Task Force Report: Media Psychology and New Technologies

Task Force Co-Chairs:	Bernard J. Luskin, PhD & Lilli Friedland, PhD
Division of Media Psychology:	Elaine Rodino, PhD, President; Irene Deitch, PhD, Past-President; Marion Gindes, PhD, President-Elect
Publications Chair:	Florence Kaslow, PhD

Table of Contents

Executive Summary

TASK FORCE REPORT: MEDIA PSYCHOLOGY AND NEW TECHNOLOGIES
Division of Media Psychology of the American Psychological Association
Task Force Co-Chairs: Bernard J. Luskin, Ph.D Lilli Friedland, Ph.D

As an outgrowth of the work of various committees in the Division of Media Psychology, Irene Deitch, Ph.D., during her presidential year, 1996, established the Task Force on Media Psychology and New Technologies. The Task Force was instructed to investigate the new media technologies and their impact and promise for psychologists and applying psychology in their occupations. The co-chairs concluded that the most efficient and effective procedure would be to get information and feedback from experts in psychology, education, and the new media. Luskin and Friedland then conducted an eighteen-month study employing Delphi methodology as a means of synthesizing expert opinions. This report summarizes and presents the results of that study.

Over the past half century, the computer market has matured, television and other devices have dramatically evolved, and the telecommunications industry has globalized. The digital world is

emerging. During this 50-year period, telecommunications and media programs, services and devices have morphed and fused with each other, evolving into a new breed of multimedia. With these advances, new careers, new occupational specialties and new fields of knowledge are developing. Knowledge technologies affect knowledge industries.

No matter which future formats and distribution systems prevail, the new progeny is hungry for access, choice, content and experience, and its appetite is ravenous. Behavior is the compliment to distribution. The message and the massage are separate and each is important.

Telecommunications, the Web, the merger of the TVPC and new knowledge of how to use them is now empowering publishers to raise content to the next generation.

The future for all of us will be dramatically affected by the many new markets and technologies that will result from the wired and wireless networks. The expedient functioning of education, medicine, government, business, entertainment and mass consumer consumption is being bound continuously more tightly to the Internet, the PC, the TV and what ever each will become.

Regardless of the power of the technology itself, people will only embrace something they want or need. Content, programs, and services must become "design rich" if people are to respond to them favorably.

New options for new times are about design, interface, graphs, publishing, and personalized and interactively transactional programs which are easy to use, accessible and in demand. Ease of use, creative range, merging of electronic communications and new media require understanding, skills, and vision that must be supplied with emerging new fields. It is the knowledge technologies of publishing that will carry the day, not the hardware. Audience is becoming community. Interaction is becoming transaction. And, transactions are manifestations of behavior.

Media Psychology as a field of knowledge for users, practitioners, and professionals is now important. Understanding human behavior, including the "you attitude," accurate empathy and experiential response, is the key ingredient to success in the emerging new fields.

The new media is supporting corporations in developing, marketing, positioning and branding new products and services. Professions in medicine, health and psychology are using new media to make their work more efficient and cost effective. Political participation, learning, data assimilation, personal development methods and deficiency correction now involve all aspects of media. Crime, including terrorism, hostage management, forensic medicine, and media-assisted therapy are but some of the emerging fields involving media and psychology. This study of media psychology employed Delphi methodology to study panels including more than two hundred experts. The results include an identification, validation and description of eleven emerging fields where a greater understanding of psychology is important for success. There are other fields to be studied. This study establishes a baseline for future evaluation. The eleven fields were consolidated and selected from approximately fifty specialties that were identified. The occupational analysis combinations help define the nature of media psychology.

Briefly stated, the eleven fields are:

1. Writing or being expert guests in various media.
2. Consulting with media personnel.
3. Researching ways to improve the media.
4. Making new technologies more effective and user friendly.
5. Using new technology to enhance clinical psychology.
6. Working in education or training.
7. Developing media standards.

8. Working in commercial fields.
9. Studying sociological and psychological media effects.
10. Developing material for challenged populations.
11. Working with deviant or criminal populations.

For a more in-depth look at the fields analyzed, one should consult the full study. Each of the abbreviated statements synthesizes each field but does not reflect its detail. Each individual field is quite complex.

Money, technology, creativity and psychology are the legs carrying media and psychology into the future. Socio-psychomedia effects are both global and individual. The future is about a constant stream of content and communication, behavior, and change. Much of what the public sees, is process. It is difficult to see the forest while standing amidst the trees.

Professional psychologists, teachers, developers, artists and practitioners in many fields are only now becoming aware of the importance of media psychology in the context of the future. It is in this context and as input for the Media Psychology Division (46) of the American Psychological Association that the task force on new technologies urged the conduct of this study. This is a seminal study and establishes a baseline for new tasks, career directions, programs, and opportunities for our growing telecommunications world.

This study, Media Psychology and New Technologies, provides a basis and framework on which media, Psychology, and telecommunications programs and services may be categorized. It represents a foundation for identifying areas requiring special skills and research. It is fundamental in helping to develop the emerging epistemology framing the nature of media communications.

We hope that our analysis will be useful in establishing and memorializing an agenda for our future in the new millennia.

MEDIA PSYCHOLOGY AND NEW TECHNOLOGIES

Dr. Bernard J. Luskin and Dr. Lilli Friedland

INTRODUCTION

MEDIA PSYCHOLOGY TODAY: A DESCRIPTION

Broadly defined, media psychology encompasses the use of media in activities, events, theories and practices regarding the effects and behaviors stimulated by media elements. These include pictures, sound, graphics and content and their effects on the senses and intelligences. More specific individual definitions may be refined when one examines the psychology of constructing or accessing programs or services on an individual or societal level, using attention, behavior, physical, intellectual and cultural change as measures. In addition, media psychology permeates many fields. More and more research is now being stimulated by commercial, entertainment, educational, governmental, social, health and political interests. Understanding theories and principles of media psychology is also becoming recognized as an area of growing importance.

Media psychology includes all aspects related to the nexus of media and behavior in education, entertainment, government, commerce and health. It reflects the effects that result from exploiting media and telecommunication advances in strategies, programming, and services.

Like health and medicine, sports, government, business, entertainment, and education, there are many specialties within media psychology yet to be defined.

This description provides a taproot definition from which roots, trunk, and branches may emerge.

APA STUDY PROCEDURES

PURPOSE OF STUDY

The American Psychological Association's Media Psychology Division #46 has completed a year-long study, co-directed by Dr. Bernard J. Luskin and Dr. Lilli Friedland. The purposes of the study are to:

- develop broad and up-to-date definitions and descriptions of relationships between media and psychology;
- identify and describe emerging fields which require the participation of professional psychologists with respect to areas of work
- identify and describe fields in which a significant understanding of professional psychology is important in order to function successfully in that field
- identify and describe fields in which understanding of media psychology is important for individuals who are not professional psychologists, but who need to have significant depths of understanding in the creation of successful products, services and activities

In summary, and as stated earlier, the object of the study is to examine and sharpen the focus on various emerging fields in Media Psychology and to establish a baseline for developing an epistemology, a theory that investigates the origin, nature and limits of the body of knowledge that comprises Media Psychology.

AREAS OF STUDY

Eleven areas of media-related work requiring a substantial understanding of psychology were chosen for investigation. The eleven items are:

1. Professional psychologists working in broadcast, cable, print or various wired or wireless electronic media as program hosts, regular expert guests, writers of books, articles, screenplays or shows.
2. Professional psychologists consulting directly with media personnel in any of the following areas:

- program content
- strategies for enabling creativity and/or motivation such as in relieving performance stage-fright or removing writer's block
- general stress management
- "on-the-air" crisis intervention.

3. Psychologists and other professionals involved in identifying, examining, developing, applying and improving the media by:

- conducting research on artificial intelligence and other branches of cognitive science
- studying specific intelligence and/or multi-sensory stimulation
- studying improved techniques in communication
- researching improved learning performance in both real and virtual environments.

4. Specialists, including psychologists, working on and with the development, programming and servicing for the new technologies to make them more effective and more friendly. This includes individuals interested in human factors involving improvement of the following:

- man-machine interface design and navigation
- ergonomic enhancement of appliances (hardware)
- programs to facilitate learning, including personal development
- techniques to motivate the user
- methods of bringing more enjoyment to the user through enhanced self-actualization or entertainment.

5. Psychologists who study the use of new technologies to enhance the practice of clinical psychology. This work includes, but is not limited to, diagnostics, assessment, treatment, peer review and supervision in a variety of clinical settings.
6. Psychologists and other professionals working with:

- learning, information and education resources in classrooms
- corporate training,
- applied areas such as industrial-organizational psychology including: testing, situational learning, training,, performance monitoring, consumer feedback focus group testing, evaluation, motivation and learning, and
- integration of theories of involvement and participation.

7. Individuals responsible for developing media principles, standards and guidelines based upon psychological research and individuals in various fields who research the effects of different types of program content on viewers or consumers. Examples include researching the effects of:

- violence, sex and caring behaviors
- characters of different genders, ages, disabilities and ethnic affiliations
- changing demographic characteristics.

8. Social psychologists and other professionals who work in commercial fields in the development of various strategies, such as product or company positioning and marketing. Examples include such tasks as:

- evaluating brand-name recognition
- product positioning
- consumer preference
- advertising strategies, involving various techniques such as subliminal influence, manipulation, creativity, sensitization, persuasion, and attention

9. Professionals working on the study of sociological and psychological media effects such as: intra- and intercultural dissonance, political strategies, globalization, mass communication strategies, multiple social issues, emerging global economies, and habitation in a shrinking world.
10. Psychologists and other professionals using the media in developing concepts and products for education, transportation, living environment, and careers for challenged populations. Examples of such populations include the traumatically hand- injured, blind, deaf, physically impaired, etc.
11. Psychologists using the media when working with deviant or criminal populations, examples of which include:

- hostage management and negotiation
- detecting terrorism

- understanding pathological behaviors
- developing safety and security procedures
- conducting forensic evaluation of significant incidents.

To Facilitate description and definition of specialty fields, short topical statements have been developed which synthesize each of the eleven areas under study.
1. Writing or being an expert guest in various media
2. Consulting with media personnel
3. Researching ways to improve the media
4. Making new technologies more effective and user friendly
5. Using new technology to enhance clinical psychology
6. Working in education or training
7. Developing media standards based on psychological research
8. Working in commercial fields using consumer psychology
9. Studying sociological and psychological media effects
10. Developing media-based programs for challenged populations
11. Using the media to work with deviant or criminal populations.

METHODOLOGY

The study employs Delphi methodology, a well-established technique of gathering and assessing opinions from a panel of knowledgeable experts. First defined in an article by Helmer and Rescher (1959), the Delphi technique, calls for the judgment of several experts. The Delphi methodology makes effective use of group information and can be used when there is no accepted theoretical body of knowledge to point to a single method or alternative (Helmer, O (1967) *The Use of of the Delphi technique in problems of educational innovations*. Santa Monica, CA: Rand Corporation). The Delphi technique has several advantages over other types of group decision making because it includes selection of highly knowledgeable experts, the lack of coercion, refinement and synthesis of views and the ability to use statistical procedures on the gathered information (Dalkey, N. (1972) *Studies in the quality of life*. Lexington, MA: Lexington Books). It also enables discourse that might otherwise be logistically difficult or impossible.
Dr. Luskin has special training and expertise with regard to the Delphi technique. He worked on a major study at the Rand Corporation from 1968-1970 and with Helmer and Dalkey in helping to perfect the Delphi methodology. Dr. Luskin's doctoral dissertation employed Delphi methodology supervised at the Rand Corporation, and data from that study were included in the Carnegie Commission study. The Rand study forecasted the future uses of the computer.
Approximately two hundred comprehensive questionnaires (See Appendix) were mailed to three panels of experts composed of renowned educators, industry representatives and professional psychologists. Each participant was selected for specific expertise. Participants were asked to agree or disagree with the validity of eleven statements describing emerging areas of work with the media that required a substantial understanding of psychology. Then each was asked to express the level of confidence each felt about his or her response.
Round one of the study identified fifty possible fields. These were examined and reduced to the top eleven possibilities which were given to the three jury panels. In addition to marking responses, jury members were also given an opportunity to make personal comments about each statement. They were then asked to make comments and/or recommendations about the study in general so that following a review of the responses, individuals making special and unusual comments could be interviewed to determine if they contributed new information for the study.
For data analysis, the percentage of respondents who agreed and who disagreed with each particular item and the degree of confidence they had in their responses was also numerically calculated for each item. The respondents' comments were then reviewed and studied thoroughly. Significant and/or unique observations of the respondents initiated serious research and study of literature from the Internet, from print and from various other sources. In addition, as noted earlier, dialogues with various experts in their fields were held in order to follow up and to continue investigation. The nature of the respondents' statements and their suggestions were

examined by the investigators of the study. As relevant, they were then assimilated into a digest of information and recommendations.
In summary, there were three rounds of data collection and analysis including (1) item selection, (2) instrument completion and data analysis, (3) comment reviews and interviews. The data gathered from this process, complete with a review of the literature, were synthesized to become the results of the study.

ANALYSIS OF THE DATA

Each study question, including a description of the findings, is presented in the pages which follow.

EMERGING AREAS OF WORK REQUIRING A SUBSTANTIAL UNDERSTANDING OF PSYCHOLOGY

WRITING, HOSTING OR BEING EXPERT GUESTS IN VARIOUS MEDIA (Question 1)

RESULT
Ninety-six percent of the respondents to this study agreed, with a very high (3.83) degree of confidence, that a substantial understanding of psychology is essential for professional psychologists working in broadcast, cable, print or various wired or wireless electronic media as program hosts, regular expert guests, writers of books, articles, screenplays or shows.
DISCUSSION
This section, which deals with the more visible "celebrity' psychologists, received a very high confidence rating in the study as an emerging areas of work requiring a substantial understanding of psychology. Although the role of psychology in the media is vast and multifaceted, many people tend to see only the more visible media psychologists - those in broadcast, cable, print or various wired or wireless electronic media who serve as program hosts,, expert guests or writers. Some members of our expert panels indicated concerns that much of what is heard and what sells is "pop psychology" and may have little basis or merit with regard to a true understanding of psychology. Several respondents to the study were concerned that some "on-the-air" psychologists may not have a true grasp of the core competencies and/or the ethics of giving advice to individuals on-the-air, considering that the information provided by the caller is usually general and sketchy in nature. One respondent put it rather bluntly when he said that there are a lot of pretenders in the media. On the other hand, many of the media psychologists are quite well-trained and their advice is considered valuable, authentic, and useful by large numbers of individuals. There is some concern, plus high recognition that this field is growing and needs attention for specific reasons.
With the new media, the problem and opportunity is further expanding. There are sites on the Internet, for example, that offer possible answers to questions or problems. In some cases, there is no method of verification as to the credentials of the people offering these services, and there is no control over the potential damages that might be perpetrated by a combination of both real and qualified as well as "pseudo-psychologists".
There are many authentic services now being provided by legitimate practitioners, including university and medical center web sites. There are also a variety of questionable uses.
This aspect of media psychology is a relatively new area. Because of the burgeoning technology networks and increased options, a need for significant research is clearly indicated. In addition, there are a number of groups urging the study, development and enforcement of guidelines and standards, including the development of ethical guidelines.
RECOMMENDATIONS
The opinions of the experts and the suggestions proposed as a result of this research have resulted in the following conclusions and recommendations:

- Caution must be exercised before allowing media professionals to offer 'quick fix" psychological analysis and advice for serious problems.
- Psychologists and others who use the media to give professional advice to members of their audiences should be properly licensed.

- Psychology departments should provide courses in media psychology as part of their curriculum.
- Departments of film, broadcast, theatre, writing etc. need to include media psychology courses as part of their curriculum.
- Guidelines and standards and perhaps even licensing requirements should be studied for those who use the media to offer professional psychological advice.

CONSULTING WITH MEDIA PERSONNEL (Question 2)

RESULT

Ninety-four percent of the respondents to this study agreed, with a very high (3.46) degree of confidence, that a substantial understanding of psychology is essential for professional psychologists consulting directly with media personnel in any of the following areas:

- program content
- strategies for enabling creativity and/or motivation such as in relieving performance stage-fright or removing writer's block
- general stress management
- "on-the-air" crisis intervention

DISCUSSION

The need for psychologists to consult with media personnel was judged extremely essential. Psychologists have already been involved behind the scenes for many years as consultants on content and character development and in assisting media personnel who experience stage fright, writer's block or other elements of job stress.

Most respondents believed that people with an expertise in psychology particularly need to work with the media in dealing with emotional crisis issues that are covered or, in some cases, caused by the media.

One example of program content that resulted in a tragic conclusion aired on the Jenny Jones talk show. The incident in question involved a guest, a young man who was confronted by a secret admirer on national television. The admirer turned out to be another man, and the show's guest ultimately turned out to be a murderer. Because of the all-too-public exposure of what he viewed as his humiliation, he wound up killing his secret admirer. Had a psychologist been consulted in the planning of the program content and/or screening the participants of that show, a different result may have been achieved.

The recent O.J. Simpson criminal trial in Los Angeles is another case in point. A media event, unlike any that had come before it, the trial was covered by the traditional as well as the new media. Psychologists were everywhere, studying the jury, studying the witnesses, the defendant, etc. Their role became most important, however, upon the broadcast of the verdict.

Given the history of the L.A. riots that followed the Rodney King verdict, it was extremely important for the media to handle their coverage of the Simpson verdict with extreme care so as not to ignite another similar incident. At times like these, the media must be extremely cautious, and it is essential for them to consult with professional psychologists.

On the whole, the respondents were strongly in support of broad dissemination of psychological expertise on emerging and crisis issues in order to prevent disaster and safeguard affected communities. Most also found it advantageous for professional psychologists to consult with the media in establishing program content, motivating creative personnel, and handling general stress management. One respondent, however, strongly felt that if psychologists were consulted in program content, the risk might be that there would be more focus on charisma than on substance.

We have all seen the "heat of the media" in these and other examples. Raising the question here provides a framework for further discussion.

RECOMMENDATIONS:

From various respondents and from peripheral research, the following recommendations were presented:

- A public service resource group should be established to consult with media about various issues.
- The Media Psychology Division (46) should form a sub-committee to monitor activities.
- More paraprofessionals or social (psychiatric and counseling) professions should be included as consultants to the media.
- Consulting with professional psychologists is necessary to give the media (especially the new media) greater validity and credibility.
- Further development of this field should be on-going as an agenda.

RESEARCHING WAYS TO IMPROVE THE MEDIA (Question 3)

RESULT

Ninety percent of the respondents to this study agreed, with a very high (3.81) degree of confidence, that a substantial understanding of psychology is essential for psychologists and other professionals involved in identifying, examining, developing, applying and improving the media by the following means:

- conducting research on artificial intelligence and other branches of cognitive science
- studying specific intelligence and/or multi-sensory stimulation
- studying improved techniques in communication, and researching improved learning performance in both real and virtual environments

DISCUSSION

The media revolution has led educators as well as developers and producers of educational media to more thoroughly address the cognitive process and its underlying learning theories. Media are our cultural apparatus for selecting, gathering, storing and conveying our accumulated knowledge in representational forms within a symbol system (Salomon, G. (1979). *Interaction of media, cognition, and* learning. San Francisco: Jossey- Bass). Therefore, those who are involved in the media must cultivate an awareness and acquire substantial knowledge of psychology, especially the cognitive sciences. The theories and techniques affecting the way people learn, the study of artificial intelligence, specific intelligence, multi-sensory stimulation and improved communication techniques, are all in need of further systematic investigation. Advances have come very quickly in recent years and there is much research and synthesis now required. Respondents to the APA Study added a variety of specific comments indicating strong agreement as to the need for an understanding of psychology in the above fields. The head of an educational technology society suggested particular areas, such as interactive media in instruction delivery and assessment, as areas that have a special need for expert study. He noted that progress for developers, designers, writers and others working in media have only just begun anew because of the digital revolution.

Though the head of a technology think-tank believed there would appear to be ample opportunities for media-improvement directly through practitioners' discovering what works for them, it seems that approaching an area as important as psychology and mass media by trial and error is neither time efficient nor systematized enough to produce quantitative results which then can be shared with others.

The president of an electronic college has indicated that many of these emerging media/learning fields, like artificial intelligence for example, will require a very high end use of psychological skills. The Department of Defense, for example, already has a large employment history of psychologists in these areas. The vision is for organized efforts that can be used for consulting in the research and study of artificial and specific intelligences, multi-sensory stimulation, and various learning and communication techniques. The number of sub-category jobs in this area of consultation will be large. Most such jobs haven't even been conceived yet.

There are many new fields emerging, and the existing fields are changing both for professionals and for practitioners in all areas of media.

RECOMMENDATIONS

The respondents' suggestions along with other research indicate the need for future steps which include:

- Understanding the emergence and implications of virtual environments, including the need for understanding their impact in entertainment, education, training, therapy, assessment; etc.
- Developing new theories that can explain the new technological phenomena.
- Establishing key concepts and strategies needed in order to function in particular domains.
- Breaking away from of the limitations of rule-based systems and enveloping the connectionist revolution stemming from recent developments in artificial intelligence (see Bereiter, C. (1991, April). Implications of connectionism for thinking about rules. *Educational Researcher*, 10-16.
- Encouraging generative learning by anchoring or situating instruction in meaningful problem-solving context (see Cognition and Technology at Vanderbuilt. (1992). The Jasper experiment: An exploration of issues in learning and instructional design. *Educational Technology Research and Development*, 40(1), 65-80.
- Comparing instructional theories and models according to:
    - the depth and comprehensiveness with which they identify and analyze learning requirements and conditions
    - their ability to identify types of learning style and difficulties if any
    - their ability to quantify levels of attention
    - their establishment of criteria for matching condition severity with attention levels
    - their capacity to predict and produce achievement (see Reigeluth, C.M. (Ed.) (1983) Instructional-design theories and models: An o overview of their current status. Hillside, NJ:Erlbaum)

A former APA president offered an interesting suggestion; his idea was to set up a variation of the Good Housekeeping Seal of Approval for the learning material presented. This seal might be offered for a fee and would be given upon the examination of performance data. It could serve an additional purpose of advertising the APA to the public. Most important, it would help to assure people they are getting what they pay for and would warn of possible side effects of certain products.

MAKING NEW TECHNOLOGIES MORE EFFECTIVE AND USER FRIENDLY (Question 4)

RESULT

Ninety percent of the respondents, with a high (3.76) degree of confidence, agree that specialists, including psychologists, working on and with the development, programming and servicing for the new technologies to make them more effective and more friendly, require a substantial understanding of psychology. This group of specialists includes individuals interested in human factors involving the improvement of the following:

- man machine interface design and navigation
- ergonomic enhancement of appliances
- programs to facilitate learning including personal development
- techniques to motivate the user
- methods of bringing more enjoyment to the user through self-actualization for entertainment

DISCUSSION

There is a significant body of knowledge available which can be evolved into a knowledge area which will improve the design and usability of human-media systems. There is now a need for a more cohesive theory which embraces a knowledge of psychology in the further development of such programs.

One duo working on the study of interface design is Vicente and Rasmussen (RASMUSSEN, J. (I 986). Information Processing and Human-Machine Interaction: An Approach to Cognitive Engineering New York-North-HollancL; VICENTE, K 1. & RASMUSSEN, 1. (1992). Ecological interface design: theoretical foundations. IEEE Transactions on Systems, Man, and Cybernetics, SMC-22, 589-6: VICENTE, K J. & RASMUSSEN, J. (1991). The ecology of human-machine systems II: mediating "direct perception" in complex work domains. Ecological Psychology, 2, 7-249). They have proposed Ecological Interface Design (FID), a theoretical framework for designing interfaces for complex work environments.

Their KID framework takes its name from a school of psychology known as ecological psychology, originally developed by two well known psychologists, Egon Brunswik and James J. Gibson, who shared a number of metatheoretical commitments, including: adopting the human-environment system as the fundamental unit of analysis; examining the constraints that the environment imposes on behavior; conducting experiments under representative conditions; and paying attention to the powerful, but often ignored, capabilities of perception and action. (This digest was prepared for the ERIC Clearinghouse on Information Resources by Gary Marchionini, Associate Professor, College of Library and Information Services, University of Maryland at College Park. This digest was prepared with funding from the Office of Educational Research and Improvement, US Department of Education)

HCI (Human Computer Interface) research is being done by many other groups. In order to determine the effects of physical, cognitive, and affective characteristics on the interactions between users and computers, HCI researchers develop models of human activity and use these models in designing new interfaces.

The INFORMATION PROCESSING MODEL OF COGNITION prevalent in cognitive psychology provides a foundation for these interface designs. This model establishes that: (1) humans have a working memory limited to five to seven "chunks" of information; (2) humans must have their attention refreshed frequently; and (3) RECALLING information requires more cognitive effort than RECOGNIZING information.

Perhaps the most basic design principle is that the interface should be designed around the needs of the user rather than added on after a system has already been completed, thus serving the constraints imposed by the system. This principle is sometimes expressed by the admonition to "know your user!" Psychologists studying different learning and motivation styles of individuals would be particularly useful in this area.

Another important design feature must be considered in order to insure that the physical components of the interface are ergonomically designed, so as to take into account the comfort and health of the user as well as his or her special needs and characteristics. These concerns demand a thorough knowledge of psychology, and should provide professional opportunities for more extensive study.

Perhaps even more than the media, hardware manufacturers are likely to seek the services of designers for interface design, man- machine navigation and ergonomic enhancement of appliances. Content developers and producers, on the other hand, are probably more concerned with programs to facilitate learning, personal development/motivation techniques, and greater enjoyment and involvement of entertainment choices. Whether employed by the hardware manufacturers, by content developers and producers or by other elements of the media, a knowledge of psychology will be essential to program designers and developers.

Luskin has written extensively in this area and has urged broader understanding of "the three S model" of programming essence, i.e., semantics, semiotics and synesthetics (Luskin, Bernard (February 1996) Toward an Understanding of Media Psychology, T.H.E. Joumal, Vol. 23, Number 7).

What is clear is that this aspect of media psychology is emerging and must be included in the work of practitioners in media industries and in the programs of colleges, universities and training organizations.

RECOMMENDATION

- This study and other research, indicates a need for:
- Collaboration among psychologists in all these areas

- Training by psychologists of individuals working in these fields
- Study of psychology by individuals working in these fields
- New methodologies to harness and direct multi-sensored input
- Re-framing of traditional training and career options
- Further research in all aspects of human motivation and media
- Greater understanding of the need to understand media and behavior and psychology by all professionals working in telecommunications, software and services.

USING NEW TECHNOLOGY TO ENHANCE CLINICAL PRACTICE (Question 5)

RESULT

Ninety-four percent of the respondents to this study agreed, with a very high (3.92) degree of confidence, that a substantial understanding of psychology is essential for psychologists who study the use of new technologies to enhance the practice of clinical psychology. This work includes, but is not limited to, diagnostics, assessment,, treatment, peer review and supervision in a variety of clinical settings.

DISCUSSION

The new technologies are being applied to all aspects of clinical training and practice. These applications fall in the areas of, but are not limited to, diagnostics, assessment, treatment, peer review and supervision in a variety of clinical settings. The motivation behind such applications is to provide adequate supervision and service over vast geographic areas where few psychologists live, to establish quick response in times of emergencies, and to enable professionals to receive feedback and advisement. In this era of increasing mental health services to more people, the new technologies offer expanded opportunities for long-distance consultation, supervision, and peer discussion. Some psychologist respondents, however, expressed concern that diagnoses might be done "on air" and might confuse the public with "quick fixes".

We are already experiencing the new area of "telemedicine" where consumers and professionals can share information. Consumers can identify their symptoms and look up information regarding possible illnesses or diagnoses. This same technique of self-diagnosis can be facilitated by getting psychological information from mental health professionals. At this time there are already professional psychologists who are active in chat rooms, giving out general information to questions asked, very much like professionals on call-in radio programs. This information is not specific to the individual, but is usually handled in a generalized way. Most professionals agree that this technique is educational and informative, rather than therapeutic.

Some expert respondents spoke of the need to insure that qualified professionals be part of all these new endeavors in order to add to the credibility and acceptance of these new tools. Ethical considerations, as well as legal and licensing matters, which differ among states and countries, all need to be addressed by psychologists. One psychologist expressed his opinion that traditional clinical psychology is still distrustful of media.

Other respondents suggested the use of virtual reality and the Internet to enhance psychological training and treatment. The opportunity to train students uniformly by using identical complicated cases and the ability to offer those students choices of appropriate alternative treatments can be greatly facilitated with these new modalities. A graduate school board member stated, "Internet and other forms of communications are useful supplements to professional journals, especially as regards to diagnosis and treatment of puzzling or challenging cases." The application of the new technologies can also be useful in expediting the time frames within which research findings can be made available to colleagues world-wide.

Medical media psychology for treatment patient education, training and education of health and allied health professionals, computer or media assisted therapy, diagnostics and assessment, and effecting public understanding of health information in developed and underdeveloped countries will be central to the impact of media on society.

Direct impact on clinical practice, clinical psychology, including institutional, educational and resource areas is a rapidly growing dimension requiring specific attention.

RECOMMENDATIONS

From the expert opinions and from additional research, the following future steps have been suggested to enhance clinical psychology by using the media:

- Exploring further research;
- Studying the inclusion of audio-visual elements
- Forming special interest groups
- Exploring the full potential of sharing information via the new media, especially the Internet
- Facilitating international communication
- Establishing an organization to oversee and supervise the practice of clinical psychology using new technologies
- Reframing traditional training and career options in psychology

WORKING IN EDUCATION OR TRAINING (Question 6)

RESULT

Ninety-two per cent of the respondents to this study agreed, with a very high (3.92) degree of confidence, that a substantial understanding of psychology is essential for psychologists and other professionals working with: learning, information and education resources in classrooms, corporate training, applied areas such as industrial-organizational psychology including: testing, situational learning, training, performance monitoring, consumer feedback, focus group testing, evaluation, motivation and learning, and integration of theories of involvement and participation.

DISCUSSION

Psychologists have applied the new media to educational and training services, including personnel selection, training and monitoring, and including techniques to involve consumer participation and feedback The close relationship between education and psychology has been strengthened by the knowledge that learning is enhanced through experience and with multi-sensory modalities.

The respondents of the study were not unified in seeing this area of education and training as an area of media psychology. Even psychologists suggested that industrial and organizational psychologists or educational psychologists using the new media should not be included as media psychologists. Other psychologists felt that it would be appropriate to include these groups under the heading of media psychologists. Some thought that hardware manufacturers rather than the media would be more likely to seek such psychological services.

The background of the respondents seemed to be pivotal in their responses to this question. The non-psychologist respondents tended not to see psychologists involved in education and corporate training or consumer involvement. As an example, the head of a marketing and research firm suggested that psychologists would only be used occasionally as consultants and that such assignments are so rare that basically this area is irrelevant for psychologists. The head of a technology think tank suggested that little media psychology expertise would be called for in education and training in the classroom or corporate training environments. On the other hand, an executive from a prominent executive search firm suggested that this area shows lots of opportunities with well-trained professionals. For whatever reasons, there is clearly a dialogue stimulated by the review of this field.

The psychologists, for the most part; saw these areas as rich with opportunities. The head of an electronic college suggested that there is an explosion of demand in this field and she recommended that learning theory and the role of technology in learning be encouraged in psychology graduate schools. She also encouraged curriculum updating to help students understand the role of technology in learning.

Significant understanding of psychology is also indicated in facilitating the involvement of consumers through focus groups, in researching motivational factors, and in studying user or content factors.

There is clearly a new educational psychology emerging from developments in neuroscience, medicine, personality understanding, systems theory and human development.

Schools of education need to upgrade their education training programs to include media psychology in teacher training. New efforts in staff development on elementary, secondary, and higher education campuses is on the important short term agenda.

RECOMMENDATIONS
Given the responses from the experts and additional interviews and research the following future steps were formulated:

- Increase attention to media psychology in teacher education programs
- Increase media psychology discussions on all campuses
- Extract new knowledge from neuroscience, medicine, human development, cognitive psychology and systems theory related to media and relate that new knowledge to psychology
- Increase both professional and public understanding of media psychology
- Encourage more learning theory in psychology graduate schools
- Corporations should be approached and educated as to the need for media psychologists in formulating their training and marketing programs

DEVELOPING MEDIA STANDARDS (Question 7)
RESULT
Eighty-six per cent of the respondents to this study agreed, with a very high (3.72) degree of confidence, that a substantial understanding of psychology is essential for psychologists and other professionals working with individuals responsible for developing media principles, standards and guidelines based upon psychological research and individuals in various fields who research the effects of different types of program content on viewers or consumers. Examples include researching the effects of

- violence, sex and caring behaviors
- characters of different genders, ages, disabilities and ethnic affiliations
- changing demographic characteristics

DISCUSSION
Media standards and guidelines usually rely on research conducted by psychologists and communication studies' researchers to recommend their models. This research finds differential effects upon the viewer depending upon the content characteristics, such as violence, sex, caring behaviors, and demographic characteristics. Most respondents who were psychologists thought that this was an opening major area for research. A lay member of an educational institution cautioned that psychologist involvement "could get too political, like big brother". However, the profession should continue to research and speak up on public policy issues of this sort, but not be in controlling positions necessarily. Psychologists should be part of the dialogue. A media company executive suggests that help with issues of violence and depicting societal issues in TV would be great. A sobering comment was made by the head of a technology think tank when he stated, "I am pretty sure some psychologists and their studies will have little effect on what is available, nor does this bother me." Great numbers of expert participants disagreed with this position.
Most of the psychologists were in favor of media psychologists involvement in this field of guidelines and standards and suggested expansion of the areas of research to include the homeless, minorities, gender orientation, severely mentally ill and other disenfranchised groups. Mention was made that this would hopefully prevent caricatures and stereotypes. In general, most respondents favored psychologists involved in the research upon which standards and guidelines were based.
A psychologist suggested that developing media standards is long overdue. For example, the protests over the TV industry's new rating scale indicate the TV industry's indifference to much of the public's concerns about violence,, sex, and stereotypes. Psychological information should be used in content considerations regarding the representations of such important matters. A past-president of the APA felt that this area is opening a major new field of research. Another psychologist stretched these areas of concern to include attitudes regarding gender orientation,

the homeless, the severely mentally ill, and various other disenfranchised groups. The president of an interactive media company suggested that though this is a difficult area,, it is one of increasing importance as new channels of interactive programming develop. A media company executive suggested TV should include helpful information regarding issues of violence and segments depicting societal issues. The head of a marketing and research firm suggested that psychologists will have particular relevance in the development of standards with policy-makers and the government. The head of a technology think tank stated, "I am pretty sure some psychologists and their studies will have little effect on what is available, nor does this bother me." A governmental official moderately disagreed that media psychologists be involved in this area. A psychologist who works in the governmental arena also disagreed with the appropriateness of psychologists being involved in this area. A board member of an educational institution suggested that the intrusion of standards "Could get too P.C./Big Brother. However, the profession should continue to research and speak up on public policy issues of this sort, but not be in controlling positions, necessarily."
Self interest and bias was reflected through much of the opinions analyzed.
RECOMMENDATIONS
The expert opinions and additional research indicated a need for:

- A continuing review of new rating standards
- More research on the sensitizing and desensitizing effects of mass media
- Increased understanding of the socio-psychomedia effects

WORKING IN COMMERCIAL FIELDS (Question 8)
RESULT
Seventy-six and one half percent of the respondents to this study agreed, with a high degree of confidence (3.58), that a substantial understanding of psychology is essential for social psychologists and other professionals who work in commercial fields in the development of various strategies, such as product or company positioning and marketing.
Examples included in this field are:

- evaluating brand-name recognition
- product positioning
- consumer preference
- advertising strategies, involving various techniques such as subliminal influence, manipulation, creativity, sensitization, persuasion, and attention

DISCUSSION
Media has been an increasing force in advertising, sales and marketing worldwide. The battle for attention rages daily. Advertisers pay the media for attention and the consumers pay with attention. Attention is one measure of the results of both efforts to gain mind share and to manipulate, and of the relationship of economics, goods, services and behavior.
Advertising, sales and marketing executives have produced and continue to produce persuasive methods for motivating people to buy their products. With varying degrees of success, they pursue responding to or altering attitudes and behavior of individuals. Interviews have revealed the realization that, with the increasing influence of technology-based vehicles like home shopping networks, infomercials and the Internet, satellites, and emerging presentation strategies including intelligent agents, morphing, manipulation of color and sound, and new knowledge about why man behaves, old formulas for success are being reconsidered and new strategies are emerging in a rapidly globalizing market.
The Internet is an example of a recent technology which has begun to change mass communications in a very short period of time. One new strategy is "personal persuasion". Targeting techniques, like direct mail advertising, have become increasingly more sophisticated. Modern technology now helps sellers to track and log every detail of their relationship with each customer, putting them into a better position for offering mass-customized products and

personalized services. One shift that is occurring is the approach of finding products for customers rather than finding customers for products (Weinberger, David (1996) One-on-One with One-to-One's Martha Rogers. Wired 4.03)

Gathering, storing, analyzing and selling data is big business now. Strong feelings emerged in the research regarding the increasing use of psychological techniques in marketing, sales and advertising by professionals who feel that frequently attention is bought with unethical manipulation including hidden persuaders, subliminal messages etc.

Several respondents to the APA survey reflect a significant mistrust and fear of using an understanding of psychology in the commercial fields of marketing and advertising. Anxiety, for example, was clearly reflected by one psychologist who stated that an understanding of psychology should not be encouraged in this field. Another psychologist stated, that while he was certain that psychological principles are involved in each of the examples cited, he could foresee important ethical issues developing if professional psychologists are involved in things like subliminal manipulation of customers to increase the desirability of cigarettes. A professor prominent in the field of educational studies felt that expert psychological advice in marketing can readily contribute negatively to society (e.g., promoting smoking, alcohol, etc.).

To summarize the general sentiments, it was noted that commercial fields of media are also in need of ethicists. The work, however, of social psychologists in the marketing and advertising areas is important and helpful to the companies who employ them.

Looking at the question from a different angle, a board member of a noted graduate school commented that corporate clients don't always weigh "objective" data well, so, whereas some input is helpful, it is not an area to spend time on. He continued to state that predictive analysis is generally weak for consumer behavior. If it weren't, its use would already be ubiquitous.

Other respondents felt that professional psychological skills tend to be minimized in business. The president emeritus of a prestigious graduate school felt that professional psychological training clearly helps, but some able practitioners have learned "on the job". The president of a major psychological organization said, "There are lots of marketing folks who are not trained in psych but get it." So, the question emerges both for companies and educational institutions, and the opportunity for progress presents itself.

Respondents also seemed to feel that there is both good and bad in the potential of developing expertise in behavior modification for use in the world of commerce. While there are clear ethical dilemmas to be continually debated, there is strong professional concern about both abuse and excess in social uses of behavior management. There is also abundant evidence of dramatic growth and change in these fields and a pervasive saturation of all we know and learn about how and why we behave. The nature of the interviews revealed that the intensity of the concerns will increase and that the debate will continue apace. This is an important aspect of media psychology.

RECOMMENDATIONS

The results of the study reveal a need for the following steps:

- Studying applications for political campaigns and mass communications
- Studying the effects of marketing and advertising on children and adults in all media related areas
- Continuing examination of intercultural dissonance, global applications, differences between and within cultures to our 21' century world
- Continuing study of various commercial fields using the principles of psychology
- Applying principles in commercial, political and social areas
- Extending research on both the ethics and effects related to media and society

STUDYING SOCIOLOGICAL AND PSYCHOLOGICAL MEDIA EFFECTS (Question 9)

RESULT

Eighty-nine percent of the respondents to this study agreed, with a high degree of confidence (3.49), that a substantial understanding of psychology is essential for professionals working on the study of sociological and psychological media effects such as:

- intra-and intercultural dissonance
- political strategies
- globalization
- mass communication strategies
- multiple social issues
- emerging global economies
- habitation in a shrinking world

DISCUSSION

In the wake of the Information Revolution, the effects of mass media crisscross with lightening speed through the realms of nearly all global cultures, affecting their economics, politics, communications, and educational systems. The synergy that exists between mass media and the individuals and societies that they serve has indeed caused the world to shrink, and a socio-psychomedia effect" has resulted. (Social-psychomedia effect - This new term is coined to establish that media effects both society and the individual simultaneously and separately and, as with a "gestalt", has its identifiable and measurable effects.) Occasionally it resounds with a certain amount of intra- and intercultural dissonance, since it connects vastly divergent people.

Various respondents felt that the socio-psychomedia effect is a very important area of study that has major environmental impact. A noted professional psychologist stated that, "We need all the help we can get in preparing the consumer, voter and the population as a whole in learning how to deal [with the sociological and psychological areas of media] and prepare for the major change economically and politically."

The director of an electronic college remarked that she found, "Particularly in the public service sector... a great need for thoughtful reflection and projection because of the profound changes in human interaction which communicative technology has and will create. Issues of haves and have-nots will only get worse as well. Questions of new abilities to enfranchise citizens, the disappearance of representative government, the application of media for better distribution of economic development - all of these are intriguing socio-political dilemma opportunities."

In response to the use of psychologists working on socio- psychomedia effects, a psychologist replied, "We have a responsibility here but psychologists are so socially biased I have reservations. Many try to push their own social value systems in the name of science [and] I become skeptical. We need to develop our own ethical standards more precisely before we try much of this."

The responses generally indicated the need to not lose sight of the enormous ethical considerations caused by the extensive nature of the media explosion. While there are clearly divergent views, anxious positions and concern about psychologists working in commercial fields, the socio-psychomedia effect will create new and interesting areas for professional study and, to quote a noted educator, "Could be very helpful for political and business entities, as well as [producing] just plain old better understanding of others by regular folk."

Mass media, society, globalization, the dramatic changes in the power of digital presentation - all make this an important field to develop.

RECOMMENDATIONS

Responses and additional research all indicate the need to:

- Include cross-cultural issues
- Coordinate the various fields and do more interdisciplinary research.
- Develop ethical standards under which to operate
- Review and revise occupational hierarchies to better understand the nature of media-related work.

DEVELOPING MATERIAL FOR CHALLENGED POPULATIONS (Question 10)

RESULT

Eighty-eight percent of the respondents to this study agreed, with a high degree of confidence (3.84), that a substantial understanding of psychology is essential for professional psychologists

and other professionals using the media in developing concepts and products for education, transportation, living environment, and careers for challenged populations. Examples of such populations include: traumatically head-injured, blind, deaf, physically challenged, those with attention deficit disorder, hyperactivity and various other conditions.

DISCUSSION

Those who are mentally, emotionally or physically challenged have an extraordinary amount to gain from the tools that modern technology can provide. Miraculous advances in all areas of the media, especially in the computer sector, have provided opportunities for the hearing impaired to speak, the visually impaired to read, the mentally limited/retarded to learn and the physically disabled to move.

In addition to the benefits provided by technical devices, challenged populations have also benefited from the changes in society's attitude. People have become more aware of the special needs of challenged populations; legislation has been enacted; ramps have been constructed; descending steps have been designed for public transportation; handicapped restrooms have been constructed and better marked; Braille has been added to signs and alongside elevator numbers; beepers have been added to stop lights, etc.

Psychologists have been deeply involved in influencing the change of human attitudes and in the development of media applications for the challenged in many areas of education, transportation, living environments and career development, but the surface has only been scratched and there is vast opportunity for further study and progress.

According to a past president of the APA, disabilities are and will be the biggest growth area for psychology in the next twenty years. Disability benefits have become the fourth largest entitlement program in the U.S., after Welfare, Medicare (health), and Medicaid. The number of (SSA) claimants nearly doubled between 1985 and 1995. Due to more extensive use of computers, carpal tunnel syndrome is now replacing back injuries as the number one disability claim.

A board member of a graduate school made a point of the fact that mass media does not necessarily need to be used for niche populations like the physically or mentally challenged. Niche media, however, can be helpful here. The new media, especially the Internet and CD-ROM's, are the perfect vehicles for supplying programs and information to various niches and special interest groups.

In a cursory search of the Internet, for example, one can access a twenty-eight page special report on resources for special education, a thirty-eight page handbook from the Office of Adaptive Educational Services, a twenty-one page list of disability resources, and volumes of various research that is presently being conducted in this area.

Career education directed towards challenged populations, for example, is a very important area for niche media. However, in addition to the challenged population, with today's dramatic shift in industry trends, with the downsizing, with the plant closures, there are many new populations who suffer because of unemployment or underemployment. More adults who once felt secure in their jobs are now finding themselves challenged by the need for retraining. To this melange, add the welfare recipients who will need training because of the new Welfare Reform Act. The special emotional problems faced by these underemployed or unemployed populations require further research and study by psychologists. In conjunction with educators and quality training program developers like Instructional Systems, Inc. (ISI), the work of psychologists should ultimately aid in the creation of optimal training programs for the niche media.

Almost magically the new media - video, computers, CD's, TV and the Internet - can transcend physical boundaries and bring remote classrooms into one's home. Information Technology (IT) has the potential to enhance all teaching and learning. First of all, remote education is cost effective. Very large amounts of information can be obtained at a low incremental cost. Second, it is convenient. Both students and faculty can communicate on an anytime anyplace basis. Third, and perhaps most important as it relates to challenged populations, IT has the capacity of accommodating individual differences in student goals, learning styles, abilities and disabilities.(Massy, William F. and Zemsky, Robert. Using Information Technology to Enhance Academic Productivity)

In addition to the training potential of remote instruction, classified sections and career centers on the Internet or on CD- ROM's can continue the job preparation and search processes directly

from the home. The 'socio-psychomedia effect' of these systems, however, still needs significant additional study as it continues to evolve.
RECOMMENDATIONS

- Consider the special needs of the victims of 'down-sizing" by major corporations and those whose skills are no longer required and have nowhere to go.
- Implement 1/0 psychological facilitating design of work chunks and tests to match aptitudes on-line.
- Consider the special needs of welfare recipients, especially welfare mothers, who are challenged by their need to work under the unique situation created by the Welfare Reform Act. Psychologists can assess the needs and skills of welfare mothers as well as design training programs using new technologies.
- Consider the special challenges faced by the ever-growing senior citizen population. Psychologists can help design programs using TV, phones and computers to connect seniors with one another and their families making special accommodations like using enlarged print on computer screens, amplification devices on telephones, etc.
- Consult with designers of mass transportation systems to help make all services more easily available to the physically challenged.
- Expand IT (Instructional Training) options.
- Expand research to find the most effective ways to sensitize the general population to accommodate the public environmental needs of the challenged in all areas.
- Give priority to programs which create a nexus between media and behavior in working with challenged populations.

WORKING WITH DEVIANT OR CRIMINAL POPULATIONS (Question 11)
RESULT
Eighty-four per cent of the respondents to this study agreed, with a very high (3.8) degree of confidence, that a substantial understanding of psychology is essential for psychologists and other professionals using the media when working with deviant or criminal populations, examples of which include:

- hostage management and negotiation
- detecting terrorism
- understanding pathological behaviors
- developing safety and security procedures
- conducting forensic evaluation of significant incidents

DISCUSSION
Psychologists often use the media when worldng with deviant or criminal populations in situations such as hostage management and negotiation, terrorism, developing safety and security procedures and even in conducting forensic evaluation of significant incidents. The confidence levels regarding this question were among the lowest in the study. This result might best be explained by a past-president of APA, who stated that she could not see how psychologists would use the media to do any of the tasks listed. Though many psychologists and non-psychologists did not see the interface between psychologists using the media and working with deviant populations, an executive in a marketing and research firm felt that the use of psychologists in this field was already fairly common.
A great deal of caution was expressed by the respondents. One psychologist cautioned that this is a highly specialized area, and he was concerned that using the media to work with the public in this area has a danger of "backfiring". He warned that many of the so-called "experts" in this field may lack the skills to use the media effectively. Another psychologist offered his concern that no "discipline is adequate for coping with some of these areas, but psychology clearly helps - particularly abnormal psychology". An educator, the head of a graduate school, suggests that

though it is natural for psychologists to be involved in these areas, areas like "detecting terrorism" cannot be overly simplified.
Using the media in working with deviant or criminal populations is a highly specialized field that requires very careful investigation. A past president of the APA suggested that the services listed are "fraught with psychological issues to be tackled". A board member of an educational institution suggested that psychologists working with deviant or criminal populations way be "useful for expanding general awareness and understanding among [the] populace. In case we're ever in the situation, [it] would be good to know what's best to do/not do."
Recent dramatic social incidents offer dramatic examples of areas where media and psychology are clearly in evidence, in reporting, understanding the incidents we all know about, and which affect our views.
With much introspection, the review of this field revealed great concern, recognition this is an area requiring great sophistication which must be included in the scope of media psychology development.
RECOMMENDATIONS

- From expert opinion gathered in this study and from outside research, the following recommendations were suggested:
- Establishment of specific educational curricula to service the special media needs created by criminal or deviant populations
- Development of psychological services/agencies to address these media needs
- Development of specialty programs to deal with these specialty issues
- Collaboration with other professionals
- Continuation of study in the following areas:
    - Hostage management
    - Security
    - Terrorism
    - Rules of Evidence
    - Forensic Media
    - Cults
    - Persuasion and Manipulation
    - Crime

ADDITIONAL COMMENTS AND RECOMMENDATIONS
There are a number of additional recommendations which go beyond the specific questions in this study but which warrant further study and which offer direction in adding new specialties. They could have been included with specific questions, but they point out specific directions and we thought it helpful to list them separately.

- A psychologist recommended that media psychologists become involved with urban planning.
- A director of a teacher's program suggested the need for additional study of distance learning and its effect on consumers. There is substantial support for the expansion of major new approaches on educational psychology.
- A psychiatrist who has been using computers in clinical applications, suggested that psychologists work on creating computer assisted learning programs for use on-line, at school and at the work-site.
- The president of an interactive media company suggested that psychologists need to research how the new media can enhance creativity and promulgate the arts.
- The head of an electronic college suggested that psychology graduate education include engineering, media and graphics as it fits into the new century where technology will create occupations that 70% of the people will have.

- The head of a technology think tank stated that much work needs to be done on the general nature of attention relations between people.
- The head of a media company suggested that psychologists "ought to develop programs to help young people cope with the power of new media and to best utilize its assets for learning and the establishment of positive, caring behaviors.
- A psychologist working in the governmental arena suggested the political process as an additional area of involvement for media psychologists.
- A psychologist suggested that collaboration is important. We have no monopoly. Yet, we have a major role to play on teams developing guidelines and doing evaluations of effectiveness of policies.
- A media expert suggested that since so few people read, psychologists should study ways of using the media to transmit information regarding relationships and universal feelings such as anxiety., etc.
- The head of an electronic college commented as to how she was struck with the information as to how many psychologists and artists are the early adopters of technologies. She further wondered how many psychologists are CEO's of communication technologies.
- A past president of the APA stated, "Psychology will be going into primary health care and psycho-pharmacology. Media psychologists can facilitate this professional development. We need to toot our own horns - this way psychologists in the media can assist psychology as a discipline in serving the public."
- A professor of educational policy suggested that this study presented an amazing list of possibilities and opportunities.
- A board member of an educational institution suggested that for parents and teachers, "knowledge of child development is crucial to improving pre- and post-natal care through parent education, and through changing the school education system. The profession should be relentless in bringing new knowledge to public and educational professionals. This really can help save the world."

SUMMARY AND CONCLUSIONS

PERSPECTIVE

The relationship which has developed between various behavioral fields and mass media is a phenomena of the twentieth century. Books, still pictures, telephones, newspapers, radio, television, computers, satellites, dishes, cable, video, motion pictures, and compact disc present a diverse array of media carrying information which is bombarding our senses with sound, pictures,, graphics and text. As Marshall McLuhan said, although he has been often misquoted, "The medium is the massage." McLuhan differentiated the message and the massage, noting also that, "The message is the message." What he meant is that we must differentiate between content and its manipulation, distribution and access. The subject/content of programming and services must be considered separately from its transactions and telecommunication. Thinking in this way will allow for a clearer perception of issues and will facilitate a better understanding of how to use media and why people behave the way they do in response to media stimulation. Messages come to the recipients after being massaged, molded, twisted, softened and/or strengthened by particular media. Print puts its particular twist on a message; TV applies a different twist, etc. Each medium, i.e., story, data, idea, represents content and, "massaging it" provides user access to the message in a variety of forms. Distribution represents a sender's point of view; access, a user's. Choice, options and access represent the user's view.

One may argue that from time to time, the medium is its own message. As an example, when news coverage at the end of the Vietnam War shifted from tape delay to satellite live, the intensity of feelings rose so dramatically that it affected our position regarding the war. New forms of "massaging" resulted from the burgeoning wired and wireless advances in telecommunications. Digital devices such as digital pagers, cellular telephones, digital assistants, the Internet; etc., all of which provide both choices and access to information, concepts, ideas, and emotional experiences, are changing the relationships among people worldwide.

The media alters the very look and feel of lifestyles in all cultures and is having both positive and negative effects. For example, violence, drug use and other anti-social behaviors presented by the media have allegedly instigated such behaviors in the real world.

On the other hand, media, especially the new media, are being touted as vehicles for learning and ever more-miraculous means of universal communication.

In health, with "the divisible human" type project, cadavers have been digitized and enabled simulated surgeries, and new strategies for learning diagnostics and other breakthroughs have resulted. Two-way audiolvisual communication is changing the way health teams may relate with patients: computer-assisted therapy is advancing in implementing mediated psychotherapy; multiple picture television receivers enable point of view television. Media are used in new and different ways in crime prevention, politics, government and education.

One way to view media psychology is to understand that advertisers pay for attention, consumers pay with attention. This transactional interaction represents a measuring formula for our social and individual behaviors with respect to media. The intensity of attention drama has been increasing throughout the twentieth century. In media, attention is one major medium of exchange.

All of this is happening simultaneously, as many fields advance and intersect. Converging fields such as neuroscience, psyto- and psycho-biology, personality theory, pharmacology, education psychology, learning theory, motivation theory, cognitive psychology, consumer psychology, systems theory, and human development identify a number of fields of knowledge. On the technology side, accelerating rapidly because of the deregulation resulting from the Telecommunications Act of 1997, is the convergence of wires and wireless digital technologies ranging from picture phones, to PCTV and TVPC configurations. New software, telephony, cable, educational, and entertainment convergence is also developing rapidly.

In an effort to further define the concept of media psychology, it is useful to realize that media psychology has been rapidly evolving since World War II. For the first time in history, advances in radio, growth of motion pictures, and progress in telephony fueled much of our perception of a worldwide war. It was WW II that had dramatic impact in stimulating the global effects of the technology of mass media.

Coined in the 1960's, by the late 1980's, the term "multimedia" had simply become part of our everyday language. Today, the effects of mass media are everywhere. In short, with a new perspective on the dramatic growth of media, we are only now beginning to understand the real impact of mass media on our lives. New insights are emerging from interdisciplinary research. We are understanding more and more about the inter-relationship between media and behavior. Developing and applying new theories is currently helping us understand the complexities of why some people learn and others don't, and how individuals may be stimulated or persuaded, influenced or taught. There is growing interest in using media effectively to help people learn, correct deficiencies, achieve personal growth, or simply feel better or more satisfied by their accomplishments. It is in the context of this increasing interest that the importance of media and behavior emerges as a new field in psychology, medicine, learning, politics and commerce. Media psychology is a new knowledge area coming into being by extracting elements from fields such as systems theory, personality theory, cognitive psychology, human development, neuroscience, etc. This kind of amalgamation is typical of the way in which new fields are born.

Media Psychology includes the understanding of positive and negative addictions and habituation's of all types, changes in global communications and understanding, and new types of programs and services which manifest themselves through sensory media experiences. The underlying principles related to these phenomena are fundamental to the creation of better programming and services in all facets of our lives. With our present digital technology, we have "the how". Now, we must begin to better understand "the why".

As noted earlier, media psychology is a composite of various conditions, many of which may be both described and better understood in the context of three key areas: semantics, semiotics, and synesthetics. Semantics, the study of meaning in language, is central to our ability to understand words which are fundamental to the behaviors of interaction. A simple example is the use of the word "quit". Quit, a pejorative term of frustration meaning "to give up", is a software programming term that has found its way into many computer products. The subliminal response to the word

"quit" is negative. Better choices would be "end" or "stop" since they convey the appropriate psychological meaning without the implication of failure the word "quit" conveys.

Semiotics, the study of signs and symbols in human communication, plays an important role because visual symbol manipulation facilitates the human-machine interface. The interface creates a psychological relationship. It enables navigation and control over media pathways. Clear, creative, and careful use of symbols is giving rise to iconography as a highly developed skill. The graphical interface, through which on-screen information is made accessible, is the principal point of contact between machine and man. The degree of clarity and/or comfort of symbols affects an individual's motivation for contact. Clearly we must be aware of positive and negative emotions evoked by various symbols.

Synesthetics is the study of how diverse stimuli received by one sense engage a response from another sense. It is perhaps the line of research most critical to the development of media psychology's emotional dimension. Our total environment is a multi-sensory response to various audio visual elements in the new media. Synesthetics coupled with television or computer interaction creates sensory rivalry and may create positive or negative experiences or reactions. One stimulus may create a positive reaction--others way create conflicts of cues or sensory rivalry. The result, in any case, is synesthetic and is essentially the experience resulting from the union of senses and media. Examples of such experiences include seeing a boat rocked by waves, which may activate a sense of imbalance in an observer to the extent that it causes seasickness; viewing a painting of an Arctic scene of frost and snow, which may evoke the sensation of icy cold, producing goose bumps; hearing an explosion or gunshots, which may give one the illusion of being struck; or looking at a picture of appetizing food, which may evoke sensations of taste and smell. Each of these examples represents a potential behavioral or psychovisual result engendered by a media interaction, coupled with various unions between and among the senses. (Luskin, Bernard J., article written for Jones Interactive Telecommunications Encyclopedia)

THE IMPORTANCE OF UNDERSTANDING THE THEORIES

To write great music, an understanding of music theory is required. To perform complex musical scores properly, a grasp of music theory is imperative. The same is true in creating media-based programs and services. To create good programs or to develop valuable services, an understanding of the theory of media psychology is required. There is a dialectic and a doctrine to help us apply what we know. There is a wellspring of principles being brought together through extracting relevant principals from educational psychology, learning theory, motivation theory, cognitive psychology, personality theory, human development, consumer psychology, neuroscience, and systems theory. Aspects of each of these individual fields must be welded together in defining this new field.

There is media psychology activity all over the world in Japan, China, Germany, the UK, France, and the United States. Only through bringing forth a broader theory of media psychology will there be an improvement in programming and services. Just as it is important to understand the theoretical principles in physics, mathematics, languages, and music, it is equally important to understand the theory of media psychology. Frankly, our future depends on it.

FINAL REMARKS

First, this study has established a new threshold in identifying, describing and validating eleven new fields and subcategories within each field which identify growing occupational opportunities and needs in media and psychology.

A second outcome of this study is that it has established a basis for developing an epistemology, i.e., a theory that investigates the origin, nature and limits of the body of knowledge that composes media psychology. Each new field identified has been described and recommendations to facilitate progress have been made.

As with a puzzle, pieces of media psychology have previously been scattered. We have brought them together. What we need to do is to work together and join the pieces into an effective inter-relationship. We need to organize the puzzle so we can now see a complete picture. With this study, we have done the investigation that provides a foundation developing the broader dimensions of this new field of media psychology.

As technology has allowed us to regularly use lasers in surgery, so now may media be used more effectively to expand its role in many fields such as engineering, education, and training, each of which will themselves cause a multiplier effect in terms of growth.
The study of Media Psychology offers us many new frontiers to explore. We can best map out new territory by using the technologies at hand to cooperate, collaborate, and share our discoveries. So, as we have "used a light beam in surgery and put man into space, we must now integrate behavior and media" to advance society, government, entertainment, politics, and education on a worldwide scale. In a sense, the nexus of media, the individual and culture may be thought of as the "socio- psychomedia effect". It will be the study of this effect upon the world, and each person in it, that will be of paramount importance in the 21st Century.
