organizations. However, one other block or mental rut conspicuous by omission from von Oech's list is the famous (or infamous) "But we've always done it this way." Often people are caught up in the practice of following and adhering to time-honored precedents. Of course, there exists the need for some established procedures within organizations, but most managers would admit that sometimes (Perhaps often?) decisions are made based on what has been done before, simply because it makes life so much easier and circumvents the need to think through the situation at hand and arrive at a decision appropriate to that situation.

In addition to delineating mental locks to creativity, von Oech (1986, p. 16) identifies four roles which he urges people to assume as they engage in the creative process. Von Oech's recommendation for high creative performance includes the following:

1. When you're searching for new information, be an Explorer.

2. When you're turning your resources into new ideas, be an Artist.

3. When you're evaluating the merits of an idea, be a Judge.

4. When you're carrying your idea into action, be a Warrior.

The study of creativity, of necessity, involves many interrelated variables. As Amabile's model of creativity demonstrates, person-environment fit and motivation are two such variables. Having already spoken of the former, the discussion now moves to the question of motivation--not only as it affects creativity--but also as it affects total performance.

Achievement motivation

When the topic is motivation and its effect on performance, Frederick Herzberg's hygiene-motivation theory must enter the discussion. In attempting to answer the question: "How do you motivate employees?", Herzberg conducted studies whose results suggest that variables which produce job satisfaction (and motivation) are distinct and separate from variables that produce job dissatisfaction. Consequently, Herzberg emphasizes that the two feelings of job satisfaction and job dissatisfaction are not opposites of each other. For Herzberg, the opposite of job satisfaction is no job satisfaction, and the opposite of job dissatisfaction is no job dissatisfaction. In other words, just because employees are not dissatisfied does not mean that they are satisfied.

In Herzberg's theory, growth or motivating factors relate to the job content (e.g., the work itself, achievement, recognition for achievement, responsibility, and potential for advancement); they are intrinsic to the job. Hygiene or pain-avoidance factors relate to the job environment (e.g., supervision, company policy, administration, working conditions, interpersonal relations, status, salary, and security); they are extrinsic to the job. Results of Herzberg's studies indicate that hygiene factors are the primary cause of unhappiness on the job and that motivators are the primary cause of satisfaction.

Herzberg's theory suggests that work be enriched in order to utilize personnel effectively. Job enrichment is a term distinct from job enlargement and horizontal job loading. Job enrichment provides employees with opportunities for psychological growth, while job enlargement and horizontal job loading simply make a job structurally larger. Job enrichment is based on principles such as: increasing accountability, removing some controls but not accountability, giving employees complete units of work, providing employees with additional authority and freedom, and making periodic reports available to the employees directly involved rather than to their supervisors.

Herzberg concludes that job enrichment is a continuous management function, but that initial changes should have a

lasting effect if they bring the job up to a level of challenge equal to the skill of the employees performing the job. If that criterion is met, employees who have more ability will be better able to demonstrate it and advance to higher-level positions. This will result in motivating conditions, which have much longer lasting effects on employee attitudes than do positive changes in hygiene factors. Herzberg succinctly summarizes his argument for job enrichment by stating: "If you have someone on a job, use him. If you can't use him on the job, get rid of him, either via automation or by selecting someone with lesser ability. If you can't use him and you can't get rid of him, you will have a motivation problem" (1978, p. 106).

Lawler (1986) continues Herzberg's support of job enrichment, arguing that satisfaction and high motivation result only: (1) when people believe they are performing meaningful work, (2) when they have responsibility for their work, and (3) when they receive feedback about their performance. According to Lawler, the three above conditions are influenced by the following five characteristics of the work itself (1986, p. 88):

1. Autonomy: The freedom to do the job in the way that the individual feels is best.

2. Feedback Systems: Mechanisms for letting an individual know how well the work is being performed.

3. Skill Variety: The use of a number of the individual's valued skills.

4. Task Identity: Doing a whole piece of work.

5. Task Significance: A task that accomplishes something meaningful.

Witham and Glover (1987) studied employee commitment (within the Federal Bureau of Investigation), a variable closely related to motivation. They postulate that loss of employee commitment can be reversed through a four-pronged approach which includes valuing employees, establishing clear performance expectations, inspiring employees to excel, and limiting status differentials and perquisites that separate workers within organizations. If organizations can success-fully implement these strategies, Witham and Glover suggest that excellence, creativity, and innovation will result--ben-efits attributable to extra effort being expended by the work force.

Motivation is a topic of study within educational settings, as well as within industrial and bureaucratic settings. Gottfried (1985), Covington (1984), and Castenell (1983) all conducted studies which focus on the achievement motivation of adolescents. Gottfried's results indicate that students who reported higher academic intrinsic motivation also had more favorable perceptions of their academic competence, significantly higher school achievement, lower

extrinsic classroom orientation, lower academic anxiety, and were rated by their teachers as generally being more intrinsically motivated. Gottfried's (1985) studies also indicate that academic intrinsic motivation is characterized by differentiation and a general orientation as well. Consequently, Gottfried urges that educators be aware that for noncognitive areas (e.g., anxiety and perception of competence) intrinsic motivation in one subject does not necessarily indicate similar trends across all subject areas. He concludes that intrinsic motivation is an important educational goal and that the school learning environment needs to foster this important motive.

Covington's (1984) studies reveal that students perceive ability as the main causal factor in achievement. Effort replaces ability as a dominant source of reward and satisfaction only in contexts where learning for its own sake is the goal. Covington suggests that students often engage in failure-avoidance strategies because of their preoccupation with ability. If students are motivated to expend effort but fail in spite of their efforts, they risk humiliation and a drop in their feelings of self-worth. Consequently, the challenge is to teach students in ways that keep this preoccupation with ability from interfering with students' willingness to learn.

In order to meet this goal, Covington (1984) encourages

the use of noncompetitive learning structures. Mastery
learning, cooperative learning, and contract learning are
examples of such structures. In addition, Covington points
out that "although the acquisition of facts is an indispen-
sable element of the educational process, it is what the
learner does with factual knowledge that promotes the
intrinsic motivation to learn more; and when one wants to
learn, concerns about ability recede in importance" (1984, p.
17).

The results of Castenell's study (1983) suggest that
characteristics such as interdependence, collectivity, and
cooperation are significant in motivating students for
academic achievement. However, another important implication
of Castenell's·study is that not all adolescents perceive
academic achievement as being essential for success in life.
Some of them see instances of achievement in home situations
and/or peer relationships. Therefore, educators need to
recognize the diversity of students' life experiences and
adjust curriculum and learning activities accordingly.

Whitmore (1986) focuses her research on preventing
severe underachievement and developing achievement motiva-
tion, with her samples consistently composed of young, under-
achieving gifted students. Her findings indicate that
parents and teachers can intervene to prevent or reverse
patterns of academic underachievement, with efforts being

most effective in the first three years of school when
self-concept, perceptions, and behavior patterns are being
formed.

Whitmore discusses the special socialization needs of
her sample, such as immature levels of social competence and
emotional conflict caused by tension between the conformity
required in school and the child's intense desire to express
individuality. These children also exhibit perfectionistic
tendencies, supersensitivity, independence, and naturally
occurring intrinsic motivation. Here their internal drive
may conflict with the school's emphasis on extrinsic rewards.

In addition, young gifted children may find school
activities to be less than challenging. The curriculum
content and traditional mode of instruction typically do not
provide the feelings of satisfaction these children gain from
independent out-of-school activities or home learning. The
result can be a decrease in the motivation to do the assigned
work. To prevent or reverse trends of low effort and
achievement Whitmore suggests that parents and teachers must
work toward the common goal of helping these children learn
to understand and constructively cope with school and to
become more self-disciplined. In addition, parents and
teachers need to design and implement appropriate educational
programs which will stimulate achievement motivation by
inviting these students to participate successfully in

meaningful learning activities.

Whitmore emphasizes that providing educational conditions which prevent underachievement is not costly or unduly difficult. It requires trained teachers, clustering gifted students in special or regular classrooms, and providing an appropriate curriculum, along with a motivating learning climate. She concludes that "...it is more costly for society to lose the potential intellectual and social contributions of these gifted individuals in the future, and it is much more difficult to reverse patterns of underachievement in later years after attitudes and behavior patterns have been established" (1986, p. 133).

Whether they be adults, adolescents, or young children, achievement-oriented people generally share a common profile. According to Willbur (1987), they have realistic aspirations, prefer moderate risk situations, are capable of delaying gratification, and are very persistent. Achievement-oriented people are characterized by their willingness to seek high levels of responsibility for their own actions, their willingness to set challenging yet attainable goals for themselves, their development of detailed plans to help them attain their goals, and their desire to seek and utilize measurable performance feedback.

Willbur reports that early organizational socialization seems to have a major effect on the level of achievement

motivation which managers exhibit. The amount of challenge
with which new managers are presented can mold their percep-
tions of their organizations' expectations regarding accept-
able achievement and success levels. Willbur contends that
teaching managers to be achievement oriented increases both
entrepreneurial behavior and success. Managers--and others--
can learn the attitudes and behaviors of achievement-motiva-
tion.

The role of education

In 1959, George D. Stoddard had this to say about
education: "The urge to inquire, to invent, to perform was
stifled in millions of school children, now grown up, who
did not get above rote learning, or at least did not stay
above it. Their final culture pattern is all about us" (p.
181). Stoddard continued by stating that people are willing
to allow conformity to rule--not because they crave it, but
because they fear deviation. Few people want to be differ-
ent; few choose to be different.

How do educators deal with conformity? According to
Stoddard, "...many teachers and textbooks (refrigerated
versions of teachers stamped and sealed) pay homage to the
same god of conformity" (1959, p. 181). In order to thrive,
the creative life must be given a free choice. Stoddard
offers the hope that creativity is a quality that exists
within everyone at varying points along a continuum of

social and personal growth. One vital role which education

can play in the development of peak performers is to ignite

the creative spark that appears within students.

Creativity and creative thought have much to do with

affect, with attitudes, and with emotion. They involve

risk-taking and breaking from conformity, actions which stem

from high levels of self-confidence and adequate feelings of

self-worth. Certainly educators need to focus their atten-

tion on the whole person, including affective considerations

as well as cognitive. Kaplan (1977), in speaking particular-

ly of gifted education, suggests that a curriculum model

should include the four components of affect, content,

process, and product. Clark (1983) urges that an integrative

approach be utilized in order to provide for full development

of all cognitive abilities and to provide affective education

that aids students in acquiring social competence, sound

mental health, and self-understanding.

However, the component which typically receives the

major emphasis in school curricula is content. Of course,

the teaching of content is necessary, but it should not

constitute both the starting and ending point in education.

Consider Stoddard's comment regarding rote learning. Also,

consider that the Terman studies (Terman & Oden, 1959),

among others, indicate the importance of personality factors

in distinguishing between the successful and the unsuccessful

or between the creative and uncreative (Baird, 1985).

Although studies demonstrate a low positive relationship

between academic talent and high-level real-life accomplish-

ments, several other variables confound that relationship--

many of them personality factors (Baird, 1985). The message

that affective variables relate to achievement is quite

clear. In 1887, John Lubbock underscored the importance of

the affective and the attitudinal by stating that: "The

important thing is not so much that every child should be

taught, as that every child should be given the wish to

learn" (Jensen, 1984, p. 2).

Just as student attitudes are important, teacher

attitudes are equally important. For instance, research has

demonstrated a link between teacher expectations and student

achievement (Proctor, 1984), a link which basically shows

that, many times, teachers get what they expect from stu-

dents. If they anticipate that students will not perform

well, they typically do not. If teachers expect (and

require) that students perform in a quality manner, they

typically do.

Teacher attitudes are also significant in regard to

reinforcing differences in male and female behavior.

Study results indicate that teachers were more likely to give

girls increased attention when they stayed close by and to

use more instruction when responding to boys' questions. In

addition, boys were called on more often, boys' answers were more often accepted as correct although they were no more correct than girls' answers, and girls were asked memory questions more often while boys were asked higher level thinking questions more often. Finally, in studies involving teachers of the gifted, both male and female teachers tended not to view gifted females as logical thinkers and tended to judge gifted males as better creative problem-solvers and critical thinkers (Callahan, 1986).

In regard to the content and process components of the curriculum, Bloom (1986) stresses the role of the school in developing automaticity. He defines automaticity as the mastery of any skill to the point where it can be performed unconsciously with speed and accuracy while consciously conducting other brain functions. As one might suspect, Bloom suggests that speaking, reading, and writing are among those skills which need to be developed to the point of automaticity. He stresses that achieving reading mastery at this point is not possible if children read only for class-room purposes. The habit of reading for several years is prerequisite to the development of automaticity.

Bloom also includes arithmetic processes on his list of skills to be developed to high levels, but again he emphasiz-es that they must be used frequently outside of the class-room if they are to become automated. In addition, it is

the type of thinking used in arithmetic that needs to be
stressed, as opposed to the "facts" of the subject. Finally,
Bloom adds that an introduction to poetry, art, music,
science, sports, and a second language should begin at the
elementary school level. He emphasizes that the basic idiom
and skills of these areas should be learned in an enjoyable
way.

Where Bloom stresses automaticity, Treffinger (1975)
stresses self-directed learning and Kolcaba (1980) stresses
that independent learning skills deserve a place of priority
in the curriculum. Kolcaba (1980, p. 16) enumerates six
skills of independent learners:

1. Knowing how to set learning goals.

2. Knowing which skills to apply in achieving learning
   goals.

3. Focusing attention on the subjects to be learned.

4. Understanding where, when, and why to apply each
   learning skill.

5. Setting evaluation standards for learning.

6. Applying evaluation measures.

Kolcaba underscores the importance of learning how to learn
and advocates the inquiry method as a viable method of doing
so.

Landau (1985) stresses the importance of the related
skill of creative questioning, stating that the teaching of

a questioning approach enhances children's curiosity. He

encourages teachers to utilize a variety of approaches in

their teaching, citing Maslow's observation that "When the

only tool you have is a hammer, it is tempting to treat

everything as if it were a nail" (1985, p. 389). Landau

also draws from the work of Carl Rogers in pointing out that

an atmosphere of security and freedom to be oneself is

necessary to facilitate growth in the creative process. As

students are allowed the freedom to participate in and

structure their own learning, they become more involved

in the subject at hand and venture to ask more questions.

Opportunities to manage their own learning also allow

students to make self-directed decisions, a skill which

Jepsen (1981) found significant in the career patterns of

gifted individuals.

Perhaps educators also should consider Garfield's

research (1986b) of peak performers when pondering curricular

revision, as the abilities and attributes he lists as being

common to peak performers consist of skills which can be

learned. Garfield's characteristics of peak performers

blend nicely with the affective and process dimensions of

Kaplan's curriculum model mentioned earlier. In addition,

they provide guidance regarding how to teach as well as what

to teach. For instance, if teachers wish to develop owner-

ship and proprietary attitudes in their students, they will

involve them in their learning; they will provide learning
options and allow students to make decisions regarding their
own education. Such processes facilitate the development of
skills of effective planning, goal setting, decision making,
and communication. In addition, such practices have an
affective pay-off, in that students are given the message
that their contributions are valued.

Garfield also states that peak performers are not
immobilized by perfectionism (which can get in the way of
risk-taking and creative thinking). That is a crucial and
difficult concept for some students to learn. It is import-
ant to communicate to students that mistakes are an accept-
able and normal part of learning. Self-management is
another characteristic of peak performers, and Betts and
Knapp's (1980) long-term goal for gifted students is for
them to become autonomous learners.

Again, such a goal has everything to do with how
teachers teach students. If teachers wish to facilitate
autonomy and independent thinking in their students, they
will seldom see their role as answering questions. Instead
they will facilitate the learning process by asking the right
questions at the right times. In Betts and Knapp's (1980)
terminology, teachers need to function more as guides on the
side or facilitators of the learning process and less as
sages on the stage or disseminators of knowledge. Particu-

larly where gifted students are concerned, the methodology of
teaching needs to resemble andragogy more closely than
pedagogy as students become more mature learners.

Garfield (1986b) speaks of missions that motivate.
Renzulli (1977) talks of task commitment. Renzulli's Type
III activities are individual or small group projects of the
students' choice. The idea is for students to choose an
area that truly interests them. Betts and Knapp refer to
this as a passion area--something in which students are
acutely interested and eager to become immersed. Obviously,
this concept builds on the principle that the most effective
and long-term learning occurs when students are motivated and
interested.

Finally, Naisbitt and Aburdene (1985) address the
change of focus that the transition from an industrial age
to an information society requires of education. They
conclude that the "3 R's" taught in isolation can be only
rote, remedial, and repetitious and advocate that thinking,
learning, and creating (TLC) demand equal, if not more, time
and attention. Thinking, learning, and creating are three
processes which fit well with the agenda of providing
appropriate educational experiences for children of the
information age, as well as with Garfield's agenda for peak
performers.

The role of management

Introduction   The role of management in the development of peak performers can be succinctly summarized with Garfield's (1986b) contention that peak performing managers draw the best from the people with whom they work, knowing that power given is power gained. High achieving managers also recognize, as does Richard S. Sabo, that people are "...the company's most valuable asset. They must feel secure, important, challenged, in control of their destiny, confident in their leadership, be responsive to common goals, believe that they are being treated honestly and with integrity, have easy access to authority and open lines of communications in all possible directions" (Sabo, 1983, p. 1).

Managers whose goal is peak performance for themselves, their employees, and their organizations possess views of human nature which transfer into a theory of human resource management that expects the best of people, all the while acknowledging that they will at times be disappointed. They acknowledge that people have the potential for excellence, as well as for incompetence. They know that people choose their behaviors and can choose to be the best there is, to meet the minimum requirements, or to fail miserably. As managers, they can choose to provide employees with environments and conditions that facilitate peak performance. They

know that managers' expectations often directly affect employees' achievement levels and productivity and that, more often than not, they get what they expect.

Peak performing managers understand that self-concept is a key factor in performance and that it can be influenced to a great degree by the manner in which they as managers interact with employees. Consequently, they make use of positive reinforcement and sincere praise and genuinely want employees to feel good about themselves. Such managers appreciate the truth in the statement "We are as we perceive other people perceive us." and recognize that self-fulfilling prophecy often plays a major role in performance and behavior.

Managers as communicators   Simply stated, high achieving managers possess superior interpersonal skills. John D. Rockefeller once stated: "I will pay more for the ability to deal with people than any other ability under the sun" (Hersey & Blanchard, 1982, p. 6). The results of a survey conducted by the American Management Association indicate that managers agree with Rockefeller on this matter. The majority of the 200 managers who participated in the survey identified the ability to get along with people as the most important single skill of executives. They rated this ability more vital than intelligence, decisiveness, knowledge, or job skills (Hersey & Blanchard, 1982). Such

findings speak to the importance of effective interpersonal skills in management practices.

When asked to identify the largest problem in his company, George Gage, president of General Telephone of Florida, responded: "Communication. Our people don't talk to each other" (Dellinger & Deane, 1982, p.1). Such a comment, particularly when made by an executive of a communications industry, merits notice. Virtually all management processes involve some type of communication. Perhaps effective communication constitutes the most crucial factor in peak performance management. Whether the topic is leadership, management style, motivation techniques, learning theory, decision making, creativity, or organizational development, it involves communication.

According to Dellinger & Deane (1982), once qualified, capable employees have been hired, managers can best benefit from the people who report to them by engaging in the following behaviors.

1. Develop an attitude of receptivity to people and really listen to them.

2. Both give and receive information and ideas in order to stimulate and motivate employees.

3. Believe in employees' capabilities and potential and express that belief to them.

4. Understand that it takes time and nurturing to produce

maximum growth.

5. Treat people exactly as they themselves would like to be treated.

In management, the bottom line regarding communication is simply providing a climate in which people feel free to communicate openly.

Going back for a moment to Mr. Gage and his comment that his people do not talk to each other, what would happen if his assessment of the situation would have been "Communication. Our people don't **listen** to each other."? The distinction may be a difference of only a few letters on paper, but in practice it involves an entirely different mindset and attitude. Quality listening is not something that just happens. As a skill, it is not inborn or innate. In schools, in businesses, in government, and elsewhere, good listeners seem to be rare--perhaps even representing an endangered species. If quality listening is something managers desire as an integral part of their organizations, they must consciously practice it, plan for it, develop it in their people, and facilitate that development.

Many things can get in the way of communication and hinder people's abilities to listen effectively. However, rather than enumerate detractors, Dellinger and Deane (1982, p. 42) focus on the requisite skills which enable people to become active listeners. They propose the following.

1. Successfully block out competing messages.

2. Concentrate intensely on the message sender.

3. Be and act attentive.

4. Listen in context.

5. Give verbal and nonverbal feedback.

6. Use perceptual checks (testing your perception against the speaker's intention).

7. Distinguish between the cognitive (informational) and the affective (emotional) portions of the message and know how to listen to both.

8. Exercise your inference-making ability.

While each of these eight points may be equally important, perhaps the second one: "Concentrate intensely on the message sender." merits expansion. Many times the most important things people communicate are not sent via auditory channels but through nonverbal signals and messages which they send either consciously or unconsciously. Thus, part of the purpose of concentrating on the message sender is to observe and interpret the emotional content of the message being transmitted. Eye contact, facial expression, posture, gestures, voice inflexion, voice volume, and body movement may all provide important information for the listener.

Managers as facilitators   Almost everyone who writes on the topic of management and leadership offers his or her own version of a list of characteristics which typify

effective leaders and managers. From Maslow (1965), who

contends that managers are psychologically healthier people

who increase the health of the workers they manage, to

Carr-Ruffino (1982), who states that effective leaders turn

Murphy's Laws around and use them to their advantage, people

attempt to summarize the traits which effective managers

have in common.

Carr-Ruffino identifies three types of people: (1)

people who make things happen; (2) people who watch what is

happening; and (3) people who ask, "What happened?". It goes

without saying that effective leaders are of the first type.

It should also be assumed that quality managers not only

inspire people to peak performance, but are themselves peak

performers. Garfield, as a result of his research with

managers who were identified as peak performers, concludes

that certain distinctive characteristics set the highest

performing managers apart from their less productive and less

successful colleagues. According to Garfield, peak perform-

ing managers set long range goals and upgrade their goals

constantly. They seek out expert feedback, develop superior

risk-taking skills and strong self-confidence, know how to

sell ideas, and utilize mental rehearsal. Such managers

also possess a high need for responsibility and control,

solve problems constructively (without casting blame), and

are driven by a sense of mission ("How Good Executives Become

Great Ones", 1985).

   In interviews with the highest performing managers in senior positions, six additional skills surfaced repeatedly. These people seem motivated as much by quality as by quantity. Because they see employees as valuable resources who can contribute significantly to the organization's productivity, they endeavor to increase productivity via effective human resource development. Effective senior managers also maintain a working balance of autonomy and direction in order to encourage productivity; they typically assign employees to small, independent entrepreneurial units. Successful executives refuse to allow themselves to be paralyzed by the pursuit of perfectionism, aiming instead at increasing levels of excellence. Finally, peak performing senior managers recognize and appreciate the need for systematic training of other managers, especially in the human side of organizational functioning (Garfield, 1984b).

   As mentioned previously, the characteristics of peak performers which Garfield identifies involve process skills that most people can learn or attitudes which most people can adopt. In a world which focuses so much attention and energy on the "competitive edge," it seems that Garfield's conclusion that "The difference between peak performers and 'everybody else' is much smaller than 'everybody else' thinks." is a very significant point for managers to note and

one upon which to act (Garfield, 1986b, p. 32).

Lecker, a New York psychiatrist, comes to a similar conclusion, as noted by Carr-Ruffino (1982, p. 260). He notes that most people share many of the following traits but do not use them as fully as top achievers. People with what Lecker terms "the money personality" exhibit these traits:

1. Are persistent and don't wilt with failure, rejection, or time.

2. Are unafraid of bigness.

3. Set simple objectives.

4. Identify key data and actions for meeting objectives.

5. Can carry complex, abstract ideas through to realization.

6. Search for facts and weigh them.

7. Take calculated risks.

8. Take total responsibility.

9. Have no guilt or fear about success.

10. Love the process of success; seeking, achieving, savoring it.

11. Are in command of inner resources: intelligence, creativity, and emotional strengths.

Lecker identifies item number eleven, being in command of inner resources, as the key factor to success, stating that once people take command of their inner resources they experience more success and less stress than others who live

less challenging lives. In other words, it is not enough to have "the right stuff;" the traits are not as important as the ability to use them.

How can managers effectively manage peak performers, more and more of whom are what Drucker refers to as knowledge workers (as opposed to production workers)? Drucker (1982) cites the importance of demanding responsibility from employees--not just effort but legitimate contributions. He suggests that knowledge workers must implement self-evaluation in appraising their contributions and that they must be enabled to do what they were hired to do, even if that means reducing paper work and the number of "useless" meetings. Drucker also emphasizes that the placement of knowledge workers is a key to their productivity. They must be positioned where they can be most effective and where they can utilize their strengths.

Finally, Drucker also highlights the obvious need for managers to manage themselves before they attempt to manage others. In Drucker's words: "Managing others is most effectively done by example rather than by preaching or policy. If the example is lacking, the most moving sermon and the wisest policy rarely work" (1982, p. 3). In other words: "Always be willing to do what you ask other people to do." Within that willingness lies the positive power of leadership.

"Great leaders get extraordinary things done in organizations by inspiring and motivating others toward a common purpose" (Kouzes & Posner, 1988, p. 68). According to Kouzes and Posner (1988), such leaders rely on specific practices to cultivate remarkable successes from challenging opportunities. They encourage leaders to seek new opportunities, experiment and take risks, foster collaboration, strengthen people, and plan small wins.

Edgar Schein observed that successful managers must be good diagnosticians and must value a spirit of inquiry (Hersey & Blanchard, 1982, p. 149). They must also utilize management methods which feature adaptability to the uniqueness of people, organizations, and needs, rather than methods which force a fit of people, organizations, and needs to static, rigid, "We've always done it this way." attitudes and thinking. Such managers acknowledge and respond to the need to fit their leadership styles to the people they are leading. Each of Hersey and Blanchard's (1982) four leadership styles of Telling, Selling, Participating, and Delegating is a response to the individuality of people, their unique learning styles, and their skill levels.

Quadrant 1 (Telling) features a high task emphasis and a low relationship emphasis. Quadrant 2 (Selling) is characterized by both a high task and a high relationship emphasis. Quadrant 3 (Participating) involves a low task

emphasis and a high relationship emphasis, and Quadrant 4
(Delegating) a low task and low relationship emphasis. To
make efficient use of Hersey and Blanchard's theory of
situational leadership, managers must determine when to
implement which leadership style in order to facilitate high
levels of performance and productivity in their employees.
To do so requires that managers utilize effective interper-
sonal skills in diagnosing the maturity levels of people.

Although effective managers may implement the principles
of situational leadership, most remain constant in their
advocacy of what McGregor (1960) termed a Theory Y management
philosophy. A Theory Y approach involves expecting the best
of people, assuming people can be trusted, assuming people
possess the impulse to achieve, assuming people would rather
create than destroy, and assuming that people value meaning-
ful work (Maslow, 1965). Maslow emphasizes that Theory Y is
not intrinsically good or good "because God said so," but
because it works under certain conditions and with healthy,
sophisticated, autonomous people. He suggests that most
utopian, eupsychian, ethical, and moral recommendations will
improve everything in the situation--including profits.
Maslow states that "...it is well to treat working people as
if they were high-type Theory Y human beings, not only
because of the Golden Rule and not only because of the Bible
or religious precepts or anything like that, but also because

this is the path to success of any kind whatsoever, including financial success" (1965, p. 41).

In addition to responding to individual needs and to interacting with employees in a Theory Y way, managers have the responsibility of creating climates in which employees can act on their needs for achievement and develop their fullest potential. Herzberg's hygiene-motivation theory, discussed previously, is one alternative for addressing this matter. Instrumentality or expectancy/valence theory is another alternative. Carr-Ruffino (1982) points out that Nadler and Lawler adopt an expectancy/valence approach which deals with the three variables of the individual, the job, and the work environment. They cite the following steps as measures managers can take in providing motivating climates.

1. Determine what each employee values.

2. Determine the kinds of behavior management desires.

3. Determine if desired levels of performance are achievable.

4. Link desired outcomes to desired performances.

5. Analyze the total situation for conflicting expectancies.

6. Insure that changes in outcomes are large enough.

7. Check the system for its equity.

In their book Management of Organizational Behavior: Utilizing Human Resources (1982), Hersey and Blanchard cite

the work of William James in the area of motivation. James'
research indicates that employees can work at approximately
twenty to thirty percent of their abilities without losing
their jobs. His research also indicates that, when highly
motivated, employees work at eighty to ninety percent of
their abilities. This suggests that a fifty percent to
seventy percent differential in performance can be achieved
if employees are highly motivated. Obviously, James' work
illustrates the extreme importance of motivation as a
function of management, but how can managers facilitate peak
performance in their employees?

McDermott (1987) encourages managers to: create an
organizational culture that supports excellence, implement
innovative work structures, develop line or operational
managers as entrepreneurial managers, change the reward
systems as needed, and develop leadership. Raudsepp (1987)
enumerates 24 steps to establishing a creative climate which
supports and encourages innovation. He sees such a climate
as essential, in that creativity has been found to: increase
the quality of solutions to organizational problems, help
bring about profitable innovations, revitalize motivation,
upgrade personal skills, and catalyze effective team perform-
ance.

Block (1987) advocates empowering employees via the
practices, structure, and policies managers support as

people who have control over others and through the personal choices managers make as expressed by their own actions. According to Block, people feel empowered when they believe their survival is in their own hands, they have an underlying purpose, and they commit themselves to achieving that ' purpose. Block encourages managers to focus on what they and those around them want and to develop ownership and commit- ment in others. They need to discourage and confront passive, nonassertive behavior, and, perhaps most important- ly, managers need to create a vision of greatness for themselves while asking employees to do .the same.

Kanter (1983) sees peak performing managers as change masters--those adept at the art of anticipating the need for, and of leading, productive change. They readily assess where the organization is at the time, communicate via a statement of vision and mission where they want the organiza- tion to go, and move toward that vision by implementing a variety of projects. Effective managers have the audacity to ask people to think, thereby inviting them to participate in an "intellectual awakening" of sorts. They view employees as intelligent beings capable of solving problems and making significant contributions to their organizations.

Cunningham (1985) defines leadership simply as the exercise of influence. In looking ahead at the leadership skills likely to be needed in the future, Cunningham speaks

of: the ability to focus simultaneously on the present and the future; bridging gaps between interest groups; scanning, monitoring, and interpreting events; appraisal skill; intuition; and managing symbols. Cunningham also speaks of leaders as teachers. Leaders know the mission, goals, and objectives of their organizations and continuously teach them. The degree to which members of organizations carry out missions is directly linked to their leaders' degree of success as teachers. Peak performing managers not only serve as communicators and facilitators; they also serve as educators. It is this very important function of educating which is the focus of the final section in the discussion of the development of peak performers.

The role of human resource development

According to Block (1987), training professionals commit themselves to education because they believe in the centrality and the importance of people, convinced that, as employees grow, their organizations also grow. The training professionals' belief in personal growth may be a principle unrecognized by bureaucratic environments. Consequently, many people see training and development programs as high-risk ventures, a condition which necessitates that trainers support managers and their employees in creating and implementing entrepreneurial or personal development contracts.

One method of demonstrating such support is for training

professionals to serve as role models for what they advocate, by facilitating and nurturing the entrepreneurial spirit in their own units. Human resouce departments need to illustrate what internal authority, commitment, and self-expression look like, "...as organizations are more influenced by the actual experience of working with human resource professionals than by the words they present in their programs.... They gain leverage, ultimately, by embodying in their own actions their vision for the total organization" (Block, 1987, p. 39), rather than by mimicking how they see other groups operating. Recall Maslow (1965), who advocates practice over preaching and actions over policy. Training professionals are in the business of empowerment; they can most effectively empower others by first empowering themselves (Block, 1987).

McDermott (1987) concurs that human resource professionals must increase their personal power in order to be more effective and in order to develop their own "winning edge." They must identify the people within their organizations who are respected for their contributions to the goals of their organizations and gain credibility with them. Only then can training personnel work with those people to increase their effectiveness, as well as to strategize how best to help other employees in their development. If human resource professionals wish to gain such credibility, they must learn

to talk to these people and to understand the functions for which they are responsible (e.g., marketing, finance, production, technology). They must move toward a working integration of human resource systems. Most importantly, they must listen.

In addition to increasing their own personal power, McDermott suggests two other strategies human resource professionals can use to become an integral part of their organizations. These strategies involve innovating, risk-taking, modelling excellence, and exemplifying behavior patterns their organizations expect of all employees. First, training personnel must provide "bottom-line" human resource programs. That is, they must deliver programs that address relevant organizational problems; they must be responsive to employee and organizational needs. One such need quite plausibly could be the need to manage change more effectively. Human resource professionals must also train line managers in human resources and organizational development and must work to establish or renew interest in top-level leadership development.

Finally, McDermott (1987) encourages the moving of human resource functions into line organizations--a change that would give managers and supervisors a higher and more visible role in human resource management--a change that McDermott thinks would enable management to better achieve

their organizational objectives. This modification would allow training professionals to position themselves and to function as educators, resources, and facilitators.

Kanter emphasizes that human resource development people need to think of themselves as total organizational resources rather than as educators only. She points out that "...leading-edge human resource departments are working as partners with line management in guiding change, and they see themselves as serving the needs of the organization rather than simply developing the perfect training program" (1984, p. 40). Kanter advocates that training professionals maintain an holistic view of their organizations, for if they understand how to move their organizations and how best to integrate and involve people in them, they can then more effectively carry out the functions of career and training development with the respect of the line.

Wexley and Latham (1981) define training and development as "...a planned effort by an organization to facilitate the learning of job-related behavior on the part of its employees" (p.3). They suggest that training and development attempts may speak to one or more goals, these being to improve levels of self-awareness, to increase skill in particular areas of expertise, and to increase employees' motivation to do their jobs well.

Nadler (1982), with the use of the following taxonomy,

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makes a distinction among three types of learning programs.
For Nadler, training is learning related to an individual's
current job. Education is learning related to an individu-
al's future job, and development is learning for an individu-
al's and/or organization's general growth. Nadler advocates
the use of his Critical Events Model for the purpose of
designing learning programs. This model consists of eight
different steps which are connected by an evaluation and
feedback loop.

Starting with the assumption that peak performers are
trained, not born, it comes as no surprise that Garfield
places a high priority on the human resource development
function. His training plan for peak performers "...is
based on a clear sense of mission and proceeds through
specific behaviors that can be aligned and realigned daily.
It allows any individual...to move from natural inclination
through firm commitment to measurable achievement" (1987,
p. 54). Garfield points out that there is one skill that
sets peak performers apart from others who may be just as
ambitious, results-conscious, and involved in a mission. For
Garfield, that final master skill is the ability to put it
all together so it works.

Seeing peak performers as self-managers who possess
strong internal drives toward meaningful achievement,
Garfield emphasizes that constructing their own training

plans is a skill which peak performers utilize. Developing flexible training programs that are responsive to change is one vehicle peak performers use to achieve their goals. As a result of his research, Garfield concludes that the majority of peak performers develop their abilities and skills via training plans which include the following components (1987, p. 56):

P lanning for change

E ducational foundations

R isk-taking toward innovation

F eedback and course correction

O objectives and goals

R esults and recognition in real time

M otivation through mission

E ntrepreneurship through teamwork

R einforcing personal alignment

S elf-management through self-mastery

Garfield acknowledges that average performers also often have training plans, but that the difference between peak performers and average performers is that peak performers persevere and use their plans consistently. Although organizations can tell people to change their behaviors, can attempt to motivate and train them, can upgrade their job skills, and can increase their effectiveness, Garfield contends that no external forces or training plans motivate

peak performance. "A training plan is a collection of tools. Peak performance comes from an internal, personal commitment to use them" (1987, p. 59). The question remains: "From where do the personal commitment and motivation come?" Garfield likely would respond that they come from an alignment of personal mission, job requirements, and organizational environment--the alignment which he terms the zone of peak performance.

Management training is an area of human resource development which Garfield specifically addresses (1984b), discouraging using the extremes of approaches to management training--those being, the "sink or swim" method and the deification of the MBA. Garfield identifies five distinct stages in the development of high achieving managers· and suggests that knowing them "...can help managers recognize and move past the blocks that can abort their career development" (1984b, p. 26). Garfield labels his stages: (1) the initiation. stage, (2) the fear of success stage, (3) the team-building stage, (4) the affiliation stage, and (5) the elevation-seniority stage. The pay-offs for organizations that teach their managers to anticipate these stages and to move through them successfully are increased performance and productivity.

Summary

Three main areas relevant to the study of peak performers were discussed in the preceding review of literature. In the first section, major studies whose subjects are high achievers were cited. Although in some instances Garfield, Gallup and Gallup, Bloom, Terman, Renzulli, and others employ differing terminology and definitions, they all consistently use similar characteristics to describe the people they are studying. It seems that a profile which high achievers are likely to fit can be developed.

Acknowledging that outstanding performers do not operate in vacuums, the second major section of this review focused on organizational environment and organizational culture. Here the purpose of studying organizational environment and culture was to determine how they might be managed to increase the productivity and efficiency of peak performers, as well as how they might affect peak performers and their output. Consequently, the topics included here were definitions of culture, the rationale for the study of organizational culture, and the culture of productivity.

Finally, beginning with Garfield's (1986b) assumption that peak performers are trained, not born, literature relevant to the development of peak performers was explored. Areas of focus were person-environment fit, creativity,

achievement motivation, the role of education, the role of

management, and the role of human resource development.

METHODOLOGY

The Iowa State University Committee on the Use of Human
Subjects in Research reviewed this project and concluded
that the rights and welfare of the human subjects were
adequately protected. In addition, this committee determined
that risks were outweighed by the potential benefits and
expected value of the knowledge sought, that confidentiality
of data was assured, and that informed consent was obtained
by appropriate procedures.

Subjects

This study's target population consisted of successful
individuals who have been recognized for their leadership
potential. The subjects included those people who have
participated in Leadership Iowa, a program sponsored by
the Iowa Association of Business and Industry, and/or have
been identified as Up-and-Comers by the Des Moines Register's
editorial staff.

Leadership Iowa participants are individuals who, at
the time of selection, were between the ages of 25 and 40
and who were chosen on the basis of leadership potential,
community activities, involvement in professional organiza-
tions, and their responses to open-ended questions relating
to how they might use their Leadership Iowa experiences to
benefit their communities, state, and professions. Up-and-
Comers must be under 40 years of age when selected and must

be recognized for distinction in business, industry, or agriculture, as well as for leadership in their communities and state. When the two groups are merged, similar criteria for inclusion are noted, as are several individuals who belong to both groups. Throughout this discussion, the combined population of Leadership Iowa participants and Up-and-Comer designees are referred to as Iowa's Young Leaders.

The total population surveyed numbered 178 individuals. Of this number, 109 participated in Leadership Iowa and 79 were designated as Up-and-Comers. Ten subjects were cross-overs with membership in both sub-groups. Among the Up-ànd-Comers, 25 were 1988 honorees, 25 were 1987 honorees, and 29 were 1986 honorees. Of the Leadership Iowa group, at the time of the study 28 individuals were involved in the program; the remaining 81 were members of the Leadership Iowa Alumni Association. It should be noted that all former Leadership Iowa participants are not involved in the alumni group. Approximately two-thirds of former participants choose to maintain their association with the organization. Consequently, those two-thirds constitute the accessible portion of that particular population.

Materials

With the permission of their respective copyright holders, three different instruments, compiled in booklet

form, were used to collect data from the target population. A cover letter that asked for the recipients' participation and described the study, its purpose, and its procedures accompanied the surveys.

The following three inventories were utilized because, when taken together, they offer a composite portrait of the subjects' organizational environments, characteristics, personal development patterns, and preferences. They also correspond, either directly or indirectly, to the three elements present in Garfield's zone of peak performance (Garfield, 1986b): personal mission, job requirements, and organizational environment. Figure 4 illustrates these relationships.

The most obvious pairing is Garfield's organizational environment with Amabile's "Work Environment Inventory" (1987), an instrument that records respondents' perceptions of their current organizational environments and the environments they find ideal for facilitating their creativity.

Gallup and Gallup's "The Great American Success Quotient Test" (1986) asks respondents to indicate to what degree several factors contributed to their success. It was used to gather information regarding subjects' characteristics, abilities, and personal development patterns--variables which determine, to some extent, how well individuals meet established job requirements.

Personal

Mission

Job

Requirements

"Work Preference

Inventory"

"Great American Success

Quotient Test"

Organizational Environment

"Work Environment Inventory"
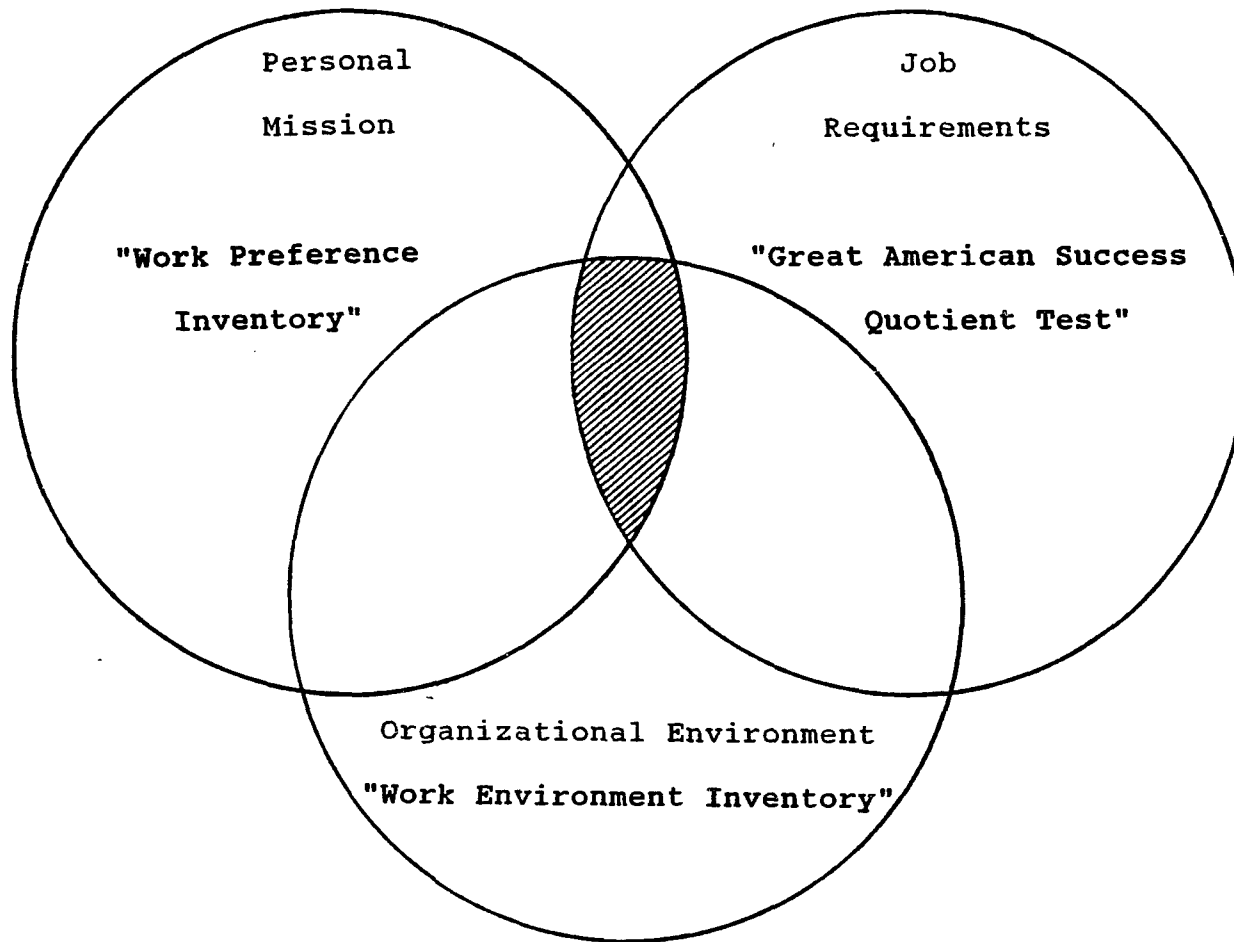
Figure 4.   Juxtaposition: Zone of peak performance and
            instrumentation

Finally, Amabile's "Work Preference Inventory" (1985) assessed participants' career orientations, according to the dimensions of outward orientation, compensation orientation, and task-satisfaction orientation--factors which may provide some indication of the individuals' personal missions or goals.

Procedures

When the decision had been made to utilize the three instruments described above, a small pilot study was conducted to determine the length of time needed to complete the survey. After compiling and printing the survey booklet and locating the addresses of population members, surveys and cover letters were mailed to the 178 possible participants. Ten days after the initial mailing, a follow-up post card was sent to those individuals from whom a completed survey had not yet been received. Two weeks later, a second survey booklet was sent to those who still had not responded. One hundred seven of the possible participants completed and returned the surveys, yielding a response rate of 60%.

Data Analyses

After completed surveys were returned, the data were coded, entered into computer files, and analyzed with the use of the SPSSX, Statistical Package for the Social Sciences. Means and standard deviations for each variable were calculated, as were subscale reliabilities. For the "Work

Environment Inventory," t-values were calculated to assess

the differences between participants' perceptions of their

current work environments and the ideal work environment for

facilitating creativity. In addition, t-values were figured

to determine if ratings for the "Work Environment Inventory"

indicated gender differences.

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RESULTS

The following section is divided into four subsections.
Within each subsection, the data analyses results pertaining
to particular research questions are presented.

Research Questions 1 and 2

One purpose of this study was to determine the charac-
teristics and developmental patterns which Iowa's Young
Leaders share. Data pertaining to these two areas follow.

Characteristics

Of the 107 people who completed the survey, 69 are male
and 38 are female. Their mean age at the time of the study
was 37.7. Of those responding, 43.3% hold bachelor's
degrees, 33.7% hold master's degrees, and 8.6% hold other
advanced degrees (e.g., J.D., Ph.D). As a group, they have
been in their current occupations for approximately 10.5
years--occupations which, for 45.2% of the respondents,
involve management responsibilities. Another 16.3% of the
group works in businesses of some sort. The legal profes-
sion, real estate, accounting, insurance, education, govern-
ment, and agriculture also are represented by the partici-
pants.

On Gallup and Gallup's "The Great American Success
Quotient Test," respondents evaluated themselves in twenty
different areas by indicating the grade they thought they
deserved on each variable. Their ratings were converted to a

zero to ten measure, with zero equalling "F" and ten equal-
ling "A." Participants' assessments of their skills and
proficiencies reflect that, as a group, Iowa's Young Leaders
rated themselves highest in their ability to get things done
and common sense, while rating their ability to make money
the lowest of the twenty. With few exceptions, the majority
of the items with higher ratings tend to be characteristics
and abilities which feature the affective components of
attitudes, motivation, and emotions.

The general intelligence rating ranks twelfth, while the
specialized knowledge rating ranks even lower, at eighteenth.
Ratings for process skills, such as writing, reading, and
public speaking, also appear in the lower half of the
rankings. However, it should be noted that respondents
rated themselves in the "A" to "B+" range on all twenty
items. The fact that all of the data collected in this
investigation were derived from self-perception ratings
constitutes an acknowledged limitation of the study.

Table 1 provides the specific ratings of each of the
twenty items, beginning with the highest ranked item and
continuing through the lowest ranked item. Item means and
standard deviations also are reported. Table 2 indicates how
accurately respondents felt eleven different statements
dealing with personal characteristics described them. Again
the statements are ranked, and means and standard deviations

Table 1. Self-appraisal subscale: Ratings, means, and
standard deviations

Characteristic	Rating	Mean	SD
Ability to get things done	A	8.79	1.02
Common sense	A	8.76	1.13
Self-reliance	A	8.76	1.25
Ability to get along with others	A	8.62	1.78
Leadership ability	A-	8.33	1.22
Self-confidence	A-	8.30	1.59
Ability to put orders from superiors into effect	A-	8.26	1.40
Organizational ability	A-	8.19	1.47
Willpower	A-	8.14	1.66
Work habits	A-	7.97	1.36
Intuition	A-	7.96	1.64
General intelligence	A-	7.79	1.26
Ability to motivate subordinates	A-	7.78	1.47
Writing skill	A-	7.73	1.65
Public speaking ability	A-	7.69	1.79
Creativity, inventiveness	A-	7.65	1.71
Reading skill	A-	7.59	1.68
Specialized knowledge required in your field	A-	7.56	1.66
Conversational ability	B+	7.48	1.96
Ability to make money	B+	7.43	1.78

Table 2. Personal characteristics subscale: Means and
          standard deviations

Personal Characteristics	Mean	SD
I have a strong sense of right and wrong.	8.93	1.35
I care a great deal about other people.	8.13	1.86
I am tolerant of other viewpoints.	8.06	1.41
I believe in a supreme being.	8.05	2.81
I am not afraid to take chances or risks.	7.85	1.51
I have a broad range of interests.	7.85	1.73
I am not afraid to be different.	7.78	1.64
I have well-defined personal goals.	7.51	1.58
I believe that God has a plan for my life.	6.35	3.24
I feel I have a close personal relationship with God.	5.79	3.19
I was just born lucky.	4.02	2.27

are reflected.

Developmental patterns

<u>Childhood</u>   Slightly over 92% of the respondents indicated that their childhoods were either fairly happy or very happy. A pattern begins to develop when that statistic is viewed in conjunction with respondents' perceptions of their childhood relationships with their parents. Slightly over 87.1% of those responding revealed that they got along with their fathers very well or fairly well, while 90.2% felt they got along with their mothers very well or fairly well.

<u>Reading habits</u>   Four questions on Gallup and Gallup's "The Great American Success Quotient Test" (1986) deal with reading habits--reading habits in the early years, reading habits in high school, reading habits in college, and adult reading habits. According to data received, 55.9% of the respondents indicated that, before the age of ten, they read much more or somewhat more than other children of that age group, while 31.4% perceived that they read about the same amount as other children. In high school, the situation was much the same, with 57.8% of respondents reporting that they read much more or somewhat more than other students and 28.4% reporting that they read about the same amount as other students.

At the college level, the differences between the reading habits of survey respondents and other students were

not as great. Only 34% of the respondents perceived that they read much more or somewhat more than their peer group, while 49% suggested that they read about the same amount as other college students. As working adults, Iowa's Young Leaders reported that, in the past twelve months, they read an average of six fiction books and five nonfiction books.

It should be noted that Gallup & Gallup's instrument did not provide for collecting data on journal, magazine, and newspaper reading. At least one pilot study participant suggested that her response did not accurately reflect the amount of reading she does because, although she reads relatively few books, she does a considerable amount of journal, magazine, and newspaper reading. Apparently the question restricts some participants in their attempts to provide an accurate record of their reading habits.

Academics   According to replies, 87.3% of participants' parents felt it was very important or fairly important that their children achieve good grades. As a group, survey participants ranked in the top 19% of their classes in their senior year of high school and in the top 24% in their senior year of college. Almost 70% of the respondents received better grades in some courses than others, and 90.3% had one or more teachers who made them enthusiastic about a particular subject.

Although Gallup and Gallup's instrument addresses

intelligence quotients, only 14% of the participants in this study reported knowing their IQs. While that small proportion may not accurately reflect the respondents as a total group, their average IQ score is 130.

Extracurricular activities   As high school students, 74.8% of this study's respondents were officers of their classes or other school organizations, and/or were athletic team captains. In college, 52.5% held such leadership positions. The majority of participants also found time for jobs while in school, with 84.5% having part-time or full-time jobs when in high school and 92.1% having jobs when in college.

Goals and donations   Although replies suggest that life goals and career goals are fairly clear in the minds of participants, with 69.6% indicating they have clear goals for their lives and 61.3% indicating they have clear goals for their careers, 95.1% report that there are further life goals they would like to achieve. The data suggest that a goal common to almost all participants is sharing their time and money with service organizations.

As a group, they spend 5.76 hours per week in volunteer activities, contrasted with less than two hours a day in television viewing. In the past twelve months, 99% of survey respondents donated money to charitable causes; 83% gave money to religious organizations; 68% donated time to

helping the poor, disadvantaged, or needy; and 47% donated

time to religious work.   In addition, 83% reported writing

letters to political officials or signing petitions.

Research Question 3

A third question the current study addressed focuses

on the factors that Iowa's Young Leaders identify as contrib-

uting to their success.   Respondents reported how important

several factors have been in contributing to their success

by rating each factor on a scale from zero to ten--the

higher the number the more important the factor, and the

lower the number the less important the factor.

These factors are divided into five subscales: (1)

Personal characteristics or traits, (2) Experiences in chosen

field, (3) Outside (school) interests, (4) Academic experi-

ence, and (5) Family environment and influence.   They

are presented here in rank order, with the subscale receiving

the highest composite mean discussed first.   Complete

listings of the subscales, the rank order of the items in

each subscale; subscale means, subscale standard deviations,

item means, item standard deviations, and subscale reliabili-

ties are provided on Tables 3-8.

Personal characteristics or traits

With an item mean of 8.28, the subscale containing

variables related to personal characteristics or traits ranks

highest among the five subscales of factors contributing to

Table 3. Personal characteristics or traits subscale: Means
          and standard deviations of factors identified as
          contributing to survey respondents' success in
          their chosen fields

Personal Characteristics or Traits Subscale

Subscale Mean = 91.24; Subscale SD = 8.99

Variable	Mean	SD
Common sense	9.13	0.98
Being a hard worker	9.07	1.22
Ambition, desire to get ahead	8.70	1.45
Not being afraid to pursue new ideas, ventures, take risks	8.64	1.45
Caring about other people	8.34	1.69
Tolerance of other viewpoints	8.31	1.39
Not being afraid to be different	8.16	1.74
Having a broad range of interests	8.08	1.49
Intelligence	8.04	1.26
Establishing well-defined personal goals	7.83	1.86
Special talent in specific area	6.74	1.84

Table 4. Experiences in chosen field subscale: Means and
standard deviations of factors identified as
contributing to survey respondents' success in
their chosen fields

Experiences in Chosen Field

Subscale Mean = 107.00; Subscale SD = 12.53

Variable	Mean	SD
Ability to get things done	9.38	0.88
Hard work, diligence	9.06	0.97
Ambition, desire to get ahead	8.89	1.15
Organizational ability	8.55	1.22
Ability to motivate subordinates	8.29	1.66
Respect for peers	8.18	1.40
A boss, superiors who assisted or advised	7.55	1.64
Ability to follow instructions	7.19	2.04
Supportive co-workers	7.18	1.65
Special talent in chosen field	7.11	1.63
Luck, timing, being at the right place at the right time	6.92	2.13
Choosing right field at right time	6.88	2.03
Desire to make money	6.18	2.45
Having long-time interest in the field	5.50	2.77

Table 5. Outside (school) interests subscale: Means
and standard deviations of factors identified as
contributing to survey respondents' success in
their chosen fields

Outside (School) Interests

Subscale Mean = 15.52; Subscale SD = 3.63

Variable	Mean	SD
Having outside jobs, summer work, etc.	7.84	2.16
Having a broad range of interests (outside school)	7.75	1.94

Table 6. Academic experience subscale: Means and standard
deviations of factors identified as contributing to
survey respondents' success in their chosen fields

Academic Experience

Subscale Mean = 77.91; Subscale SD = 11.95

Variable	Mean	SD
Desire to excel	9.12	1.18
Good work habits, ability to organize time, get things done	8.81	1.42
Having natural learning ability	7.64	1.61
Involvement in extracurricular activities	7.13	2.17
Attending high-quality school(s)	7.08	2.06
Working hard at school work	7.01	2.24
Influence and encouragement of teachers	6.86	2.21
Getting good grades	6.81	2.00
Having specific academic goals	6.77	2.26
Scoring well on achievement tests	6.03	2.27
Involvement in sports	4.60	2.95

Table 7. Family environment and influence subscale: Means
and standard deviations of factors identified as
contributing to survey respondents' success in
their chosen fields

Family Environment and Influence

Subscale Mean = 47.34; Subscale SD = 12.27

Variable	Mean	SD
Happiness of home life	7.40	2.41
Strong support of parents	7.35	2.48
Physical environment or habitat when young	7.03	2.29
Strong support of other family members	6.89	2.61
Important personal contacts	6.22	2.70
Strong religious upbringing	5.11	2.90
Material advantages, money, property	3.86	2.50
National ancestry, parents' ancestors, nationality	3.41	2.70

Table 8. Gallup and Gallup subscale reliabilities

Subscale	No. of Items	Alpha
Personal Characteristics or Traits	11	.77
Experiences in Chosen Field	14	.80
Outside (School) Interests	2	.68
Academic Experience	11	.76
Family Environment and Influence	8	.74

respondents' success. Common sense and being a hard worker are the two traits which head this particular list of eleven factors contributing to success. Respondents perceived intelligence, establishing well-defined personal goals, and special talent in a specific area as factors contributing the least to their success.

Experiences in chosen field

The next highest ranking subscale (Item Mean = 7.96) contains the factor with the highest mean of any item on all five subscales. The ability to get things done has a mean rating of 9.38, and is followed closely by hard work and ambition. The lowest rated items on the fourteen item subscale are the desire to make money and a long-time interest in the field.

Outside (school) interests

The third ranking subscale (Item Mean = 7.79) contains only two items. Respondents reported that, on a scale of zero to ten, having outside jobs and summer work rated a 7.84 level of importance and having a broad range of interests outside of school rated a 7.75 level of importance in contributing to their success.

Academic experiences

The desire to excel, good work habits, and natural learning ability lead the eleven factors which comprise the Academic Experiences subscale (Item Mean = 7.08). Good

grades only managed an eighth place ranking, and sports placed last.

Family environment and influence

As a subscale, items related to family environment and family influence received the lowest item mean rating (5.91) as factors respondents perceived as contributing to their success in their chosen fields. At this point it is interesting to recall that survey participants overwhelmingly reported having happy childhoods and good relationships with their parents.

Happiness and strong parental support rank highest on the eight item Family Environment and Influence subscale. Material advantages, such as money and property, and ancestry or nationality rank lowest.

Research Question 4

A fourth question posed in this study examines the career orientations of Iowa's Young Leaders. In completing Amabile's "Work Preference Inventory" (1985), respondents revealed to what degree they possess an outward orientation, a compensation orientation, and a task-satisfaction orientation in their work. In Table 9, the subscales' reliabilities from this study are presented in conjunction with the reliabilities from Amabile's research.

Table 9. "Work Preference Inventory" subscale reliabilities

Subscale	No. of Items	Jensen's Alpha	Amabile's Alpha
Task-Satisfaction Orientation	11	.75	.94
Compensation Orientation	8	.64	.61
Outward Orientation	7	.62	.93

Task-satisfaction orientation

The results of the data analysis suggest that, as a group, study participants' strongest orientation is task-satisfaction. This eleven item subscale has an item mean of 3.21 on a four point measure, a subscale mean of 35.34, and a subscale standard deviation of 4.06.

Amabile reports that people who score high on the task-satisfaction orientation tend to enjoy solving difficult, new, complex problems. They are strongly motivated by curiosity in their work, sometimes becoming so absorbed in what they are doing that they forget about everything else. In addition, people with a high task-satisfaction orientation generally prefer to figure things out for themselves and to set their own work goals. Over 500 working adults who have completed the "Work Preference Inventory" established a population average of 3.14.

Compensation orientation

With an item mean of 2.56, compensation is the second strongest orientation indicated by the replies of Iowa's Young Leaders. The eight items that comprise this subscale have a composite mean of 20.51 and a composite standard deviation of 3.65. On this dimension, Amabile's respondents averaged a score of 2.4. Those scoring high on the compensation orientation tend to be keenly aware of the promotion and income goals they have set for themselves, as they are

strongly motivated by the money they can earn.

Outward orientation

Participants in the current study demonstrate a milder outward orientation, a dimension with a mean of 1.99--almost identical to Amabile's population average of 2.0. People scoring high on the outward orientation tend to prefer projects with clearly specified procedures, where the risk of failure is low. They also tend to find the recognition of other people highly motivational. The seven item subscale has a subscale mean of 13.94 and a subscale standard deviation of 2.78 in the Iowa's Young Leaders study.

Research Questions 5, 6, and 7

The last three questions addressed in this study focus on the organizational environments of Iowa's Young Leaders. The highest percentages of survey respondents work within business (31.1%) and manufacturing (17.0%) organizations. The organizations represented range in size from two employees to over 100,000 employees, with the average organization size being approximately 3,767.

On her "Work Environment Inventory" (1987), Amabile distinguishes between the term organization and the term work environment. For the purposes of her inventory, Amabile defines the organization as the company or organization for which respondents work, and the work environment as the day-to-day physical and social environment in which

respondents do most or all of their work. With an under-
standing of these definitions, participants reported an
average time of 9.24 years in their current organizations
and an average time of 4.38 years in their current work
environments.

"Work Environment Inventory" current and ideal ratings

Participants responded to several items in terms of the
feelings or impressions they most often have about their
current work environments. Participants also identified the
extent to which the same items are true of a work environment
ideal for facilitating their creativity.

Amabile divides her "Work Environment Inventory" (WEI)
into sixteen subscales for purposes of analysis. Of these
subscales, twelve constitute what Amabile identifies as
stimulants to creativity and four constitute what she terms
impediments to creativity. Paired t-tests were used to
determine if there are significant differences between
respondents' ratings of their current work environments and
their ratings of the ideal work environments for facilitating
their creativity. Results demonstrate that, in all sixteen
instances, the differences are significant at the .01 level
and beyond.

On the twelve stimulants to creativity subscales, the
means of the ideal work environment ratings all are signifi-
cantly higher than the means of the current work environment

ratings. On the four impediments to creativity subscales, the means of the current work environment ratings all are significantly higher than the means of the ideal work environment ratings. Such results are in keeping with Amabile's research results and, in fact, are what one might anticipate. Specific results of the t-test analyses described above are detailed in Tables 10 and 11.

"Work Environment Inventory" gender differences

Although t-test analyses revealed no statistically significant differences between males' and females' responses to Amabile's "Work Preference Inventory," gender differences were found on some of the "Work Environment Inventory" subscales. With respect to the current organizational environment ratings, t values for the Freedom/Constraint subscale and the Status Quo subscale reflect statistically significant gender differences at the .05 level. With respect to ratings of the ideal organizational environment for facilitating creativity, t values for the Freedom/Constraint, Project Management, Unity/Cooperation, and Status Quo subscales reflect statistically significant gender differences at the .05 level. Specific results of the gender differences t-test analyses for all subscales are provided in Tables 12 and 13.

Table 10.   Twelve stimulants to creativity: "Work Environ-
            ment Inventory" t-test values

Subscale	Mean	SD	n	T Value	DF	2-Tail
Freedom/Constraint						
Current	3.29	.48	104	8.08**	103	.001
Ideal	3.63	.40				
Challenge						
Current	3.15	.44	101	11.01**	100	.001
Ideal	3.56	.31				
Time						
Current	2.07	.63	105	9.82**	104	.001
Ideal	2.74	.61				
Encourage./Eval.						
Current	2.98	.43	99	14.89**	98	.001
Ideal	3.64	.31				
Resources						
Current	3.02	.53	101	11.34**	100	.001
Ideal	3.68	.33				
Project Management						
Current	3.02	.52	88	12.28**	87	.001
Ideal	3.70	.27				

Note.   p < .01.

Table 10 continued.

Subscale	Mean	SD	n	T Value	DF	2-Tail
Coworkers						
Current	3.23	.41	102	12.80**	101	.001
Ideal	3.75	.27				
Recognition						
Current	2.80	.57	103	16.50**	102	.001
Ideal	3.79	.34				
Unity/Cooperation						
Current	2.90	.57	103	14.42**	102	.001
Ideal	3.76	.33				
Creativity Supports						
Current	3.05	.57	102	11.48**	101	.001
Ideal	3.70	.37				
Creativity						
Current	3.04	.55	101	12.97**	100	.001
Ideal	3.77	.32				
Productivity						
Current	3.22	.50	101	10.18**	100	.001
Ideal	3.79	.39				

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Table 11.   Four impediments to creativity: "Work Environment
            Inventory" t-test values

Subscale	Mean	SD	n	T Value	DF	2-Tail
Status Quo						
Current	2.17	.64	105	-10.06**	104	.001
Ideal	1.59	.46				
Org. Disinterest						
Current	1.59	.50	97	-8.12**	96	.001
Ideal	1.24	.37				
Structure/Procedure						
Current	1.97	.35	101	-13.57**	100	.001
Ideal	1.45	.32				
Political Problems						
Current	2.07	.66	104	-11.98**	103	.001
Ideal	1.29	.38				

Note. p < .01.

Table 12. Gender differences: "Work Environment Inventory"
          ratings of current organizational environment

Subscale Gender	Mean	SD	n	T Value	DF	2-Tail
Freedom/Constraint						
Male	3.24	.50	68	-2.09*	100	.039
Female	3.45	.44	34			
Challenge						
Male	3.11	.39	67	-1.20	98	.233
Female	3.23	.53	33			
Time						
Male	2.09	.64	69	0.64	101	.525
Female	2.01	.62	34			
Encourage./Eval.						
Male	2.95	.41	66	-1.30	96	.196
Female	3.07	.44	32			
Recognition						
Male	2.74	.53	68	-1.69	99	.095
Female	2.94	.62	33			
Resources						
Male	3.05	.49	67	0.76	98	.451
Female	2.96	.61	33			

Note. $p < .05$.

Table 12 continued.

Subscale Gender	Mean	SD	n	T Value	DF	2-Tail
Project Management						
Male	2.96	.46	59	-1.61	85	.110
Female	3.15	.62	28			
Coworkers						
Male	3.18	.40	67	-1.85	98	.067
Female	3.34	.41	33			
Unity/Cooperation						
Male	2.85	.57	68	-1.33	99	.188
Female	3.01	.57	33			
Creativity Supports						
Male	3.00	.57	67	-1.43	98	.157
Female	3.17	.55	33			
Creativity						
Male	2.99	.53	67	-1.69	98	.095
Female	3.18	.54	33			
Productivity						
Male	3.22	.51	67	-0.29	98	.776
Female	3.25	.50	33			

Table 12 continued.

Subscale Gender	Mean	SD	n	T Value	DF	2-Tail
Status Quo						
Male	2.25	.61	69	2.43*	101	.017
Female	1.94	.64	34			
Org. Disinterest						
Male	1.58	.50	64	0.32	93	.320
Female	1.54	.45	31			
Structure/Procedure						
Male	1.99	.35	68	1.45	99	.150
Female	1.88	.31	33			
Political Problems						
Male	2.09	.68	68	0.77	100	.444
Female	1.98	.61	34			

Table 13. Gender differences: "Work Environment Inventory"
ratings of ideal organizational environment

Subscale Gender	Mean	SD	n	T Value	DF	2-Tail
Freedom/Constraint						
Male	3.57	.43	68	-2.01*	99	.047
Female	3.74	.32	33			
Challenge						
Male	3.53	.30	67	-1.71	97	.090
Female	3.64	.31	32			
Time						
Male	2.71	.58	69	-0.58	100	.566
Female	2.78	.69	33			
Encourage./Eval.						
Male	3.61	.32	66	-1.05	95	.297
Female	3.68	.28	31			
Recognition						
Male	3.77	.35	68	-0.76	99	.446
Female	3.82	.33	33			
Resources						
Male	3.65	.35	67	-1.10	97	.274
Female	3.72	.29	32			

Note. p < .05.

Table 13 continued.

Subscale Gender	Mean	SD	n	T Value	DF	2-Tail
Project Management						
Male	3.66	.29	62	-2.74*	88	.007
Female	3.82	.17	28			
Coworkers						
Male	3.71	.27	67	-1.80	97	.075
Female	3.82	.27	32			
Unity/Cooperation						
Male	3.71	.36	68	-2.15*	98	.034
Female	3.86	.25	32			
Creativity Supports						
Male	3.68	.40	67	-0.73	97	.468
Female	3.74	.32	32			
Creativity						
Male	3.75	.33	67	-1.29	97	.200
Female	3.84	.30	32			
Productivity						
Male	3.75	.44	67	-1.27	97	.206
Female	3.85	.27	32			

Table 13 continued.

Subscale Gender	Mean	SD	n	T Value	DF	2-Tail
Status Quo						
Male	1.66	.46	69	2.62*	100	.010
Female	1.41	.41	33			
Org. Disinterest						
Male	1.27	.38	65	1.72	94	.089
Female	1.14	.23	31			
Structure/Procedure						
Male	1.48	.33	68	1.61	97	.111
Female	1.37	.29	31			
Political Problems						
Male	1.28	.38	68	-0.36	99	.717
Female	1.31	.41	33			

"Work Environment Inventory" subscale reliabilities

It must be noted that, while Amabile's subscale relia-
bilities for the WEI range from .74 to .95, 15 of the 32
subscale reliabilities for this study are less than the
lowest reliabilities Amabile reports, and only nine of this
study's subscale reliabilities are .80 or greater. Alphas
were obtained by analyzing each subscale individually.
Consequently, because of instances of missing data, subscale
reliabilities are based on varying numbers of cases.

It is important to clarify that, for purposes of this
study, the WEI's format and directions were altered to allow
for a double response column so that data could be collected
on participants' perceptions of both their current and ideal
work environments. In addition, several questions calling
for open-ended responses were deleted from the WEI. Only in
one instance did the deletions change the composition of a
subscale. As utilized in the present study, the Creativity
subscale of the WEI contains six items, whereas in the
original WEI the Creativity subscale contains eight items.
Although Amabile approved these conditions and modifications,
as of the time of the present study, she had not implemented
the WEI in this manner. Therefore, there are no ideal
subscale reliabilities from Amabile's research to compare
with those from the present study.

The above discussion offers some possible explanations

for the differences between Amabile's subscale reliabilities
and those of the present study, but it does little to clarify
why on some subscales, such as Organizational Disinterest,
the current rating has a much higher reliability than the
ideal rating. In fact, on all but three subscales, Recogni-
tion, Productivity, and Structure/Procedure, the current
ratings have higher reliabilities than the ideal ratings.
Clearly, there is a great deal of variance present. The
reason for the variance is not as clear. Perhaps respondents
do not share the same concept of what would constitute a work
environment ideal for facilitating their creativity.

One final theory which might, in part, account for low
subscale reliabilities takes into consideration the positions
which respondents hold within their organizations. Some of
them own their companies or are part of the upper management
echelon, while others are in middle management positions or
are not involved in management at all. It is plausible that,
as their positions within their organizations vary, so do the
subjects' perceptions of their organizations.

Amabile's subscale reliabilities were derived from a
1987 study conducted with a sample size of 59. Her subjects,
mostly male, were a group of scientists and research engi-
neers who work in a government-sponsored laboratory where
they conduct basic and applied materials research. Amabile
administered the WEI by asking participants to respond to

each item with their current work environments in mind. She also correlated WEI findings with subjects' responses to instruments measuring similar constructs. In addition, Amabile conducted factor analyses to study the validity of the WEI subscales.

Specific results of the WEI subscales reliabilitiy analyses discussed above are provided in Table 14. Any interpretations based on the results of subscales having standardized item alphas of .50 and below should be viewed with caution.

Table 14. "Work Environment Inventory" subscale reliablili-
ties: Current and ideal work environment ratings
of Iowa's Young Leaders and ratings from Amabile's
research

Subscale	No. of Items	Amabile's Current Alpha	Jensen's Current Alpha	Jensen's Ideal Alpha
Freedom/Constraint	4	.74	.63	.59
Challenge	8	.86	.75	.64
Time	3	.79	.63	.56
Encourage./Eval.	13	.84	.81	.74
Recognition	4	.87	.73	.77
Resources	10	.82	.85	.71
Project Management	14	.95	.89	.80
Coworkers	10	.86	.79	.75
Unity/Cooperation	6	.89	.84	.74
Creativity Supports	5	.77	.77	.64
Creativity	6	.87	.84	.83
Productivity	6	.88	.87	.90
Status Quo	4	.81	.71	.45
Org. Disinterest	4	.79	.67	.27
Structure/Procedure	11	.78	.57	.65
Political Problems	4	.78	.79	.59

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to examine the characteristics, developmental patterns, organizational environments, and career orientations of successful individuals recognized for their leadership potential. Collectively known as Iowa's Young Leaders, the subjects responded to a mailed survey which included Gallup and Gallup's "The Great American Success Quotient Test" (1986), Amabile's "Work Preference Inventory" (1985), and Amabile's "Work Environment Inventory" (1987).

Seven research questions served to structure and organize the examination. Within this section, those questions and their accompanying responses are reiterated and conclusions relating to each are drawn.

Research Question 1

What characteristics do Iowa's Young Leaders share?

Those subjects who participated in this study included 69 males and 38 females whose average age at the time of the study was 37.7 years. As a group, they are quite well educated, with 85.6% of them possessing a bachelor's degree and 42.3% possessing an advanced degree of some sort. By a wide margin, the highest percentage of respondents (45.2%) are managers, most of whom work within private, profit organizations.

Iowa's Young Leaders reported that they possess high

amounts of common sense, self-reliance, leadership ability, self-confidence, willpower, and organizational ability. They also demonstrate the ability to: get things done, put orders from superiors into effect, care a great deal about people, get along with others, and tolerate viewpoints which conflict with their own.

These high achievers possess above average intelligence, which they combine with good work habits and intuition to produce success in their chosen fields. However, they made it very clear that luck has little or nothing to do with their success. Rather, they tend to be moderately goal-oriented individuals who report having further life goals to attain, as well as a strong sense of right and wrong.

Finally, Iowa's Young Leaders demonstrate a clear pattern of philanthropic activity. They give both of their time and their money to charitable causes and to religious organizations.

Research Question 2

What developmental patterns do Iowa's Young Leaders share?

The overwhelming majority (92.1%) of study participants reported that their childhoods were either very happy or fairly happy, and that their relationships with their mothers (90.2%) and fathers (87.1%) were positive and healthy. Most parents (87.3%) of Iowa's Young Leaders felt it was important for their children to achieve good grades, and, in fact, most

of those children did fair well in school. Although, as a group, they earned higher grades in some courses than others, their average class standings in high school and college were the top 19% and 24% respectively.

While in high school and college, most of Iowa's Young Leaders served in some type of leadership position and most held part-time or full-time jobs. At all points in their development, they also found time to read for their own pleasure somewhat more than their peer groups. Almost all (90.3%) subjects recalled having one or more teachers who made them enthusiastic about a particular subject.

Research Question 3

What factors do Iowa's Young Leaders identify as contributing to their success?

The data collected suggest that the subjects tend to attribute their success to hard work, common sense, ambition, the desire to excel, and the ability to get things done. Such personal characteristics and attitudes were rated more important than intelligence, specific abilities, family environment, working hard at school, and getting good grades. In fact, of the five main areas of: personal characteristics or traits, family environment and influence, academic experience, outside interests, and experiences in their chosen fields, Iowa's Young Leaders rated academic experience and family environment the lowest as factors that

contributed to their success.

It is interesting to note that, while getting good grades and scoring well on achievement tests were not viewed as contributing significantly to success, respondents revealed that good grades were important to their parents. A similar incongruity exists in the area of family environment, which again is not perceived as contributing significantly to success, even though respondents disclosed that their childhoods were happy and their relationships with their parents positive.

Risk taking, not being afraid to be different, caring about people, tolerance of other viewpoints, respect for peers, and the ability to motivate subordinates also rank quite highly as factors contributing to participants' success. Skills and attributes that Iowa's Young Leaders consistently and repeatedly identified as factors which contributed to their success include those relating to hard work, ambition, organizational ability, the desire to excel, and the ability to get things done.

Research Question 4

Do Iowa's Young Leaders demonstrate an outward orientation, compensation orientation, or task-satisfaction orientation in their work?

Survey respondents indicated that they possess a task-satisfaction orientation, which is characterized by a

preference for solving complex problems, figuring things out

for themselves, setting their own goals, and becoming

absorbed in their work. They are not as strongly motivated

by promotion and income goals, and they find the recognition

of others even less motivating.

Research Questions 5, 6, and 7

How do Iowa's Young Leaders describe their current organiza-

tional environments?

What characterizes the organizational environments which

Iowa's Young Leaders describe as ideal for facilitating

their creativity?

Are there significant differences between the current

organizational environments of Iowa's Young Leaders and the

organizational environments they describe as ideal for

facilitating their creativity?

A comparison of subjects' descriptions of their current

organizational environments and the work environments they

described as ideal for facilitating their creativity revealed

statistically significant differences at the .01 level and

beyond. Current work environments are perceived as having a

higher than ideal: concern for the status quo, concern for

procedures, amount of organizational disinterest, and

preponderance of political problems.

The ideal environment for facilitating the creativity

of Iowa's Young Leaders is characterized by appropriate

amounts of challenge, supportive coworkers, encouragement,
cooperation, and productivity. Such an environment not only
allows creativity, but also encourages, recognizes, and
rewards creative efforts. Resources and projects are managed
in such a way that employees feel they have the freedom to
make meaningful decisions regarding their work and their
organization.

Summary

The portrait of Iowa's Young Leaders as motivated, hard
working, self-confident, self-reliant, ambitious achievers
closely parallels the portrait of Garfield's peak performers
(1986a) and Renzulli's definition of gifted behavior (1977).
Survey participants display common sense and above average
intelligence, but they value process skills and affective
components more highly than general intelligence as factors
contributing to their success.

Iowa's Young Leaders also share developmental patterns
similar to those which Bloom (1985) and Terman (Terman &
Oden, 1959) chronicled in their studies of the development of
talented and highly intelligent individuals. Although a
degree of intelligence seems to be a prerequisite to success,
it certainly does not guarantee success. Quite simply,
people, who over an extended period of time consistently
exhibit superior performance in a chosen field or endeavor,
do so as a result of diligence, time on task, perseverance,

and the motivation to excel.

Other individuals who fail to reach comparable levels of success may be just as intelligent and just as talented, but they have not applied their skills or, as Garfield would say (1986a), leveraged their abilities to achieve maximum productivity. Perhaps the less successful have not recognized that the differences between peak performers and themselves are much smaller than they think. Possibly, they have not realized the important roles that affective components and process skills play in the success of peak performers (Garfield, 1986a).

Iowa's Young Leaders seem to possess Renzulli's task commitment (1977) and Garfield's personal mission (1986a), as suggested by their task-satisfaction orientation. This commitment and sense of mission may, at least in part, explain the motivation high achievers have to continue to develop their competencies and to continue to excel.

When their job requirements and personal missions align with their organizational environments, Iowa's Young Leaders operate within Garfield's zone of peak performance. However, the results of the current study suggest that the organizations in which Iowa's Young Leaders work do not always constitute environments conducive to peak performance. Conceivably, Iowa's Young Leaders have found pockets of excellence and subcultures of productivity (Akin & Hopelain,

1986) in which to operate. Perhaps they have created such pockets and such subcultures.

A logical question to pose in light of this study's conclusions is: What can be done to better facilitate the development and productivity of peak performers? Can personal characteristics be changed through educational and training interventions, or are people simply "stuck with" or "blessed with" certain traits? Garfield contends that the attitudes and skills of peak performance can be acquired (1986a).

Can positive changes in organizational environments produce positive changes in the development and productivity of the people who function within those environments? Akin and Hopelain (1986) propose that administrators can, in fact, permit cultures of productivity to evolve through proper management of the people and the work structure. When those in leadership positions: value productivity and results (rather than just activity), facilitate an environment of trust and openness, and act with dependability so others will know how to act, a culture of productivity will thrive.

Iowa's Young Leaders did not perceive their academic experience as being a highly significant factor in contributing to their later success. How then, can the academic experience be made more relevant? What does it take to create within the organization called school an environment

for students that can be considered a culture of productivity? If educators cannot adequately facilitate and enhance the development of peak performers, can they at least get out of their way?

As adults, Iowa's Young Leaders prefer to make their own decisions and set their own goals. When they have the opportunity to do so, they generally find such conditions motivating. Could it be that, as students, they also would have found such conditions motivating? When in school, perhaps if Iowa's Young Leaders would have had more of an opportunity to develop the skills and attitudes Garfield identifies as characteristics of peak performers, they would now identify their formal education as a more significant factor in contributing to their success.

Recommendations for Further Study

The current investigation provided a data base which allowed analyses of the characteristics, developmental patterns, career orientations, and organizational environments of Iowa's Young Leaders, but it also led to a number of questions which may serve as the focus of future research. As is often the case, apparently more questions were spawned than answered. Chief among those questions meriting further study and consideration is the matter of how best to facilitate the development and productivity of successful individuals who contribute significantly to society.

One method of addressing this question would be to conduct follow-up case studies of a random sample of the current study's respondents. Through interviews, the researcher could learn more about the subjects' development, what types of environments or cultures facilitate their productivity, and what they consider to be the ideal methods of developing and facilitating peak performance.

Other options would be to replicate the current study using different subjects or to employ different instrumentation for data collection. Compiling a questionnaire that is shorter in length might affect the subscale reliabilities, as well as the study results.

Since this investigation was based on data collected from subjects' perceptions and self-reports, a logical follow-up might be to compare managers' and employees' perceptions of the ideal organizational environment. Because of the different positions they hold, managers and employees within the same organizations may possess different perceptions of the ideal work environment, as well as different perceptions of their current work environments.

With regard to the development and productivity of peak performers, research could be conducted to collect information regarding the means which organizations utilize to facilitate the development of their peak performers. A comparison of organizations with regard to their over-all

productivity and their training and development programs
might provide valuable insights. In conjunction with a
study such as this, the researcher could note the frequency
of personal development programs, as well as organization-
wide development programs.

Yet another alternative for further research would be to
relate this study's results and associated literature to
education. Obviously, an investigation similar to this one
could be conducted. Beyond that, it would be interesting to
attempt to infuse the peak performer characteristics and
skills, which Garfield (1986a) delineates, into the K-12
curriculum, and/or to determine to what degree they are
already present in the curriculum. Perhaps college courses,
based on the principles which Garfield purports, could be
developed. This is not to suggest that educators should
develop specific courses on how to be a peak performer,
rather that educators might develop courses which systemati-
cally require or allow students to acquire and practice the
skills and attitudes of peak performers.

Finally, a long-term goal might be to attempt to design
the ideal organizational environment. Drawing on accumulat-
ed research results and the collective experiences of
several individuals and organizations, the ideal work
environment could be created and combined with a "peak
performance training program." In the best of worlds, this

combination would facilitate the development and productivity of those working within the environment, resulting in more successful individuals making significant contributions to society.

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APPENDIX

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April 1988

Dear Participant:

As the accompanying survey suggests, we are conducting a study of
people who have been identified as leaders in the state of Iowa.
Everyone receiving this survey has been a participant in Leadership
Iowa and/or has been selected as an Up-and-Comer by the editorial
staff of the Des Moines Register.

Because we are interested in obtaining information which may lead
to a better understanding of peak performers such as yourself, we
are asking you to take thirty to forty minutes from your busy
schedule to complete the questionnaire we have compiled. Given the
varied backgrounds which the members of these two groups represent,
you have the potential of providing data which will be very helpful
to us in analyzing the perceptions, preferences, and personal
development of successful individuals from many different fields.
You have our assurances that all answers will remain confidential, as
our interests lie only in detecting response patterns and in studying
group tendencies. Consequently, there is no reason to report
individual responses. Feel free to contact us if you have questions
regarding the survey or our procedures.

Obviously, for this study to be successful, a timely reply
from you is essential. We need YOUR reply because the relatively
small number of Leadership Iowa participants and Up-and-Comers
necessitates a very high return rate of surveys to ensure a meaning-
ful analysis of the information collected. We need your reply to be
TIMELY because, as is the case with most projects, this study has an
accompanying (and imminent) deadline. Please help us save additional
time and mailing costs by completing and returning the enclosed
questionnaire as soon as possible upon receipt. To mail the survey,
all you need to do is secure the booklet with tape and drop it in a
mailbox. Postage has been prepaid.

In advance, we thank you for your participation, recognizing
that it represents an investment of your time and energy. By
completing our survey, you have provided us with valuable input that
is available only from people such as yourself. Please know that
your contributions and cooperation are truly appreciated.

Sincerely,

Larry Ebbers   Rita Jensen

A STUDY OF IOWA'S YOUNG LEADERS:

THEIR CHARACTERISTICS, ORGANIZATIONAL

ENVIRONMENTS, AND CAREER ORIENTATIONS

Iowa State University

College of Education

Professional Studies

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