On Integrating Social Cognitive and Social Diffusion Theories

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In the days before the Internet and pdf files, one of the signs that someone, somewhere, read the arcane and tortured texts that we call scholarship, was the postcard. Active scholars kept a stack of them nearby in case they saw a reference to a journal article that they wanted to read. I distinctly remember the heady feeling when two of Al Bandura’s handwritten request cards showed up in my faculty mailbox within a couple of weeks of each other. My work couldn’t be completely without worth, I reasoned, if Al Bandura saw fit to request a copy.

JIM DEARING

Once Ev got me enthused about entertainment-education, Al Bandura’s work loomed large. No matter where one looked, Al’s pioneering work on modeling, identification, and efficacy, drove the research and practice agenda in entertainment-education and health promotion. In a published interview in 1980, Al noted: “The worth of a theory is ultimately judged by the power of the change it produces.” By this metric, Al’s social cognitive theory and Ev’s work on diffusion would rank close to the top.

ARVIND SINGHAL

HOW LUCKY WE WERE TO HAVE Ev ROGERS AS A COLLEAGUE AND FRIEND, and how deeply he will be missed by the countless people for whom his work has made a major difference. Ev epitomized the consummate scholar and scientist who brought a special blend of broad vision,

Some sections of this chapter include revised, updated, and expanded material from Social Foundations of Thought and Action: A Social Cognitive Theory (Bandura, 1986).

innovativeness, and fresh insights to fundamental issues regarding human adaptation and change. Ev was a delightful person and during his tenure at Stanford University from 1975 to 1985 and thereafter, we had many opportunities to explore ideas. One evening in Palo Alto, while we were nursing a bottle of the noble grape, I was reflecting on the fortuitous character of life. Some of the most important determinants of life paths, I noted, often occur through the most trivial of circumstances. I cited examples of how people are often inaugurated into new life trajectories, marital partnerships, and occupational careers through fortuitous circumstances.

A couple of weeks later Ev sent me a section from a volume authored by David Fischer (1994) documenting the concatenating social processes triggered by fortuitous events around the alarm sounded by Paul Revere on April 18, 1775 warning that a British military force was approaching. Revere and a fellow revolutionary, William Dawes set forth from Boston to sound the alarm. Revere had the faster horse and found himself on a route he had not planned to go by that brought him to Medford Massachusetts. Once in the village, he alerted the commander of the local minutemen who triggered the town's alarm system and sent other riders rapidly spreading the alarm throughout the countryside. Dawes, traveling a longer distance on a slower horse, met up with Revere in Lexington Massachusetts about three hours later. Revere got immortalized as the midnight rider who alerted the populace to the impending British attack. For want of a speedier horse and a more fortuitous choice of route, Dawes has remained in relative obscurity. Ev unearthed this revealing bit of historical serendipity before the era of the mighty Google search engine. This is but one example of his extraordinary breadth and depth of scholarship.

Ev was deeply bonded to his Iowa rural roots. His doctoral studies at Iowa State University on the social diffusion of agricultural innovations shaped the course of his professional career. Although Ev traveled in international circles in the course of his diverse program of research, he maintained his rooted ties to his beloved farm in Carroll. It was here that he went for rest and relaxation from a hectic academic life. Upon joining the faculty at Stanford, Ev promptly added to this urbane academy a notable rural touch graced with
lavishly productive vegetable gardens and prolific domestic fowl. In
the following box, Henry Breitrose, who was Ev's colleague at
Stanford, vividly remembers the experience.

On the ruralization of Stanford

The cliché is that you can take the boy out of the country, but you
can't take the country out of the boy, and Ev Rogers was the "ideal
type" that classical sociologists, rural or otherwise, might point to in
order to support the accuracy of that statement. Ev bought a house
on the Stanford campus in the faculty housing area. Not long after he
moved in he acquired a pick-up truck, and became immersed, figu-
rationally and literally, in the Santa Clara adobe clay.

Rather than concentrating on adobe as a virtually indestructible
construction material, Ev was fixated on its nutritive qualities, and
how to exploit them by preventing the adobe clay from setting up
solid as a rock. The cure, he announced, was "amendment" and com-
post. "Amendment" was a portmanteau word for compost, and ma-
nures, fresh and aged, from a variety of animals. In a few months, Ev's
garden bloomed with all manner of garden crops. The neighbors,
having endured the manuring of Ev's plot, gladly benefited from the
foison of Ev's field.

Then there were the chickens. Over a weekend, an unplanted area
evolved into a chicken coop. There was some discussion among the
neighbors about whether the chickens were legal. Ev's logic was
impeccable. The chickens were Bantams, and didn't need much space.
They produced eggs, for human consumption, and chicken manure
in impressive quantities, which was excellent fertilizer. The only prob-
lem was the rooster. To egg the chickens on, as it were, it was necessary
to have a rooster, and Ev's Bantam rooster was a leather-lunged beast
who greeted each dawn with a vociferous cock-a-doodle-doo. It ap-
peared that Ev took a certain pride in the rooster. He allowed as how
this was a "macho" bird, and that the ear-splitting cock-a-doodle-doo
was a testament to the rooster's virility.

Ev tried to placate the neighbors with fresh eggs, noting how they
were a joint enterprise of chicken and rooster, but all to no avail, and
eventually, to the considerable relief of his neighbors, the rooster and
the chickens were dispatched to a happier place.
Core features of a social cognitive theory of social diffusion

The present chapter centers on the integration of social cognitive theory with Ev’s pioneering theorizing and research on social diffusion of innovation. Social cognitive theory distinguishes among three separable components in the social diffusion of innovation. This triadic model includes the determinants and mechanisms governing the acquisition of knowledge and skills concerning the innovation; adoption of that innovation in practice; and the social networks through which innovations are promulgated and supported (Bandura, 1986).

Acquisitional determinants

Psychological theories have traditionally emphasized learning from the effects of one’s actions. If knowledge and skills could be acquired only by repeated trial and error experiences, human development would be greatly retarded, not to mention exceedingly tedious and hazardous. Moreover, the constraints of time, resources, and mobility impose severe limits on the situations and activities that can be directly explored for the acquisition of new knowledge. However, humans have evolved an advanced cognitive capacity for observational learning that enables them to abbreviate the acquisition process by learning
from the informative examples provided by others. A special power of psychological modeling is that it can simultaneously transmit knowledge of wide applicability to vast numbers of people in dispersed locales through symbolic modes of communication. By drawing on these modeled patterns of thought and behavior, observers can transcend the bounds of their immediate environment. Because of the growing primacy of the electronic media, observational learning from the symbolic environment is playing an increasingly powerful role in people’s everyday lives.

Symbolic modeling usually functions as the principal conveyer of innovations to widely dispersed areas. This is especially true in the early stages of diffusion. Newspapers, magazines, radio, television, and Internet-based sources of influence inform people about new practices and their likely risks or benefits. Early adopters, therefore, come from among those who have had greater access to media sources of information.

The revolutionary advances in communications and Internet technologies are transforming acquisitional and social diffusion processes. The Internet is swift, wide-reaching and free of institutional controls. It alters how people communicate, educate, work, relate to each other, and conduct their business and daily affairs. Video systems feeding off of telecommunications satellites have become the dominant vehicle for disseminating symbolic environments. New ideas, values, and styles of conduct are now being rapidly diffused worldwide in ways that foster a globally distributed consciousness.

Observational learning is governed by three subfunctions. These include attentional, representational, and productive processes. Attentional processes determine what people selectively observe in the profusion of modeling influences and what information they extract from ongoing modeled events. Included among the factors influencing observational learning are the cognitive skills, preconceptions, and value preferences of the observers. These pre-existing orientations influence the types of models individuals select, what they look for, how they interpret and organize the information generated in dealings with their environment, and what they retrieve from their memory representation. Differences in the knowledge and skills that particular innovations require produce variations in rate of acquisition.
Modeling political change

Global broadcasts now show socio-political conflicts as they are happening. This makes televised modeling an especially influential vehicle for political and social change. The speed with which Eastern European rulers and regimes were toppled by collective action beginning in the late 1980s was greatly accelerated by televised modeling. The tactic of mass action modeled successfully by East Germans was immediately adopted by others living under oppressive rule (Braithwaite, 1994). The timing and form of collective action is better predicted by the force of modeling than by social structural conditions.

A mass uprising by citizens of the Ivory Coast in 2001 dislodged the military dictator Guei who declared himself a winner of an election he was losing in the ballot count. The protesters modeled the militant strategy after the popular revolt against Milosevic in Yugoslavia who tried to annul an election in which he was defeated (Onishi, 2000). In commenting on the influential role of televised modeling in the popular uprising, a student protestors remarked, "The mistake Guei made was to let us watch scenes from Belgrade."

Televised modeling of civic strife in contests of power is a double-edged sword, however. It can fortify social control as well as promote social change depending on the depicted consequences of militant socio-political action. In 1989, during the Tiananmen Square uprising, the Chinese populace watched on CNN the militia breaking down doors and arresting student activists. Live portrayal of brutal arrests helped to curb the spread of the uprising.

Innovations that are difficult to understand and use receive more reluctant consideration than simpler ones (Tornatzky and Klein, 1982).

Other factors are the attractiveness and functional value of the modeled activities. Successful modes of behavior command more attention than do less effective ones. The way in which societies are socially organized along age, gender, racial and class lines largely determines the types of models to which its members have ready access. When television models new practices on the screens in virtually every household, people in widely dispersed locales can learn them. Not all innovations are promoted through the mass media, however. Some rely on informal personal channels. In such instances,
physical proximity determines which innovations will be repeatedly observed and thoroughly learned.

People cannot be much influenced by observed events if they do not remember them. A second subfunction governing observational learning concerns cognitive **representation processes**. Retention involves an active process of transforming and restructuring information about modeled events into rules and conceptions for generating new patterns of behavior. Preconceptions and emotional states can bias how observed information is transformed into memory codes. Similarly, recall involves a process of reconstruction of past experiences rather than simply retrieval of registered past events.

In the third subfunction in observational learning—the **production processes**—symbolic conceptions are transformed into appropriate courses of action. This is achieved through a conception matching process in which conceptions guide the construction of behavior patterns and enactments are modified as necessary to achieve close correspondence between conception and action. The richer the knowledge and repertoire of subskills that people possess, the easier it is to integrate them to produce the new forms of behavior.

Modeling is not simply a process of response mimicry as commonly believed. Modeled judgments and actions may differ in specific content but embody the same underlying principle. For example, a model may deal with moral dilemmas that differ widely in the nature of the activity but apply the same moral standard to them. Modeled activities thus convey principles for generative and innovative behavior. This higher level learning is achieved through abstract modeling. Once observers extract the principles underlying the modeled activities they can generate new behaviors embodying the principles that go beyond what they have seen or heard.

Creativeness rarely springs entirely from individual inventiveness. Indeed, selective modeling is often the mother of invention. People adopt modeled beneficial elements, improve upon them, synthesize them into new forms, and tailor them to their particular circumstances (Bolton, 1993; Gist, 1989; Harris and Evans, 1973).

Modeling affects acquisition and receptivity to innovations in several ways. It instructs people about new ways of thinking and behaving by demonstration or description. Models motivate as well as inform. People are initially reluctant to embark on new undertakings that
involve costs and risks until they see the advantages that have been
gained by early adopters. Modeled benefits accelerate diffusion by
weakening the restraints of the more cautious potential adopters. As
acceptance spreads, the new ways gain further social support. Models
also display preferences and evaluative reactions, which can alter the
observers' values. Changes in evaluative standards affect receptivity
to the innovation being modeled. Models not only exemplify and
legitimate innovations, they also serve as advocates for them by di-
rectly encouraging others to adopt them.

It has been commonly assumed in the theory of mass communi-
cation that modeling influences operate through a two-step diffusion
process. Influential persons pick up new ideas from the media and
pass them on to their followers through personal influence. This dual-
link view that diffusion is exclusively a filter-down process is disputed
by a large body of evidence concerning modeling influences (Bandura,
1986). Human judgment, values, and styles of behavior can be altered
by televised modeling without having to wait for an influential inter-
mediary to adopt and model what has been shown.

There is no single pattern of social diffusion. Social cognitive the-
ory not only posits a multi-pattern diffusion, but specifies how the
different functions of modeling operate, in concert with other sources
of influence, in the various components of the process of social dif-
fusion. The media can implant ideas for change either directly or
through adopters. In some instances the media both teaches new forms
of behavior and creates motivators for action by altering people's pre-
ferences, perceptions of personal efficacy, and outcome expectations.
In other instances, the media teaches, but other adopters provide the
motivation to perform what has been learned observationally. In still
other instances, the effect of the media may be entirely socially medi-
ated. People who have had no exposure to it can be influenced by
adopters who have had the exposure and then, themselves, become
the transmitters of the new ways.

Social cognitive theory adopts an agentic perspective to self-
development, adaptation, and change (Bandura, 2001, 2006). To be
an agent is to intentionally influence one's functioning and life
circumstances. In this view, people are self-organizing, proactive, self-
regulating, and self-reflecting. They are contributors to their life
circumstances; not just products of them. The theorizing and research
on human agency has centered almost exclusively on personal agency exercised individually. Social cognitive theory distinguishes among three different modes of human agency: individual, proxy, and collective. In personal agency exercised individually people bring their influence to bear on their own functioning and on environmental events. In many spheres of functioning, people do not have direct control over conditions that affect their lives. They exercise socially-mediated agency. They do so by influencing others who have the resources, knowledge, and means to act on their behalf to secure the outcomes they desire. People do not live in isolation. They have to work together to manage and improve their lives. In the exercise of collective agency, people pool their knowledge, skills, and resources, and act in concert to shape their future. Everyday functioning requires an agentic blend of individual, proxy, and collective efficacy.

With the dawn of the electronic era in this third millennium, people worldwide are becoming increasingly enmeshed in a cyberworld that transcends time, distance, place and national borders. By enabling individuals to transcend their environment, these information technologies are placing a premium on the exercise of personal and collective agency. Individuals can now access an unlimited variety of modeled attitudes, values, beliefs, and styles of behavior in the comfort of their homes. Through Internet postings, blogging, and podcasting, they not only have unrestricted boundless access to modeling in virtually every aspect of life, but they can have a voice in this new media by participating in it.

The Internet provides an avalanche of information in diverse sources of varying quality. It requires a robust sense of efficacy and self-directive capabilities to access, process, and evaluate the glut of information. Individuals who are assured in their efficacy to manage the Internet technology are the ones who take advantage of this expansive environment (Bandura, 2002). Social cognitive theory provides guides for building the personal efficacy and cognitive skills needed to use the Internet productively and creatively (Debowski, Wood, and Bandura, 2001).

Internet technology does more than just expand access to vast bodies of information. It also serves 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 (Staples, Hulland, and Higgins, 1998). In the social and political arena, Internet technology gives people an instrument of global reach, free of centralized institutional controls and gatekeepers who reign over the mass media. It provides vast opportunities to participate directly in social and political matters of concern, and a ready vehicle for mobilizing grassroots activity to promote desired changes in social practices and policies. It is being used to connect disparate groups to one another in pursuit of a common cause. By coordinating and mobilizing decentralized, self-organizing groups, participants can meld local networks into widespread collection action. Human agency does not come with a built-in value system, however. The Internet is a double-edged tool. Internet freelancers can also use this unfiltered and unfettered forum to propagate hate and to mobilize support for detrimental social purposes.

Adoption determinants

The acquisition of knowledge and skills regarding innovations is necessary, but not sufficient for their adoption in practice. The second major component in the triadic model specifies the factors that determine whether people will adopt in practice what they have learned. Unless people believe that they have the efficacy to do what is needed to gain the benefits of a given innovation they have little incentive to adopt it or to stick with it in the face of difficulties. Perceived self-efficacy is, therefore, one key factor governing adoption of innovations.

Innovations that are difficult to understand and use are given less consideration than simpler ones (Rogers, 1995; Tornatzky and Klein, 1982). Perceived difficulty is a relational attribute rather than solely an inherent one. Personal efficacy largely determines how complex things look. Activities that exceed perceived capabilities appear complex, whereas those that fall within the bounds of perceived capabilities are viewed as doable.

The influential role of people's beliefs in their personal efficacy is verified across diverse types of innovations. For example in community-wide campaigns designed to promote health, both people's pre-existing beliefs in their self-regulatory efficacy and the efficacy beliefs
instilled by the media campaigns increase adoption and diffusion of
healthful habits (Maibach, Flora, and Nass, 1991; Rimal, 2000; Slater,
1989). The perceived efficacy of organizational decision makers influences their receptivity to new technologies and practices (Jorde-Bloom
and Ford, 1988). The perceived efficacy of employees likewise affects how readily they embrace those that are organizationally instituted
(Hill, Smith, and Mann, 1987; McDonald and Siegall, 1992). Efficacy-
 fostered adoption of new technologies, in turn, alters the organizational
network structure and confers influential status on early adopters
within an organization over time (Burkhardt and Brass, 1990).
Innovations require innovators. Turning visions into realities requires heavy investment of time, effort, and resources in ventures strewn with many hardships, unmerciful impediments, and uncertainties. A resilient sense of efficacy provides the necessary staying power in the tortuous pursuit of innovations. Indeed, perceived self-efficacy predicts entrepreneurship and which patent inventors are likely to start new business ventures (Chen, Greene, and Crick, 1998; Markman and Baron, 1999).
Perceived self-efficacy influences the adoption of new technologies for household and leisure products as it does for innovations in the workplace. Efficacy beliefs operate at both pre-purchase and post-purchase phases. People shy away from products they believe exceed their efficacy to use them (Stern and Kipnis, 1993). As most readers would testify, the opaque product operational manuals further weaken perceived efficacy to use the products (Celuch, Lust, and Showers, 1995).
Adoptive behavior is also highly susceptible to incentive influences. In social cognitive theory (Bandura, 1986) the incentive motivators take three forms—material, social, and self-evaluative. Some of the motivating incentives derive from the inherent utility of the adoptive behavior. The greater the tangible benefits provided by an innovation, the higher the incentive to adopt it (Downs and Mohr, 1979; Ostlund,
1974; Rogers and Shoemaker, 1971). But benefits cannot be experienced until the new practices are tried. Promoters, therefore, strive to get people to adopt new practices by altering their preferences and beliefs about likely outcomes, mainly by enlisting vicarious incentives. Advocates of new ideas and technologies create outcome
expectations that the innovations offer better solutions than the established ways. Modeled benefits increase adoptive decisions. Modeling influences can, of course, impede as well as promote the diffusion process (Midgley, 1976). Modeled negative reactions to a particular innovation, as a result of having had disappointing experiences with it, dissuade others from trying it. Even modeled indifference to an innovation in the absence of any experiences with it, will dampen the interests of others.

Many innovations serve as a means of gaining social recognition and status. Indeed, status incentives are often the main motivators for adopting new styles and tastes. In many instances, the innovative styles do not provide better natural benefits or, if anything, they are the more costly ones. Status is thus gained at a price. People who strive to distinguish themselves from the common and the ordinary adopt new styles in clothing, grooming, recreational activities, and forms of conduct, thereby achieving distinctive social standing. As the popularity of the new behavior grows, it loses its status-conferring value until eventually it, too, becomes commonplace. It is then discarded for a new form.

Adoptive behavior is also partly governed by self-evaluative reactions to one's own behavior. People adopt what they value, but resist innovations that violate their social and moral standards or that conflict with their self-conception. The more compatible an innovation is with prevailing social norms and value systems, the greater its adoptability (Rogers and Shoemaker, 1971). However, self-evaluative sanctions do not operate in isolation from the pressures of social influence. People are often led to behave in otherwise personally devalued ways by strategies that circumvent negative self-reactions. This is done by changing appearances and meanings of new practices to make them look compatible with people's values (Bandura, 1986).

The amenability of an innovation to brief trial is another relevant characteristic that can affect the ease of adoption. Innovations that can be tried on a limited basis are more readily adoptable than those that have to be tried on a large scale with substantial effort and costs. The more weight given to potential risks and the costs of getting rid of new practices should they fail to live up to expectations, the weaker
practices. They include female genital mutilation that subjects about 130 million women in Africa to this brutal procedure; child trafficking that sells children from large impoverished families for slave labor under inhumane conditions; and the detrimental effects of dowry systems.

Long running serial dramas serve as the vehicle to alleviate such problems and to improve the quality of people’s lives. They inform, enable, motivate, and guide viewers towards personal and social changes that improve their life conditions. These dramatic productions are not just fanciful stories. They portray people’s everyday lives. They help viewers see a better life and provide the strategies and incentives that enable them to take the steps to realize it. The storylines model family planning, women’s equity, spouse abuse, environmental conservation, AIDS prevention and a variety of life skills.

To change deeply held beliefs and social practices requires strong emotional bonding to enabling models who provide a vision of a better future. Hundreds of episodes allow people time to form emotional bonds to the characters. They become emotionally engaged in the evolving lives of the models and identify with their aspirations, perseverance, and the steps they take that advance them toward the future they want to realize.

The productive partnership in this global endeavor is grounded in the essential components of a psychosocial model for affecting society-wide changes. The first component is a theoretical model that specifies the determinants of psychosocial change and the mechanisms through which they produce their effects. This knowledge provides the guiding principles. The second component is a translational and implementational model that converts theoretical principles into an innovative operational model by specifying the content, strategies of change, and their mode of implementation. The third component is a social diffusion model on how to promote adoption of psychosocial programs in diverse cultural milieus. It does so by making functional adaptations of the programs to different sociostructural circumstances, providing enabling guidance, and enlisting the necessary resources to achieve success.

It is of limited value to motivate people to change if they are not provided with appropriate resources and environmental supports to realize those changes. Enlisting and creating environmental supports
is the incentive to innovate. And finally, people will not adopt innovations even though they are favorably disposed toward them if they lack the money, the skills, or the accessory resources that may be needed. The more resources innovations require, the lower is their adoptability.

Analysis of the determinants and mechanisms of social diffusion should not becloud the fact that not all innovations are useful, nor is resistance to them necessarily dysfunctional (Zaltman and Wallendorf, 1979). In the continuous flow of innovations, the number of disadvantageous ones far exceeds those with truly beneficial possibilities. Both personal and societal well-being are ably served by initial wariness to new practices promoted by unsubstantiated or exaggerated claims. The designations “venturesome” for early adopters and “laggards” for later adopters are fitting in the case of innovations that hold promise. However, when people are mesmerized by alluring appeals into trying innovations of questionable value, the more suitable designation is gullibility for early adopters and astuteness for resisters. Rogers (1995) has criticized the prevalent tendency to conceptualize the diffusion process from the perspective of the promoters. This tends to bias the search for explanations of nonadaptive behavior in negative attributes of non-adopters.

Social networks and flow of diffusion

The third major component that affects the diffusion process concerns the structure and function of social networks. People are enmeshed in networks of relationships that include occupational colleagues, organizational members, kinships, and friendships, just to mention a few. They are linked not only directly by personal relationships, but because acquaintanceships overlap different network clusters, many people become linked to each other indirectly by interconnected ties. Social structures comprise clustered networks of people with various ties among them, as well as persons who provide connections to other clusters through joint membership or a liaison role. Clusters vary in their internal structure, ranging from loosely knit ones to those that are densely interconnected. Networks also differ in the number and
pattern of structural linkages between clusters. They may have many common ties or function with a high degree of separateness. In addition to their degree of interconnectedness, people vary in the positions and status they occupy in particular social networks which can affect their impact on what spreads through their network. One is more apt to learn about new ideas and practices from brief contacts with causal acquaintances than from intensive contact in the same circle of close associates. This path of influence creates the seemingly paradoxical effect that innovations are extensively diffused to cohesive groups through weak social ties (Granovetter, 1983).

Information regarding new ideas and practices is often conveyed through multilinked relationships (Rogers and Kincaid, 1981). Traditionally, the communication process has been conceptualized as one of unidirectional persuasion flowing from a source to a recipient. Rogers emphasized the mutuality of influence in interpersonal communication. People share information, give meaning by mutual feedback to the information they exchange, gain understanding of each other's views, and influence each other. These transactional events embody the acquisitional and adoptive influences of the triadic model. Specifying the channels of influence through which innovations are dispersed provides greater understanding of the diffusion process than simply plotting the rate of adoptions over time disembodied from psychosocial influences.

There is no single social network in a community that serves all purposes. Different innovations engage different networks. For example, birth control practices and agricultural innovations diffuse through quite different networks within the same community (Marshall, 1971). To complicate matters further, the social networks that come into play in initial phases of diffusion may differ from those that spread the innovation in subsequent phases (Coleman, Katz, and Menzel, 1966). Adoption rates are better predicted from the network that subserves a particular innovation than from a more general communication network. This is not to say that there is no generality to the diffusion function of network structures. If a particular social structure subserves varied activities, it can help to spread the adoption of innovations in each of those activities.
People with many social ties are more apt to adopt innovations than those who have few ties to others (Rogers and Kincaid, 1981). Adoption rates increase as more and more people in one's personal network adopt an innovation. The effects of social connectedness on adoptive behavior may be mediated through several processes. Multi-linked relations can foster adoption of innovations because they convey more factual information, they mobilize stronger social influences, or possibly because people with close ties are more receptive to new ideas than those who are socially estranged. Moreover, in social transactions, people see their associates adopt innovations as well as talk about them. Multiple modeling increases adoptive behavior (Bandura, 1986; Perry and Bussey, 1979).

If innovations are highly conspicuous, they can be adopted directly without requiring interaction among adopters. Television and Internet technology are being increasingly used to forge large single-link structures, in which many people are linked directly to the media source, but they may have little or no direct relations with each other. For example, television evangelists attract loyal followers who adopt the transmitted precepts as guides for how to behave in situations involving moral, social, and political issues. Although they share a common bond to the media source, most members of a virtual community may never see each other.

Political power structures are similarly being transformed by the creation of new constituencies tied to a single media source, but with little personal interconnectedness. Mass marketing techniques using computer identification and mass mailings, create special-interest constituencies that bypass traditional political organizations in the exercise of political influence. However, with increasing interactivity through blogging and podpostings, Internet technology is interconnecting people globally in the virtual social networks of the cyberworld. This enables people to exercise control by not only creating their own site in the cyberworld, but having a central voice in it. In the socio-political arena, the existence of a multiplicity of voices in the cyberworld does not necessarily give rise to diversity of influence at the individual level. All too often, people select sites promoting their particular ideologies. Selectivity fuels social polarization.
The evolving information technologies will increasingly serve as a vehicle for building social networks. Online transactions transcend the barriers of time and space (Hiltz and Turoff, 1978; Wellman, 1997). Through interactive electronic networking, people link together in widely dispersed locales, exchange information, share new ideas, and transact any number of pursuits. Virtual networking provides a flexible means for creating diffusion structures to serve given purposes, expanding their membership, extending them geographically, and disbanding them when they have outlived their usefulness.

As previously noted, structural interconnectedness provides potential diffusion paths, but psychosocial factors largely determine the fate of what diffuses through those paths. In other words, it is the transactions that occur within social relationships rather than the ties, themselves, that explain adoptive behavior. The course of diffusion is best understood by considering the interactions among psychosocial determinants of adoptive behavior, the properties of innovations that facilitate or impede adoption, and the network structures that provide the social pathways of influence. Sociostructural and psychological determinants of adoptive behavior should, therefore, be treated as complementary factors in an integrated comprehensive theory of social diffusion, rather than be cast as rival theories of diffusion.

**Productive partnership in theoretical integration in global applications**

The conceptual integration of social cognitive theory and social diffusion theory is not just an academic endeavor. It also involves an implementational partnership. I had the honor and pleasure of interacting with Evi in connection with the extraordinary applications of enabling media to alleviate some of the most urgent global problems. These include soaring population growth, especially in less developed nations; pernicious gender inequity in which women are subjugated, marginalized and denied aspirations and their liberty and dignity; and the spreading AIDS epidemic. Some societies present unique problems that require special social themes tailored to their cultural
practices. They include female genital mutilation that subjects about 130 million women in Africa to this brutal procedure; child trafficking that sells children from large impoverished families for slave labor under inhumane conditions; and the detrimental effects of dowry systems.

Long running serial dramas serve as the vehicle to alleviate such problems and to improve the quality of people's lives. They inform, enable, motivate, and guide viewers towards personal and social changes that improve their life conditions. These dramatic productions are not just fanciful stories. They portray people's everyday lives. They help viewers see a better life and provide the strategies and incentives that enable them to take the steps to realize it. The storylines model family planning, women's equity, spouse abuse, environmental conservation, AIDS prevention and a variety of life skills.

To change deeply held beliefs and social practices requires strong emotional bonding to enabling models who provide a vision of a better future. Hundreds of episodes allow people time to form emotional bonds to the characters. They become emotionally engaged in the evolving lives of the models and identify with their aspirations, perseverance, and the steps they take that advance them toward the future they want to realize.

The productive partnership in this global endeavor is grounded in the essential components of a psychosocial model for affecting society-wide changes. The first component is a theoretical model that specifies the determinants of psychosocial change and the mechanisms through which they produce their effects. This knowledge provides the guiding principles. The second component is a translational and implementational model that converts theoretical principles into an innovative operational model by specifying the content, strategies of change, and their mode of implementation. The third component is a social diffusion model on how to promote adoption of psychosocial programs in diverse cultural milieus. It does so by making functional adaptations of the programs to different sociostructural circumstances, providing enabling guidance, and enlisting the necessary resources to achieve success.

It is of limited value to motivate people to change if they are not provided with appropriate resources and environmental supports to realize those changes. Enlisting and creating environmental supports
is an additional and especially helpful feature for promoting personal and social change (Bandura, 2004). To foster large-scale changes, the dramatic productions are designed to operate through two pathways. In the direct pathway, the serials promote changes by informing, enabling, motivating, and guiding viewers. In the socially-mediated pathway, media influences are used to connect viewers to social networks and community settings. These places provide continued personalized guidance, as well as natural incentives and social supports for desired changes. For example, serial dramas aimed at stemming a nation’s burgeoning population growth linked viewers to family planning services. A serial aimed at promoting national literacy linked viewers to reading service centers. Programs designed to raise the status of women linked viewers to women’s support groups. At a more informal level, media influences lead viewers to discuss and negotiate important matters with others. In the informal mode of social mediation, the media set in motion transactional experiences that further shape the course of change. Socially-mediated influences can have stronger impacts than direct media influence.

We often cite examples in the natural and biological sciences where knowledge pursued for its own sake has unforeseen human benefits. The knowledge gained regarding social modeling in the early Bobo Doll experiments\(^2\) contributed through interdisciplinary partnership unimagined global applications designed to enable people to change their lives for the better. One morning in the mid-1970s, I received a call from Miguel Sabido, a creative dramatist at Televisia in Mexico City, explaining that he had created a generic media model to promote social change based on the modeling principles he extracted from the Bobo Doll research (Bandura, Ross, and Ross, 1961; 1963). He visited Stanford with video clips from a serial drama he had created to inform, motivate and guide the general public to enroll in a national self-study literacy program. It was a masterful translation of theory into practice.

\(^2\) In the Bobo Doll experiment, young children watched a film of an adult role model punching and kicking the Bobo doll. When hit, the Bobo doll falls backward and immediately springs upright as if offering a counter punch. Then children were let into a playroom with several attractive toys including a Bobo doll. Interestingly, children who watched the film imitated the media model’s behavior.
Four basic sociocognitive principles serve as guides for constructing the dramatic serials. The first is *contrast modeling*. The episodes include positive models exhibiting beneficial lifestyles, negative models exhibiting detrimental lifestyles, and transitional models changing from detrimental to beneficial styles of behavior at a gradual and believable pace. Contrasting modeling highlights the personal and social effects of different lifestyles. Viewers draw inspiration from seeing others change their lives for the better. The second principle enlists *vicarious motivators*. Unless people see modeled lifestyles as improving their welfare, they have little incentive to adopt them. The benefits of the favorable practices and the costs of the detrimental ones are vividly portrayed. Depicted outcomes provide incentives for change.

A third principle guiding the creation of the dramatic productions concerns the *attentional and emotional engagement* of viewers. There
are several elements that serve this purpose. The most powerful one is functional relevance. The dramas mirror the realities of people’s everyday lives, the impediments with which they struggle, and model ways by which they can enhance their personal development and improve their life conditions. Personally relevant story lines with functional modeling command attention and high interest. Melodramatic embellishments of engaging plot lines with emotive musical accompaniments give further dramatic intensity to the episodes. Ongoing engagement in the evolving lives of the models provide numerous opportunities to learn from them and be inspired by them.

### The power of storytelling through emotional bonding

Unlike brief exposures to media presentations that typically leave most viewers untouched, extended dramatizations that reflect viewers’ life experiences get audience members deeply involved in the lives of mass media models and emotionally attached to them.

In 2003, a formerly illiterate teenager in India’s Bihar state who was inspired by Taru, a lead character in a popular radio serial, to pursue her education described the depth and power of emotional bonding: “There are moments when I feel that Taru is directly talking to me, usually at night. She is telling me, ‘Usha, you can follow your dreams.’ I feel she is like my elder sister … and giving me encouragement.”

In the mid-1980s in India, 400,000 viewers of *Hum Log*, a highly popular television serial, sent letters supporting, advising, or criticizing various models in the drama. In Tanzania, women spotted a negative model from the serial drama at a market and drove him out under a rain of tomatoes and mangoes.

In Brazil, 10,000 people showed up for a virtual filming of a marriage of two of the characters in a serial drama.

In *Ven Conmigo*, a serial drama produced by Miguel Sabido in Mexico to promote enrollment in a national literacy program, a day after a popular actor in an epilogue encouraged viewers to take advantage of it, approximately 25,000 people descended on the distribution center in Mexico City to obtain the primers.

To control the transmission of HIV infection in Ethiopia spread heterosexually by long-distance truckers, audiocassettes from a serial drama on this theme were distributed to truck drivers and commercial sex workers. They waited in long lines to receive each new episode.
The fourth principle addresses the enlistment and creation of environmental supports for personal and social changes. Environmental guides and supports are provided to expand and sustain the changes promoted by the media. Epilogues, often presented by culturally celebrated figures, provide contact information to relevant community services and support groups.

We profit little from our successes in the social sciences. This is because we lack effective social diffusion models. Based on Miguel Sabido's notable success in accomplishing society-wide changes in Mexico using televised serial drama, Population Communications International (PCI) in New York served as the social diffusion system (Poindexter, 2004). In close collaborative partnership with the host nation, PCI advises the country's media personnel on how to create engrossing serial dramas, tailors the media productions to fit different cultural circumstances, and provides enabling guidance and the

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**System-level effects**

The serial dramas promote changes at the social system level as well as individually (Law and Singhal, 1999). In a radio serial drama, *Taru*, broadcast in India during 2002–2003, with a listenership of about 25 million, a mother challenges restrictive cultural norms for her daughters and enrolls them in a school. *Taru* inspired ardent teenage listeners who had no access to education to become avid readers and raise their academic aspirations. Four teenage girls in Abirpur village of India’s Bihar state started a school for a large group of poor children through classes held regularly around the village water well. In the neighboring Kamtaul village, the mother of one of the teenagers also began a school for illiterate women. The teenagers fought against gender and class discrimination and early forced marriages. Their efforts produced changes in community norms. The elders in the community acknowledged the need to alter their social practices to fit the changing times. Parents relaxed restrictive norms for their daughters.

One of the teenagers explained the power of enabling modeling to inspire listeners to work for social change: “When Taru and her mother can fight harsh circumstances, why can’t we?” Another teenager describes poetically how her revered model transformed her life: “Before Taru there was darkness. Now there is light.”
technical and financial resources needed to achieve success. The Population Media Center (under Bill Ryerson) also serves as the social diffusion system.

Many worldwide applications of this creative format in Africa, Asia, and Latin America are promoting personal and society-wide changes that are bettering people's lives (Bandura, 2004; Singhal and Rogers, 1999; Singhal et al., 2004).

In closing

Ev Rogers was not only an important contributor to these global applications that integrated social cognitive and social diffusion theory; he and his colleagues also conducted stringent evaluations of the diverse personal and social changes fostered by this approach (Rogers et al., 1999; Vaughan et al., 2000; Vaughan and Rogers, 2005). Ev took advantage of the unique experimental opportunity provided by Tanzania because it contains regions with separate broadcast transmitters. Using experimental and control regions with a reversal design and multiple controls for other possible determinants, Ev verified the substantial impact of the serialized dramatizations on increased use of family planning services, adoption of contraceptive methods, and condom use to curtail the spread of the AIDS virus (Rogers et al., 1999). To successfully implement a reversal of experimental and control conditions across national regions was no small feat.

Ev Rogers left behind a wonderfully rich legacy of scholarship that will have a lasting impact. We give thanks by our remembrance of his inspiration and the creativeness and wisdom he brought to the field of social change.

References


