Chance can play key role in life, psychologist says

By DONALD STOKES

Chance is a word void of sense: nothing can exist without a cause.

—Voltaire.

Chance appears to rule our lives, but does this have to be? Are there ways in which our chances in life can be influenced?

Albert Bandura, one of the leading psychologists in the country, has given this much thought. Bandura, who is David Starr Jordan professor of social science in psychology at Stanford, is a former president of the American Psychological Association and has been honored with most of the major awards in his field.

Chance has shaped Bandura's whole life.

It was chance that made him remarkably well self-educated in his early years. The fortuity of commuting arrangements and class schedules led to his career choice. A chance meeting on a golf course led to his marriage.

Over the years he has studied instances of lives being changed by people's apparently random encounters with others. These include cases of bright, gentle people who by happenstance became engaged in vicious killings.

His case notes include great scientists whose fame was seeded by accident, from Archimedes realizing the nature of specific gravity while in the bath to Fleming discovering penicillin on an unwashed saucer.

He mentions the case of President Reagan and his wife, Nancy, who met, when she was Nancy Davis, after she had begun to receive during the McCarthy era mail clearly meant for somebody else of the same name who was a communist sympathizer. Fearing her career might be jeopardized, she voiced concern to the Screen Actors Guild, of which Reagan

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Albert Bandura is David Starr Jordan professor of social science in psychology and a former president of the American Psychological Association

was then president. They met and were soon engaged.

"Psychology cannot predict the occurrence of fortuitous events," says Bandura, "however sophisticated our knowledge of human behavior becomes. But we can provide the basis for predicting the nature, scope, and strength they will have on human lives."

Most psychological theories of human development, says Bandura, have until now focused heavily on the growth of cognitive and behavioral competencies. But these theories have not devoted much attention to the fundamental issues of what determines people's life paths.

"Most developmental models of human behavior presuppose a developmental predeterminism in which childhood

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experiences pretty much set the course of later development," he says. "The theory has been that personality patterns are set in the first few years of life."

Bandura discusses various other theories of human development and concludes that chance plays a prominent role, together with the influences of social environment.

Distilled from the mass of Bandura's studies, there is a sentence that seems particularly significant in his published works: "By developing potentialities that afford access to particular social milieus, individuals contribute to their own destinies."

Bandura had not studied his own life in that light until an interviewer raised the idea. But his story underlines another of his beliefs: "Human nature is partly governed by value preferences and self-evaluative standards. It is through this internal source of guidance that people give direction to their lives and derive satisfaction from what they do.

"Valuational mechanisms partly govern the extent to which social encounters may shape the course of social development."

This seems borne out by the way Bandura's own life began, in a remote hamlet in northern Alberta ("where most of the cold fronts originate!"). The high school had a total of two teachers to handle the entire curriculum.

"The students had to take charge of their own education," he recalls. "Very often we developed a better grasp of the subjects than the overworked teachers."

Significantly, most of the pupils went on to universities. Bandura's comment: "The content of most textbooks is perishable, but the tools of self-directedness serve one well over time."

He may also have been helped by the chance that he was the only son, with five older sisters who encouraged him.

To ease the transition to wider horizons, Bandura spent the summer before college with a team of workers in the far North whose task was to protect the Alaska Highway against its continual sinking into the fragile muskeg.

He found himself in the midst of a curious collection of human drifters, "most of whom were refugees from creditors, probation officers, draft boards, or alimony demands." The main event of the month was when their illicit still, containing a huge mixture of potatoes and sugar, was ready with its batch of raw vodka.

On one occasion, grizzly bears beat the men to it. There was human misery for a month, but some very frisky bears.

His own chance trigger

His choice of psychology as a career came about by chance. He commuted each morning to the University of British Columbia in a carpool of engineering and pre-med students who started each day very early. He noticed that a course in psychology would fill his schedule at the early time slot, so he took it, became enthralled, and decided to concentrate on it.

Within three years, Bandura graduated with the Bolocan award in psychology. One of his comments in his research throws light on this:

"Human influence operates in reciprocal rather than unidirectional ways. The degree of reciprocity in social transactions partly depends on the personal resources people have to draw upon and on the extent to which they exercise what is theirs to command.

"The more they bring their influence to bear on themselves and others, the greater is the likelihood they will realize desired futures."

It could be said that Bandura had influenced his own chances by his actions. He discussed such a possibility in his presidential address given to the Western Psychological Association, when he said: "A strong sense of personal agency requires development of competencies, self-percepts of efficacy, and self-regulatory capacities for exercising self-directedness.

"These types of personal resources expand freedom of action and enable people to serve as causal contributors to their own life course by selecting, influencing, and constructing their own circumstances."

Mastering the tools of personal agency does not necessarily assure a desired future, Bandura points out. But with such skills, people are better able to provide support and direction for their actions, to capitalize on planned or fortuitous oportunities, to resist social traps that lead down detrimental paths, and to disengage themselves from such predicaments should they become enmeshed in them.

Beneficent results are rarely achieved in individual isolation, he believes. To exercise some measure of control over one's developmental course requires, in addition to effective tools of personal agency, a great deal of social support.

"Emotional resources are especially important during formative years,when preferences and personal standards are in a state of flux and there are many conflicting sources of influence with which to contend.

"The internal standards through which people influence their own motivation and actions are acquired through modeling and evaluative reactions by significant others."

Leaving Canada, Bandura went next to the University of Iowa, whose psychology department had a close link to Yale. He received his doctorate three years later in 1952.

At Iowa another stroke of chance altered his life. He played golf with a friend, and they found themselves playing behind an attractive twosome of women golfers. The twosomes soon became a foursome. A few months later Bandura and one of the women, Virginia Varns, who was on the teaching staff of the College of Nursing, became man and wife.

Bandura spent a postdoctoral internship at the Wichita

Guidance Center, while his wife was superior of the Obstetrics Hospital there. That was the year in which Ferdinand Waldo Demara, the Great Impostor, hoodwinked the authorities into selecting him as a resident in obstetrics, after having served in similar capacities at other hospitals and illegally as surgeon in the U.S. Navy.

The Great Impostor manipulated his own chances. "He was never around when there was a serious case on hand," recalls Mrs. Bandura.

What motivates a Great Impostor, a person who play-acts on a grand scale, risking the lives of others to satisfy his own vanity? One answer may be in Bandura's latest book, *Social Foundations of Thought and Action: A Social Cognitive Theory* (Prentice-Hall).

"Most social ranking is based on skill in activities valued highly by the particular group," writes Bandura. "By designating the competencies required for different positions, members who aspire to higher status have symbolic and actual models of what they must do to gain more privileged ranks."

Bandura became an instructor in psychology at Stanford, where he rose through the ranks to become a full professor in 1964. At the time he came to Stanford, the renowned psychologist Robert Sears, then department chairman, was exploring the familial antecedents of social behavior and identifactory learning.

Influenced by this work, Bandura began field studies of social learning of aggression. This research, which underscored the paramount role of modeling in human behavior, led to a program of laboratory research into the determinants and mechanisms of observational learning.

Having gained a better sense of how people learn modeling, Bandura extended this work to abstract modeling of rule-governed behavior and to disinhibition through vicarious experience.

'There is a growing body of evidence that the ability to exercise control over stressors is a very important factor in health and disease'

The extraordinary growth of interest in psychological modeling owes much to Bandura's theoretical analyses of this important phenomenon.

Bandura has found Stanford to be a remarkable place for collaborative research. "I have been able to work with such leading researchers as Jack Barchas and Barr Taylor in psychiatry, Robert DeBusk in cardiology, and Halsted Holman in internal medicine.

"We develop projects in which we can combine the expertise of several laboratories."

One of these projects studied how people's perceptions of their ability to control what they perceive as threats to themselves affect the release of neurotransmitters and stress-related hormones into the bloodstream. One conclusion is that people can regulate their level of physiological activation through their belief in self-efficacy.

A key factor is to learn how to attain a belief in one's own efficacy. This can be achieved by tackling problems in successive but small intermediate steps, each one with an attainable subgoal.

Drawing on knowledge of mathematical learning developed by Prof. Patrick Suppes, nationally renowned Stanford professor of philosophy and statistics, Bandura's team devised self-directed learning programs with proximal challenges for children who were markedly deficient in mathematical skills.

This mastery experience converted mathematical disinterest and deficiency into a high sense of mathematical efficacy and competence.

Bandura says it is oversimplification to point to this as an example of how chance can be courted. Nevertheless, he agrees that the basic idea — of bolstering self-efficacy incrementally — is applicable over very wide fields of psychological study.

It is notably successful in the curing of phobias, such as fear of heights, snakes, or crowds. He has sometimes cured in two hours a phobia that has haunted a person for a lifetime.

Bandura's current research falls into four main areas. The first, continuing his earliest efforts, is concerned with the power of psychological modeling in shaping human thought, emotion, and action.

"Most of the images of reality on which we base our actions are really based on vicarious experience," he says. "This has increased with the tremendous technological advances in communications. We have a vast new world of images brought into our sitting-rooms electronically.

"Most theories in psychology were formed before these revolutionary technological advances, which have markedly increased the speed and scope of human influence.

"Our theories of psychology should adapt to the new realities. I have been conducting programs of research into the new influences, to gauge how people are swayed by the symbolic environment as transmitted by the media."

His second line of research is concerned with the mechanisms of human agency: how people exercise influence over their own motivation and behavior.

The third line, on which he is most active presently, is concerned with people's perceptions of their efficacy to exercise influence over events that affect their lives, and how this influences their psychological functioning.

"We find that people's beliefs about their efficacy affect the sort of choices they make in very significant ways. In particular, it affects their levels of motivation and perseverance in the face of obstacles. Most success requires persistent effort, so low self-efficacy becomes a self-limiting process.

"In order to succeed, people need a sense of self-efficacy, strung together with resilience to meet the inevitable obstacles and inequities of life. Setbacks are normal.

"The capabilites for self-influence are developed, one is not born with them. They are developed by mastering experience, by modeling, and by what people persuade us we can or cannot do."

Bandura's fourth line of research is to learn how stress reactions and depressions are caused.

Much of Bandura's research, conducted together with colleagues at the Stanford School of Medicine, has very wide frontiers. One effort, with far-reaching significance, is to learn how people's perceptions of their coping efficacy affect basic psychological mechanisms that mediate health functioning.

"There is a growing body of evidence that the ability to exercise control over stressors is a very important factor in health and disease," he says.

"Exposure to stressors without controlling efficacy activates stress-related hormones, the body's opiate system, and impairs components of the immune system, which increases vulnerability to disease.

"Exposure to similar stressors with controlling efficacy has no adverse effects."

Bandura holds the view that securing happiness is more than significant analyses of variance. He does not leave his own search to chance. He and his family, which includes daughters Mary and Carol, are fond of hiking in the Sierra.

"To place petty concerns into their cosmic perspective, nothing beats a few days communing with the muses on top of a mountain," he says.

Each fall the Bandura family turns for pleasure to the San Francisco Opera. Volumes of guides to Bay Area restaurants grace his bookshelves alongside his professional books.

"Humans have an unparalleled capability to become many things," he says. "The life paths that realistically become open to them are also partly determined by the nature of the cultural agencies to which their development is entrusted.

"Social systems that cultivate competencies, provide aidful resources, and allow ample room for self-directedness increase the chances that people will realize what they wish to become."

A layman might put it this way: Happiness and success, like chance, have to be courted.