**The Changing Face of Psychology at the Dawning of a Globalization Era Albert Bandura**

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The present address analyzes human adaptation and change from an agentic perspective and documents the growing primacy of personal and collective agency in this era of globalization. The capacity to exercise some measure of control over the nature and quality of one's life is the essence of humanness. Human agency is characterized by a number of core features. These include intentionality for shaping future plans and courses of action, temporal extension of agency through forethought, self-regulation of motivation, affect, and action through self-influence, and self-reflectiveness concerning one's functioning and the meaning and purpose of one's life (Bandura, 1999a, 2001). These core features of self-directedness enable humans to play a part in their own development, adaptation, and self-renewal.

**Paradigm Shifts in Psychological Theorizing**

In its brief history, psychology has undergone wrenching paradigm shifts. The current theoretical ferment will determine the very nature of our discipline, not only the paradigms that subserve it. Over the years, the core metaphors of our theories have changed but the theories grant humans little, if any, agentic capabilities.

 Much of the early psychological theorizing was founded on behaviouristic principles. It embraced an input-output model linked by an internal conduit that makes behaviour possible but exerts no influence of its own. Human behaviour was shaped and controlled automatically and mechanically by environmental stimuli. This line of theorizing was put out of vogue by the advent of the computer. It likened the mind to a linear computational system operating through a central processor. This model filled the internal conduit with a lot of representational and computational operations created by smart and inventive thinkers.

 The linear model was, in turn, supplanted by more dynamically organized computational models that perform multiple operations simultaneously and interactively to mimic better how the human brain works. Sensory organs deliver up information to a neural network acting as the mental machinery. The network does the construing, planning, motivating, and regulating nonconsciously. Although the mindless organism became a more cognitive one, it was still devoid of consciousness and agentic capabilities. It is not people, but their subpersonal parts that are orchestrating the courses of action. The personal level involves phenomenal consciousness and the purposive use of information and self-regulative means to make desired things happen.

 Consciousness is the very substance of mental life. It not only makes life personally manageable but worth living. A functional consciousness involves intentional accessing, and deliberative use of semantic and pragmatic information to manage life events. There have been some attempts to reduce consciousness to a byproduct of activities at a subpersonal level. In these reductive accounts of consciousness, there is no experiencing person conceiving of ends and acting purposefully to attain them. Without a phenomenal and functional consciousness, people are essentially higher-level automatons undergoing actions devoid of any subjectivity, deliberative self-guidance, and reflective self-reactiveness. Nor does this being have a phenomenal life or personal identity derived from how one lives one's life and reflects upon it.

 **Physicalistic Theory of Human Agency**

People have the power to influence what they do and to make things happen. They are not just onlooking hosts of brain mechanisms orchestrated by environmental events. The sensory, motor, and cerebral systems are tools people use to accomplish things that give meaning, direction, and satisfaction to their lives.

 Research on brain development is providing new insights on the social construction of the neural and functional structure of the human brain (Diamond, 1988; Kolb & Whinshaw, 1998). It is not just exposure to stimulation, but agentic action in exploring, manipulating, and influencing the environment that counts. By regulating their own motivation and activities, people produce the experiences that form the functional neurobiological substrate of symbolic, psychomotor, social, and other skills.

Social cognitive theory subscribes to a model of emergent interactive agency (Bandura, 1986, 1999a). Thoughts are not disembodied immaterial entities that exist apart from neural events. Thought processes are emergent brain activities that exert determinative influence. The human mind is generative, creative, and proactive, not just reactive. The dignified burial of the dualistic Descartes, forces us to address the formidable explanatory challenge for a physicalistic theory of human agency and a nondualistic cognitivism. How do people operate as producers of thoughts that structure and regulate actions? How do people intentionally recruit the functional circuitry of forethought, proaction, intention, aspiration, self-appraisal, and self-reflection? Sperry (1993) has argued cogently that cognitive agents regulate their actions by cognitive downward causation, as well as undergo upward activation by sensory stimulation.

**Biological Reductionism**

There is growing unease about progressive divestiture of different aspects of psychology to biology and subpersonal cognitive science. Biological determinants of human behaviour are being widely heralded, and psychosocial dynamics are being downgraded for neurodynamics. It is feared that as we give away more and more psychology to disciplines lower down on the food chain, there will be no core psychological discipline left. Disciplinary fragmentation, dispersion, and absorption in neuroscience, we are told, may be our discipline's destiny.

 We are currently witnessing a lively debate on this matter. In a piece in the APS Observer, James McGough questioned the integrity of psychology as a core discipline. He likened it to Zoology on the way to obsolescence through divestiture to multidisciplinary programs structured around a common interest. In contrast, Donchin advocated a disciplinary structure in which the multifaceted aspects of psychology are explored within a unified psychological discipline with participatory ties to interdisciplinary programs of shared interest. Kiesler documented instances in which our psychological discipline is being split and dispersed by intradisciplinary squabbles and power struggles, rather than by conceptual imperative.

Contrary to the proclamations of the divestitive oracles, psychology is the one discipline that uniquely encompasses the complex interplay between intrapersonal, biological, interpersonal, and sociostructural determinants of human functioning. Psychology is best suited to advance understanding of the integrated biopsychosocial nature of humans, and how they manage and shape the everyday world around them. It is ironic that an integrative core discipline, that deals with the whole person acting in, and on environments, should consider fractionating, and farming out subpersonal parts to other disciplines. The field of psychology should be articulating a broad vision of human beings not a reductive fragmentary one.

 The divestitive line of thinking is fueled by conceptual reductionism, nature-nurture analytic dualism, and one-sided evolutionism. Mental events are brain activities, but physicality does not imply reduction of psychology to biology. Knowing how the biological machinery works, tells one little about how to orchestrate that machinery for diverse purposes. To use an analogy, the “psychosocial software” is not reducible to the “biological hardware.” Each is governed by its own set of principles that must be studied in its own right.

 Much of psychology is concerned with discovering principles about how to structure environments to promote psychosocial changes. This exogenous subject matter does not have a counterpart in neurobiological theory. Psychological laws are, therefore, not derivable from it. For example, knowledge of the locality, and brain circuitry subserving learning can say little about how best to devise conditions of learning in terms of level of abstractness, novelty, and challenge; how to provide incentives to get people to attend to, process, and organize relevant information; in what modes to present information; and whether learning is better achieved independently, cooperatively or competitively. The optimal conditions must be specified by psychological principles. There is little at the neuronal level that can tell us how to develop efficacious parents, teachers, executives, or social reformers.

 **One-Sided Evolutionism**

The biologizing of psychology, which has become highly fashionable, is also being promoted by adoption of one-sided evolutionism. Not to be outdone, the geneticization of human behaviour is being promoted more fervently by psychological evolutionists than by biological evolutionists as documented elsewhere (Bussey & Bandura, 1999). Social cognitive theory acknowledges the influential role played by biological endowments but rejects one-sided evolutionism in which evolved biology shapes behaviour, but the selection pressures of social and technological innovations on biological evolution get ignored.

 Evolved structures and biological potentialities can serve diverse purposes. Therefore, ancestral origin dictates neither current social function, nor a singular sociostructural arrangement. For example, tall individuals have the potential to become successful basketball players. But tallness does not ordain basketball pursuits. I seriously doubt that the genetic makeup of the Nazi Germans, who committed unprecedented barbarity, differs from the genetic makeup of peaceful Swiss residing in the German canton of Switzerland. People possess the biological potentiality for aggression, but the answer to the cultural variation in aggressiveness lies more in ideology than in biology.

 The rapid transformation of warring societies into peaceful ones underscores the power of nurture over nature. The Swiss used to be the main suppliers of mercenary fighters, but they transformed into a pacific society and have remained so. For ages, the Vikings plundered other nations. After a prolonged war with Russia, the populous rose up and forced a constitutional change that prohibited kings from starting wars ( Moerk, 1995). This political act promptly transformed a fighting society into a peaceable one.

In Gould's (1987) insightful analysis, the major explanatory battle is not between nature and nurture as commonly framed, but whether nature operates as a determinist or as a potentialist. He marshals considerable evidence that biology has culture on a “loose leash,” Whereas Wilson (1998) argues that biology has culture on a “tight leash.” Biological determinists emphasize the rule of nature, inherent constraints, and limitations. Biological potentialists give greater weight to the rule of distributed opportunities, privileges, and power. They emphasize human possibilities. As Dobzhansky (1972) puts it succinctly, the human species has been selected for learnability and plasticity of behaviour adaptive to remarkably diverse habitats, not for behavioural fixedness. The rapid pace of social change gives testimony that biology, indeed, permits a range of possibilities.

**Human Agency in the Coevolution Process**

The specialized neurophysiological systems shaped by evolutionary pressures provide the capacity for the very agentic characteristics that are distinctly human. People are not just reactive products of selection pressures. They are prime players in the human coevolution process, creating new types of environments at a dizzying pace. Other species are heavily innately programmed for stereotypic survival in a particular habitat. In contrast, through agentic action, people devise ways of adapting flexibly to remarkably diverse geographic, climatic, and social environments; figure out ways to circumvent physical and environmental constraints; redesign and construct environments to their liking; create styles of behaviour that enable them to realize desired outcomes, and pass on the effective ones to others by social modeling and other experiential modes of influence. Through contraceptive ingenuity that disjoined sex from procreation, humans have outwitted and taken control over their evolved reproductive system. They are developing reproductive technologies to separate sex from fertilization ( Levy, 2000).

Through agentic genetic engineering, humans are becoming major agents of their own evolution, for better or for worse. Humans have created biotechnologies to replace defective genes and to change the genetic makeup of plants and animals. In a budding biotechnology that is forging ahead in ways that bypass evolutionary genetic processes, we are now cloning clones and exploring methods that could alter the genetic codes of humans. As people devise more powerful biotechnologies to fashion their nature, the psychosocial side of coevolution is gaining ascendancy.

 We face the prospect of more direct social construction of human nature through genetic design of human beings for desired properties. What is technologically possible eventually gets applied. As previously noted, genetic factors provide only potentialities not the finished psychosocial attributes. These are the products of prolonged nurturing of potentialities. However, there is no shortage of individuals with the resources and belief in genetic determinism to underwrite attempts at genetic engineering of human nature. The values to which we subscribe and the social systems we devise to oversee the uses to which our powerful technologies are put will play a vital role in what we become and how we shape our destiny.

 **Growing Primacy of Human Agency**

Societies today are undergoing drastic social, informational, and technological changes. The revolutionary advances in electronic technologies and globalization are transforming the nature, reach, speed, and loci of human influence. These rapidly evolving realities present new adaptational demands and vastly expand opportunities for people to exercise control over their self-development and how they live their lives. But the benefits come with new challenges and vulnerabilities. Wrenching changes that dislocate and restructure lives are not new in history. What is new, is the boundless scope and accelerated pace of human transactions, and the growing globalization of human interconnectedness.

 Life in the cyberworld transcends time, place, distance, and national borders. People now have instantaneous communicative access worldwide via a system that no one can control. It is transforming how people communicate, educate, relate to each other, and conduct their business and daily affairs. These new realities place increasing demands on human agency to shape personal destinies and the national life of societies. Consider some examples of how these novel realities are placing a premium on self-management and self-renewal.

 **Educational Self-Regulation**

Information technologies will be transforming educational systems. Students can now exercise greater personal control over their own learning. In the past, their educational development was heavily dependent on the quality of the schools in which they were enrolled. Students now have the best libraries, museums, and multimedia instruction at their fingertips through the global Internet for educating themselves, regardless of where they may reside.

 We are entering a new era in which the construction of knowledge will rely increasingly on electronic inquiry. Before long, most information will be available only in electronic form. Knowing how to process and evaluate this avalanche of information is vital for knowledge construction and cognitive functioning ( Debowski, Wood, & Bandura, 2000).

Electronic media do more than just expand access to vast bodies of information. They also serve as a convenient vehicle for building social networks for creating shared knowledge through collaborative learning. Through interactive electronic networking, people link together in dispersed locales, exchange information, share new ideas, and work collaboratively on projects.

 Information technologies are a tool, not a panacea for intellectual development. Internet tutors can do little if students cannot motivate themselves to take advantage of what these systems have to offer. Students must develop skills in regulating the motivational, emotional, and social determinants of their intellectual functioning, as well as the cognitive aspects. Efficacious self-regulators gain knowledge, skills, and intrinsic interests in intellectual matters. Weak self-regulators do not achieve much progress in self-development. Given the influential role of psychological factors in whether and how educational technologies are used, one must guard against placing excessive hope in the technology itself. Learners need live mentors to help build their self-regulatory efficacy, cultivate their aspirations, and to find meaning and direction in their intellectual pursuits. They need to learn how to filter the avalanche of information, and how to convert reliable information into knowledge and wisdom. The content of early schooling is perishable and long forgotten. But the valuational and self-regulatory capabilities endure as personal resources for continued self-development.

 **Occupational Self-Regulation**

A major part of people's daily life is spent in occupational activities. These pursuits do more than provide income for one's livelihood. They serve as a major source of personal identity, self-evaluation, and social connectedness. Self-regulation is becoming a key factor in occupational life as well. In the past, employees learned a given trade and performed it much the same way during their lifetime in the same organization. In the modern workplace, information-based technologies are now operating automated production and service systems that were formerly done manually. This historic transition from the industrial to the information era calls for advanced cognitive and self-regulatory competencies.

 Much of the world of work is now being structured so that employees assume operational control in flexible self-managed teams. With the fast pace of change, knowledge and technical skills are quickly outmoded unless they are updated to fit the new technologies. Employees have to take charge of their self-development for a variety of positions and careers over the full course of the worklife ( Bandura, 1997).

Efficacious adaptability has become a premium at the organizational level as well. Organizations must be continuously innovative to survive and prosper in the rapidly changing global marketplace. They face the paradox of preparing for change at the height of success. Many fall victim to the inertia of success. They get locked into the technologies and products that produced their success, and fail to change fast enough to the technologies and marketplaces of the future.

 **Health Self-Regulation**

In recent years, there has been a major change in the conception of health from a disease model to a health model. Health promotion should begin with goals not means. If health is the goal, biomedical interventions are not the only means to it. Human health is heavily dependent on lifestyle habits and environmental conditions. By exercising control over health habits, people can live longer, healthier, and slow the process of aging. To stay healthy, exercise, don't smoke, reduce the amount of dietary fat, keep blood pressure down, and develop effective ways of coping with stressors. These habits provide the elixir of health. If the huge health benefits of these lifestyle habits were put into a pill, it would be declared a spectacular breakthrough in the field of medicine.

 Fuchs' comprehensive analysis of health care systems shows that, beyond basic medical care, adding more care does not make people healthier ( Fuchs, 1974 ; Kolata, 2000). Medical care cannot substitute for healthful habits and environmental conditions. It is mainly self-care that keeps people healthy. New health self-management systems structured around self-regulatory principles are reducing major health risks, retarding the rate of biological aging, and enhancing health ( Bandura, 1997). This type of model for health promotion combines the high individualization of the clinical approach, with the largescale applicability of the public health approach. Linking the interactive aspects of the self-management model to the Internet can vastly expand its availability for preventive and health promotive guidance to people wherever they may live.

**Broadening the Scope of Cross-Cultural Analyses**

Life in the cyberworld also calls for major changes in the study of cultural influences on human adaptation and change. Cultures are no longer insular nor monolithic. Transnational interdependencies and global market forces are restructuring national economies and shaping the political and social life of societies. Advanced telecommunications technologies are disseminating ideas, values, and styles of behaviour transnationally at an unprecedented rate. The symbolic environment feeding off communication satellites is altering national cultures and homogenizing collective consciousness. Mass migrations are changing cultural landscapes

These new realities call for broadening the scope of cross-cultural analyses beyond the focus on the social forces operating within given societies. The issues of interest centre on how national orientations interact with global forces to shape the nature of cultural life. With growing multiethnicity of societies, bicultural efficacy to navigate successfully demands of both one's ethnic subculture and that of the larger society gains importance.

 **Internet Technology in Sociopolitical Change**

The Internet technology is changing social and political processes. It provides vast opportunities to participate directly in sociopolitical matters of concern and a ready vehicle for mobilizing grass-roots activity to promote desired changes in social practices and policies. The Internet is swift, wide-reaching, and free of institutional controls. Political contests are shifting to the cyberworld, where political pronouncements and partisan critiques are circulated instantly. The unfettered, pluralistic nature of the Internet is also changing the locus of power of the news media. The cyberworld contains a multiplicity of voices. Online journalistic enterprises, serving diverse idealogies and vested interests, may eventually supplant oldline broadcast networks as the main purveyors of sociopolitical information.

There is much utopian talk of electronic democratization and the liberalizing power of the Internet. Here too, one must guard against excessive hope for a technological remedy for problems of political strife and representative governance. The Internet technology distributes the capacity to communicate readily throughout society and across national borders, but it does not determine what gets communicated.

 The online journalistic debut at the recent political conventions in the United States was hardly an exemplification of emancipation from the oldline broadcast gatekeepers. There was low public participation in the Web sites and much of the online political discourse was rather sterile. In the chatrooms of everyday life, some of the discourse is edifying and enabling, but much of it is banal, misinformed, contentious, and ever hateful. In short, more communication does not necessarily mean more enlightening discourse for human betterment.

 Ready access will not necessarily enlist active participation unless people see that the communications technologies help them to achieve desired outcomes. A strong sense of personal and collective efficacy determines whether people make their voices heard in cyberworld politicing, and the extent to which they play an active part in bringing about meaningful changes in their lives ( Bandura, 1997 ; Newhagen, 1994a , b).

The social benefits of electronic technologies do not come without costs. The computerized technologies have several properties that magnify their dangerousness if put to detrimental use. They are readily available to anyone, portable, easily implementable via a global network that recognizes no international borders; they can produce widespread devastating effects and are very difficult to control. Because anybody can get into the act and nobody is in charge, Internet freelancers can use this unfettered vehicle for detrimental purposes. Societal vulnerabilities are further enormously magnified because virtually all of the systems on which people depend in their everyday life are interdependently run by computer network systems. These can be easily knocked out, as witnessed by the computer student who wreaked havoc world-wide by crippling e-mail systems costing billions of dollars. Smart hackers can do much more serious damage. Cybercrime and cyberterrorism enacted through the Internet is another dark side of the cyberworld that will increasingly command psychological attention.

 In addition to creating far-reaching vulnerabilities, electronic technologies are eroding privacy in unprecedented ways. Based on Internet transactions and browsing, financial and medical status, and other details of peoples' personal lives can be monitored, recorded, profiled, archived, and shared with, or sold to, third parties for marketing purposes or other misuses. For the most part, people are blissfully unaware that computers preserve records, computer tracking systems can find the users and resurrect their online activities. Rosen (2000) makes the interesting point that the most disquieting consequences of the erosion of privacy is that people will be viewed in terms of distorted personal identities constructed from fragmentary, decontextualized online behaviour.

Undetectable surveillance programs that are cheap and easily available, can secretly record whatever people have in their computers and transmit the information remotely. Such technologies provide ready means for even more pervasive intrusions into human privacy. If people are to preserve some measure of privacy and dignity they will have to reinstate control over the use of information about personal online behaviour through technological, social, and legislative remedies. Online behaviour differs from face-to-face behaviour ( Kiesler, 1997). Anonymity and pseudonymity in interchanges in the cyberworld remove communication constraints and expand participation in activities. But concealment can also bring out the worst in people by shielding them from any social consequences for pernicious attacks on others ( Froomkin, 1999).

Electronic technologies are also eroding the boundaries between worklife and homelife. With wireless communication systems that respect neither time nor place, the demands of worklife increasingly intrude on familial, social, and recreational life. People are now wired to their workplace regardless of where they are. These electronic technologies create new challenges to striking a balance between the competing priorities of life.

 **Agentic Management of Fortuity**

There is much that people do designedly to exercise some control over their self-development and life circumstances. But there is a lot of fortuity in the courses lives take. Indeed, some of the most important determinants of life paths occur through the most trivial of circumstances ( Bandura, 1982 , 1998 ; Krantz, 1998). People are often inaugurated into new developmental trajectories, marital partnerships, occupational careers, or untoward life paths through fortuitous circumstances. A book editor enters a lecture hall as it was rapidly filling up, for a talk on the “Psychology of Chance Encounters and Life Paths.” He seizes an empty chair near the entrance. Some months later, he marries the woman he happened to sit next to. With only a momentary change in entry, seating constellations would have altered, and their lives would have taken quite different courses. A marital partnership was formed fortuitously at a talk devoted to fortuitous determinants of life paths!

Fortuity does not mean uncontrollability of its effects. There are ways people can capitalize on the fortuitous character of life. They can make chance happen by pursuing an active life that multiplies the fortuitous encounters they will experience. Chance favours the inquisitive and venturesome who go places, do things, and explore new activities ( Austin, 1978). People also make chance work for them by cultivating their interests, self-affirming beliefs, and competencies. These personal resources enable them to make the most of opportunities that arise unexpectedly from time to time. Pasteur put it well when he noted that, “Chance favors only the prepared mind.” Self-development gives people a greater hand in shaping their destiny in the life paths they travel. These various proactive activities illustrate the agentic management of fortuity. By these inventive means, people exert some control over the odds in the fitness game.

**Overprediction of Psychopathology**

Our discipline is infected with a virulent negativity virus that manifests itself in diverse forms. 1 Our theories grossly overpredict psychopathology. This is because they favour a reactive risk model rather than a proactive mastery model. Families in our inner cities are living under dismal conditions of poverty, physical decay, social disorganization, and inadequate human services. These environments provide few prosocial opportunities but many antisocial ones.

Our theories would lead one to expect that most of the children living in these impoverished, risky environments would be heavily involved in crime, addicted to drugs or too psychically impaired for a normal life. In fact, most of the children make it through the developmental hazards. In adulthood, most support themselves through legitimate jobs, form partnerships, and stay clear of criminal activities.

Families achieve these results through self-sacrifice and perseverant effort that promote their children's development and to protect them from dangerous neighbourhood activities ( Furstenberg, Eccles, Elder, Cook, & Sameroff, 1999). They carve out functional subcommunities through active involvement in church and other social organizations. These affiliations link their children to positive models, constructive activities, supportive social networks, and values and social norms that parents hold dear. The social ties compensate for meager neighbourhood resources. By exercising their sense of efficacy, the parents do not let their dismal environment defeat them.

**Resilience: Reactive Risk Models vs. Proactive Mastery Models**

We are more heavily invested in intricate theories of failure than in theories of success. Risk factors command our attention. Enablement factors, which equip people with the skills and resilient self-beliefs to exert control over their lives, receive little notice. When enabling factors are considered, as in resilience, they are depicted in static, epidemiological terms as protective factors. Protectiveness shields individuals from harsh realities or weakens their negative impact. In contrast, enablement equips people with the personal resources to select and create successful life courses.

 Studies have examined the developmental trajectories of children burdened with extremely disordered home lives ( Werner & Smith, 1992). They grow up in families plagued with chronic poverty, discord, physical abuse, divorce, parental alcoholism, criminality, or serious mental disorders. Remarkably, a goodly number of the children surmount such enormous hardships and develop into efficacious, caring, and productive adults. Their personal triumphs have given us a better sense of some of the determinants of extraordinary resilience.

A crucial factor is the development of a stable social bond to a competent, caring adult. Such caregivers offer emotional support and guidance. They promote meaningful values and standards. They model constructive styles of coping and create opportunities for mastery experiences. Enabling caretaking builds trust, competencies, and a sense of personal efficacy. Physical attractiveness and a sociable temperament help to draw nurturing caretaking. As children develop positive attributes, they become more engaging to others and attract support from them. Supportive teachers are often important enabling influences in the lives of children who surmount severe adversities. Social connectedness to a variety of other caring persons outside the family provides further continuing guidance and opportunities for self-development. Intellectual competencies also help to promote successful development under adversity.

 The children's heroic life stories support an agentic, rather than a protective view of resilience. The children play a proactive role in selecting and constructing beneficial social environments that shape their life courses. They operate out of a sense of efficacy that they can exercise some control over their lives. Theories of resilience should be recast in proactive agentic terms, rather than in epidemiologic terms of protective factors buffering the negative effects of adversity.

 **Nonagentic Diathesis-Stress Model**

The difference between an agentic and a reactive conception of human adaptation also applies to the diathesis-stress model of psychopathology. In this model, external stressors act upon personal vulnerabilities to produce emotional and behavioural disorders. This model is often combined with epidemiological riskbuffer models. Protective factors are posited as buffers to stressors.

 This theory is heavily cast in reactive terms devoid of agentic functions. The only thing the person contributes to the adaptation process is personal vulnerabilities. In fact, people do not simply undergo happenings in which environments act upon their personal endowments. Through the exercise of self-regulatory influence they have a hand in which environments they get into ( Bandura, 1997). They create supportive environments for themselves by seeking out beneficial social networks. They do things that help them to manage the stressors in their lives, and develop the coping capabilities for transforming threatening environments into benign ones.

**Conquering Substance Abuse**

Because of selective inattention to successes, our theories similarly over-predict the inability to overcome difficult problems, such as substance abuse. We build theories for why people are powerless to change addictive behaviour. In the case of smoking, which is one of the most addictive substances, it is said to be intractable because it is compelled by biochemical and psychological dependencies. Each puff sends a reinforcing nicotine shot to the brain. Prolonged use is said to create a relapsing brain disease. Once addicted, aversive withdrawal reactions drive the users to heavy continual use of the substance.

 A brief period of abstinence eradicates the physiological withdrawal reactions. A major explanatory challenge is resumption of drug use after biological withdrawal reactions are long gone to serve as motivators. Environmental cueing was proposed as the driving mechanism. Exposure to situations that have been associated with drug use presumably induce physiological craving for the substance. Negative affect was also invoked as a precipitating motivator that drives people to seek relief in the substance ( Piasecki, Kenford, Smith, Fiore, & Baker, 1997).

The problem with these motivational explanations is that they predict vastly more than has ever been observed. Over 40 million people in the United States have quit smoking on their own. Where was their brain disease? How did the smokers cure the disease on their own? Superimposed on the 40 million self-quitters, the dismal relapse curves that populate our journals are but a tiny ripple in the vast sea of successes.

 As for the affective motivators, the 40 million exsmokers were not insulated from the situations where they smoked or from smokers around them. Everyday life is strewn with episodes of negative affect. The 40 million self-quitters are not leading lives free of negative affectivity. They manage to maintain abstinence despite bouts of negative affect. Both the cueing and emotive explanations require a self-regulatory component to explain successful self-management under situational and affective instigators.

In other dysfunctions, negative affect precipitates problem behaviour in those of low efficacy, but infrequently in those of high efficacy ( Love, Ollendick, Johnson, & Schlezinger, 1985 ; Schneider, O'Leary, & Agras, 1987). Overcoming nicotine dependence is a tortuous process, often involving periods of torment and repeated relapses. But those who can persevere in the face of repeated failures eventually succeed.

The same is true for alcohol and narcotic dependence. Robins (1974) reported a remarkably high remission for heroin addiction among Vietnam veterans without the benefit of treatment. In other studies, successful quitters sever ties with drug-using friends. They build new lives for themselves with meaningful alternative social networks ( Granfield & Cloud, 1996). Vaillant (1995) has shown that a large share of alcoholics eventually quit drinking without treatment, assistance from self-help groups, or radical environmental change. Such successes testify to the human capacity for self-regulation.

Granfield and Cloud (1996) put it well when they characterized the conspicuous inattention to successful self-changers in substance abuse as, “The elephant that no one sees.” The massive elephant in our midst can tell us a lot about the mechanisms of successful self-change and how to enable people to overcome substance abuse.

Full understanding of self-regulatory mechanisms requires examination of successful self-changers as well as the intractable ones. Naturalistic studies of self-directed change show that successful self-regulators are highly skilled in enlisting the component subfunctions of self-regulation ( Perri, 1985).

**Prosocial Foundation of Developmental Trajectories**

Over the years, much theorizing and research have been devoted to the adverse effects of early proneness to aggression on subsequent academic development and interpersonal relationships. Aggressiveness can detract from self-development by undermining academic pursuits and creating socially alienating conditions. The relationship between discordant behaviour and academic deficiency has been extensively documented (Dishon, 1990; Hinshaw, 1992; Patterson, Capaldi, & Bank, 1991; Rutter, 1979).

Prosocialness, as reflected in cooperativeness, helpfulness, sharing, and empathicness can help to promote interpersonal relationships conducive to social and academic development. Moreover, a prosocial orientation can curb aggression both directly and by engaging moral self-sanctions for harmful conduct ( Bandura, 1999b). Despite the many potential benefits of prosocialness on children's developmental trajectories, it has received comparatively little attention.

The relative impact of early prosocialness and aggressiveness on children's later social ties and academic achievement has been tested longitudinally (Caprara, Barbaranelli, Pastorrelli, Bandura, & Zembardo, 2000). Prosocialness has a strong positive impact on later academic achievement and peer acceptance, but early aggressiveness has no significant effect on either sphere of functioning. Such findings underscore the value of investing resources to develop and promote children's prosocialness. Doing so enhances the learning atmosphere, facilitates academic success, and enabling social-support networks. Prosocial orientations, in turn, can contribute to more positive communal norms and promote beneficial modeling and social practices that together can help reduce aggression in our communities.

 **Dual Nature of Moral Agency**

Our theories about the exercise of moral agency also tell only half the story. They neglect the positive side of moral functioning. Conceptions of moral agency focus heavily on the power to refrain from detrimental conduct by the exercise of self-sanctions. We study moral control in children by observing their power to refrain from transgressing under high enticement ( Kochanska, Murray, Jaques, Koening, & Vandegessk, 1996 ; Sears, Rau, & Alpert, 1965). We study moral control in adults by their ability to refrain from injurious conduct under conditions of high provocation or situational demands. Milgram's (1974) classic studies on obedient aggression illustrate the refrain side of morality.

Milgram's research is widely cited as evidence of how easy it is to bring out the worst in people. What is rarely noted is the equally striking evidence that people refuse to behave cruelly, even under unrelenting authoritarian demands, if the situation is humanized and they can see the suffering they cause. Our own research on mechanisms of moral disengagement shows that, even under high provocation, people cannot behave punitively toward humanized individuals ( Bandura, Underwood, & Fromson, 1975).

The emphasis on obedient aggression is understandable given the prevalence of people's inhumanities to one another. But the power of humanization to counteract cruel conduct is also of considerable importance. Human interdependence and a vested interest in each other's welfare instill a sense of community. The affirmation of common humanity can bring out the best in others.

 The positive side of human agency centres on the proactive power to behave humanely, rather than just the power to refrain from behaving inhumanely ( Bandura, 1999b). The My Lai massacre graphically illustrates the dual aspects of moral agency. An American platoon, led by Lt. Calley, massacred 500 Vietnamese women, children, and elderly men. Numerous insightful analyses have documented how moral self-sanctions were disengaged from the brutal conduct ( Kelman & Hamilton, 1989).

A ceremony, 30 years in coming, was recently held at the Vietnam Veteran's Memorial, honouring extraordinary heroism of prosocial morality (Zganjar, 1998). The moral courage that was honoured testifies to proactive morality through the remarkable power of humanization. Thompson, a young helicopter pilot, swooped down over the village of My Lai on a search and destroy mission as the massacre was occurring. He spotted an injured girl, marked the spot with a smoke signal and radioed for help. Much to his horror, he saw a soldier flip her over and spray her with a round of fire. Upon seeing the human carnage in an irrigation ditch, and soldiers firing into the bodies, he realized that he was in the midst of a massacre.

 He was moved to moral action by the sight of a terrified woman with a baby in her arms and a frightened child clinging to her leg. As he explained his sense of common humanity, “These people were looking at me for help, and there is no way I could turn my back on them.” He told a platoon officer to help him remove the remaining villagers. The officer replied, “The only help they'll get is a hand grenade.” Thompson moved his helicopter in the line of fire, and commanded his gunner to fire on his approaching countrymen if they tried to harm the villagers. He radioed the accompanying gunships for help and together they airlifted the remaining dozen villagers to safety.

 He flew back to the irrigation ditch where they found and rescued a 2-year-old boy still clinging to his dead mother. Thompson described his empathetic human linkage: “I had a son at home about the same age.”

 Social psychology often emphasizes the power of the situation over the individual. In this case of proactive moral courage, the individual triumphs as a moral agent over compelling situational forces. Such moral heroism is most strikingly documented in rescuers who risked their lives, often over prolonged periods fraught with extreme danger to save from the Holocaust persecuted Jews with whom they had no prior acquaintance and had nothing material or social to gain by doing so ( Oliner & Oliner, 1988 ; Stein, 1988).

**Conceptions of Health**

Human health is another domain in which we often tell only half the story, mainly the negative half. For years our conception of health was grounded in a biomedical disease model rather than a health model. It emphasized curative and disease preventive approaches rather than health enhancement. It is just as meaningful to speak of levels of vitality and healthfulness as of debility and infirmity.

 As previously noted, the quality of health is heavily influenced by lifestyle habits ( Bandura, 1997 ; Fuchs, 1974). With increased life expectancy, minor dysfunctions have more time to develop into chronic diseases. National efforts to control escalating health costs have focused heavily on reducing, rationing, and limiting access to medical services on the supply side. But they do little to reduce the demand for medical services by enabling people to stay healthy through self-management of health-promoting habits. Demand will overwhelm supply. Social cognitive theory works on the demand side. Our knowledge of self-regulatory mechanisms provides the means to promote health as well as to reduce risk factors for various diseases ( Bandura, 1997 ; Holman & Lorig, 1992). The mounting demand for health care will force societies to change the balance of efforts from disease care to health promotion.

**Controllability and Stress Effects**

Stress has been implicated as an important contributor to physical dysfunctions. Controllability is a key organizing principle regarding the stress effects. Exposure tostressors with controlling efficacy has no adverse physiological effects. But exposure to the same stressors without controlling efficacy activates biological reactions that impair immune function.

 Most of these findings are based on studies with animals experiencing uncontrollable physical stressors. There is a problem in extrapolating across species and from physical to psychological stressors. The important stressors with which humans have to cope are psychological ones. It is the belief of uncontrollability that is the stressful reality. In the animal studies, they either exercise complete control over stressors or none at all.

 Most human stress is activated while developing competencies for managing environmental demands. Stress experienced while acquiring coping efficacy can have different effects than stress aroused in aversive situations with no prospect of gaining self-protective control. There are substantial evolutionary benefits to experiencing enhanced immunocompetence during the development of coping capabilities. Given the prevalence of stressors in everyday life, if they only impaired immune function we would be bedridden most of the time or done in.

 Stress aroused while gaining coping efficacy through mastery over threats can boost the immune system ( Wiedenfeld et al., 1990). The few studies that have examined the immune effects of positive emotions, show that antibody levels to orally ingested antigens are higher on pleasant days ( Stone et al., 1994). We are heavily preoccupied with the physically debilitating effects of stressors. Self-efficacy theory also acknowledges the physiologically strengthening effects of mastery over stressors. The benign neglect of the positive side of emotional life limits our understanding of the psychosocial contributors to health. Studies reviewed by Dienstbier (1989) demonstrate that successful coping with taxing situations is, indeed, physiologically toughening.

**Psychosocial Spillover of Dual Roles**

According to the prevailing theories of human stress, it arises when perceived task demands exceed perceived coping capabilities. But there is another demand-capability relation that is largely ignored even though it is an important stressor. People experience emotional strain when they are trapped in activities that permit them little opportunity to make full use of their talents. Whether overload or underload is stressful is largely determined by perceived efficacy. Matsui and Onglatco (1992) found that women employees who have a low sense of efficacy are stressed by heavy work demands and responsibilities. In contrast, those of high perceived efficacy are frustrated and stressed by blocked opportunities to make full use of their talents.

The neglected underload stressor highlights the prevailing negative bias in research on the effects of multiple role demands on women in dual career families. The family has been undergoing major structural changes that are altering women's roles. A sharp drop in birthrate and increased longevity creates the need for purposive pursuits for women that provide satisfaction and meaning to their lives over the expanded lifespan ( Astin, 1984). They are seeking fulfillment in career pursuits as well as in their family life. These changes pose new challenges on how to strike a balance between family and occupational demands.

The effects of combining dual roles are typically framed negatively in terms of interrole conflicts breeding family distress and discord. There are countless studies on the negative spillover of job pressures on family life. But few on how job satisfaction enhances the quality of family life. Ozer's (1995) research shows that women's sense of efficacy in managing dual roles contributes to personal well-being and better health. We need to be studying the positive spillover on family life of fulfilling career pursuits.

**Psychopathologizing of Optimism**

Human well-being and accomplishments require an optimistic and resilient sense of efficacy ( Bandura, 1997). This is because the normative daily realities are strewn with difficulties, frustrations, conflicts, impediments, failures, setbacks, inequities, and adversities. It requires a resilient sense of efficacy to override such dissuading condition. The functional belief system in difficult pursuits combines realism about tough odds but optimism that one can beat those odds through self-development and perseverant effort. Resilient self-efficacy provides the needed staying power. The people who are successful, innovative, sociable, nonanxious, nondespondent, and tenacious social reformers take an optimistic view that they can bring about valued changes.

In much of the psychological literature, optimistic self-appraisal is treated as a cognitive failing requiring correction. One can easily produce cautious self-appraisal. Simply punish optimism ( Oettigen, 1995). In activities where the margins of error are narrow and missteps can produce costly or injurious consequences, personal well-being is best served by highly accurate self-appraisal. It is a different matter when difficult accomplishments can produce substantial personal or social benefits and the personal costs involve time, effort, and expendable resources. Individuals have to decide for themselves whether to invest their efforts and resources in ventures that are difficult to fulfill, and how much hardship they are willing to endure in pursuit of a desired future. Remedial reductions of optimism come at the cost of undermining aspiration, innovation, and human accomplishments in endeavours presenting tough odds.

When people are asked about their regrets in life, for the most part they regret the actions not taken rather than the actions taken ( Hattiangadi, Medvee, & Gilovich, 1995). They regret the educational opportunities forsaken, the careers not pursued that would have brought satisfaction and self-fulfillment, the risks not taken, and the relationships not cultivated or shortchanged. We study extensively the risks of overconfidence, but ignore the pervasive self-limiting cost of under-confidence. The risk-averse bias reflects the conservative orientation of our theorizing and research on human development and functioning.

**Concluding Remarks**

Humans have an unparalleled capacity to become many things. The qualities they cultivate and the life paths that become open to them are partly determined by the societal systems to which their development is entrusted. Social systems that cultivate competencies, instill a robust sense of efficacy, create equitable opportunity structures, provide aidful resources, and allow room for self-directedness increase the chances that people will realize what they wish to become.

 To sum up, the psychological franchise is a burgeoning enterprise worthy of acclamation rather than a disjoined candidate for divestiture or foreclosure. We will keep recoupling the subpersonal brain to a sentient, agentic being. As an integrative core discipline, we will continue to create knowledge to advance human understanding and betterment.