The GENERAL Psychologist

Getting Down to BUSINESS

Candidates for Society Offices

The Spring issue of TGP is the Election Issue, featuring bios and statements of the candidates for Society offices who have been nominated and who h ave agreed to serve if elected. This year there are two candidates for the office of President-Elect, two candidates for the single open position of Member-at-Large of the Executive Committee, and two candidates for the position of Representative to the APA Council of Representatives. For President-Elect the candidates are Sam Glucksberg and Peter Salovey. The candidates for the Member-at-Large position are Wayne Camara and Harold Takooshian, and for Represeentative to Council, Ed Wasserman and Mike Wertheimer.

Candidates for President-Elect

Sam Glucksberg: Specialization in one's scholarly discipline is inevitable, in two different but related ways. Scholars specialize in a topic of interest, and conduct research that is usually focussed on specific problems, be they applied, theoretical, or both. Scholars also specialize in their choice of theoretical approach and level of analysis. I've been such a specialist from the beginning of my career, but what I specialized in has changed over the years. I began as a gestalt-trained psychologist and studied problem solving and the relation between problem-solving skills and personality in the form of field-dependency and performance on insight problems. I moved rather quickly and superficially through a flirtation with learning theory, then settled down as a cognitive psychologist who studied thinking, cognitive development, and language. Here too my interests shifted over the years, from sentence processing and literal language comprehension to a broader consideration of language in discourse contexts, including figurative language. If general psychology refers to the breadth and variety of one's special interests, then I suppose I've been a general psychologist. But I've been more of a generalist than that. I've written both a specialized text (in psycholinguistics) and an introductory text (with other specialist-generalist coauthors). More importantly, I've maintained a keen interest in developments across the entire scope of psychology, and exercised this interest in teaching general psychology, and in editing two journals: ***Journal of Experimental Psychology: General,*** and currently ***Psychological Science***. As editor of ***Psychological Science***, I'm dedicated to providing cutting edge research from the entire range of psychology to people like us: psychologists who have their own specialties but who are also interested in other people's specialties. No matter what one's specialty is at any given moment, there are pertinent, relevant and important phenomena, findings and theory in other specialties. The Division of General Psychology is the ideal vehicle to foster the interchange of ideas and information across specialties, via our journal, ***Review of General Psychology***, and by initiatives that we can take within APA to promote interaction among specialists in the form of interdivisional symposia, invited addresses and paper/poster sessions.

Peter Salovey. I've always been a bit of a "hybrid" psychologist. I completed my Ph.D. in the clinical psychology program at Yale, but my dissertation was directed by a social psychologist, Judith Rodin. My two major lines of research concern the influence of emotion on thought and behavior, and ways to use psychological principles to design health communication strategies to motivate health protective behaviors. The areas of emotion and health are similar in that they transcend traditional subfield boundaries. Although my department considers me a social psychologist, my orientation really is one of a general psychologist. In the spirit of Kurt Lewin and others, I believe in general theory that has broad applicability to understanding, predicting, and influencing human behavior.

At Yale and elsewhere, I have been involved in activities at many different levels that attempt to transcend boundaries among fields of study. Presently, I am the Chair of the Department of Psychology where we are shaping the future of our Department in ways that promote synthesis and unification across traditional program areas by increasing the permeability of area boundaries and hiring new faculty who easily cross them. My teaching has been focused most intensely on Introductory Psychology, and I have tried to instill a passion for a general psychological way of approaching problems among about 5,000 undergraduates in the last 16 years. With faculty from other departments, I helped to establish Yale's Center for Interdisciplinary Research on AIDS (CIRA), and I serve on the Executive Committee of the University's interdisciplinary Institution for Social and Policy Studies (ISPS). I am proud to be completing a six-year term as the first editor of the Society for General Psychology's flagship journal, the ***Review of General Psychology.*** I have also served terms as an Associate Editor of ***Psychological Bulletin*** and of the APA's newest journal, *Emotion*. What unites these various editorial experiences is that these journals are not subfield-bound; I have been impressed at the scholarship possible when psychologists write for broader audiences.

I am flattered to be nominated to serve as President of our Society, and I look forward to working with you to develop ways to increase its influence within the APA and in psychological science, practice, public policy, and edu-

cation more generally.

I see psychology as a unified field with shared methodological and substantive values. In this era of overspecialization, I am committed to the goal of encouraging a unified approach to psychology that generates a coherent vision leading to excellence in science, practice, and policy. The impact of our field (and the opportunity to increase the resources available for science, practice, and education) is diminished when we do not speak with one voice but, instead, succumb to narrow, subfield parochialism and self-interest. As Bob Sternberg has repeated during his campaign for the APA presidency, specialization and generalization are fully compatible, but factionalism does not serve our field well. The Society of General Psychology can encourage a unified psychology by reaching out to APA members who traditionally have not affiliated with Division 1, as well as those who are disaffected or confused by the dizzying array of divisional options available to them. We need to create links to other organizations that share our values, and continue to invest in the Society's publications. Current graduate students, post-doctoral scholars, and young professionals – many of whom are quite critical of the narrowness of their educational experiences – need to be encouraged to join us, even those who do not believe that APA is their primary professional home.

In years gone by, *The General Psychologist* irregularly published a short piece — indeed, a manifesto — called *The Generalists' Agenda*. *The Generalists' Agenda* declared that general psychology (a) encompasses the whole field of psychology, (b) is based upon the supposition that there can be a gradual approach to a coherent understanding (a Big Picture) of human nature and its relationship to society and the environment, (c) is based upon the supposition that all of the subfields and specialties within psychology, along with other disciplines, contribute pieces that must be part of this coherent understanding, and (d) is concerned with the development of this coherent understanding by continually redrawing the Big Picture. General psychology endeavors to enhance the linkages among all aspects of psychology and related disciplines. It presupposes that specialization is necessary for optimum development of subfield knowledge, but that specialization without reference to the Big Picture is unfortunate. Although I am not the originator of this *Generalists' Agenda* and am merely paraphrasing the words of others here, I believe these principles articulate well what is at the core of a Society for General Psychology. When we "give psychology away," as George Miller encouraged us to do, we need to give away a coherent whole, not fragments and shards.

With our broad intellectual mandate, the Society for General Psychology should be the place to look for leaders who can integrate successfully science, practice, education, and policy for the APA, the field more generally, and the public interest.

Candidates for Executive Committee

Wayne J. Camara is Vice President of Research and Development at the College Board. He directs all R&D and serves as a spokesperson for the psychometric and educational qualities of a range of assessments and programs include, SAT I, PSAT/NMSQT, Advanced Placement, and CLEP. He conducts research on test validity, subgroup differences and testing persons with disabling conditions. Since receiving his PhD from the University of Illinois at Champaign-Urbana, he served in several positions at APA, including Associate Executive Director of Science, between 1987-94. He served as President of Division 5 last year and has been elected fellow of Divisions 1 and 14. He has served two terms on APA's Council and was the program chair for Division 1. Both at APA and the College Board, he has represented psychological science in testimony before Congress and state legislatures, on national television and in print media.

General Psychology is the one division in APA that must continue to represent all psychologists irrespective of whether they consider themselves primarily associated with applications, practice, research, teaching, public policy, or a combination of these areas. Division 1 serves a unique role among divisions because it must continue to appeal to broad science based applications and practice across psychological specialty areas of subdisciplines. As a member at large of the executive committee I would strive to work collaboratively with the full committee to promote Division 1 as the home of all psychology and to ensure there is a central role for the division within the organizational structure of the association. We must identify new ways to demonstrate the relevance of general psychology to all members and divisions. I would also hope to bring my organizational skills and management experience to bear in advancing the mission and goals of the division.

Harold Takooshian completed his psychology PhD in 1979 with Stanley Milgram at City University of New York. As a teacher, he has taught at four universities in three nations, including a 1987 Fulbright to the USSR, and is on the tenured faculty of Fordham University, where he also serves as Director of the Fordham Institute. As a scientist, he received the NYSPA Kurt Lewin Award for his many publications focused on the use of behavioral research to address diverse social issues — such as workplace morale, urban life, "antipsychology," terrorism. A Fellow of APA and Division One, he is also President-Elect (2002) of the APA Division of International Psychology.

Based on my past service to SGP, as our division's program chair (1993), membership cochair (1999-), program committee (2002), fellows chair (1999-), I hope to increase my service now as an EC Member at Large. Most of APA's 84,000 members voice support for SGP's mission to unify psychology, but only 2,461 (or 3%) are members of our Society. Our membership has declined since 1991, and I feel nonmembers would join us if they

knew what they were missing—our 2 fine periodicals and several award programs. Since 1999 I have worked effectively within SGP to increase our membership and programs, and hope to increase this activity as an EC member, working to make our SGP one of APA's most vibrant divisions.

Candidates for Council Representative

Edward A. Wasserman is Stuit Professor of Experimental Psychology in the Department of Psychology at The University of Iowa. Prior to my 30-year appointment at Iowa, I received my Ph.D. from Indiana University and my B.A. from UCLA. My research centers on human and animal cognition, where I take a comparative approach to processes of learning, memory, and categorization. I have authored 150 papers and chapters on these topics and I have recently joined Barry Schwartz and Steven Robbins as an author of the fifth edition of the undergraduate textbook, *Psychology of Learning and Behavior*. I am currently a Fellow in three divisions of APA and I serve as a Member-at-Large in Division 3; I am also a Founding Fellow of the American Psychological Society. I presently serve on the editorial boards of *Journal of Experimental Psychology: General* and *Journal of Experimental Psychology: Animal Behavior Processes*; I previously served on the editorial board of *Journal of Experimental Psychology: Learning, Memory, and Cognition*. Additional association activities included chairing APA's Committee on Animal Research and Ethics and participation in an APA Science Advocacy Training Conference. Other professional service has included participation in several grant review panels at the National Institute of Mental Health and the National Institute of Drug Abuse plus participation in the 1998 Behavioral and Social Sciences Review Integration Panels for the National Institutes of Health. Finally, I am currently a member of the Governing Board of the Psychonomic Society; I just served as the first President of the Comparative Cognition Society.

I am honored to have been chosen as a candidate to be the Representative to APA Council for Division 1, the Society for General Psychology. As do all members of the Division, I believe that Psychology is truly a coherent discipline, not merely a collection of disconnected specialties. I have tried in my teaching and writing to put forward that holistic position. Speaking on behalf of this vision is becoming increasingly important as the fractionation of Psychology into further special interests shows no sign of abating. We must try to weave the diverse strands of our field into a strong fabric that respects: science and practice, research and theory, individual and society.

I have learned a good deal about advocacy, having recently served as President of The University of Iowa Faculty Senate. I that capacity, I spoke on behalf of the faculty to our President and Provost, to the Iowa Board of Regents, to the Iowa State Senate, and to the Governor of Iowa. I would be pleased and proud to advocate on behalf of Division, if I were to be chosen as Council Representative.

Michael Wertheimer's degrees are BA (Swarthmore), MA (Johns Hopkins), and PhD in experimental psychology (Harvard). After a clinical psychology internship at Worcester State Hospital, he taught at Wesleyan University 1952-1955, then joined the University of Colorado at Boulder, becoming full professor in 1961 and professor emeritus in 1993. Author, coauthor, editor or coeditor of dozens of books and hundreds of articles in areas ranging from introductory psychology through the teaching of psychology, perception, and psycholinguistics to the history of psychology, he has been president of the Rocky Mountain Psychological Association, Psi Chi, and four APA divisions: 1, 2, 24 (twice), and 26. For two decades he was a member (or chair) of the AASPPB Examination Committee responsible for the test used in state and provincial licensure and certification programs. A member of the APA Council of Representatives during 25 of the last 35 years (representing Divisions 1, 2, 24, or 26), he has also been a member (or chair) of numerous APA boards and committees. He directed Colorado's doctoral programs in experimental and in sociocultural psychology, and for almost 40 years the undergraduate departmental honors program in psychology. Recent books include the fourth edition of A Brief History of Psychology, an oral history of Psi Chi (with Stephen Davis), and the fourth volume in the Division One series ***Portraits of Pioneers in Psychology*** (coedited with Gregory Kimble), all published in 2000; a fifth volume in the Pioneers series is in press. Wertheimer is currently secretary of Division One.

Almost every psychologist was a general psychologist at the dawn of the twentieth century, but by its twilight almost every psychologist was a specialist. Psychology exploded during that century—both qualitatively and quantitatively. Its fragmentation caused specialists in one field to have so little in common with specialists in other fields that they could hardly communicate. APA's rapid membership growth led historian Edwin G. Boring early in the century to predict that if the then-current rate of expansion were to continue, by early in the twenty-second century there would be more psychologists than people in the world. But the rate of APA membership growth dramatically decreased during the last few decades, with projections that membership may stay fairly constant in the near future, or may actually decline. Now there are about 50 divisions within the association, all—except Division One—dedicated to advancing some specialized research or practice endeavor. Only Division One, the Society for General Psychology, advocates for the welfare of the entire discipline. At a time of flat—or shrinking—resources, a broad orientation to the whole field is crucial if justice is to be done to the legitimate concerns of all its immensely varied constituencies.

Division One's perspective is essential to APA if APA is to continue to be the home and the voice for the extremely diverse specialized subgroups of which the association is composed. Division One represents all of psychology and all psychologists; it can help provide the philosophy and the wisdom to permit all facets of the discipline to flourish.

The GENERAL Psychologist

Misconceptions about Memory

A Symposium

What People Believe About Memory Despite the Research Evidence

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Large portions of our population have misconceptions about memory, a concept that people use everyday, whether remembering where they parked their car or important facts and events relevant to their personal or professional lives. Despite enormous scientific evidence, people have continue to embed these misconceptions about the understanding of memory through their attitudes and beliefs. This discussion will focus on the results of two separate studies collecting responses of 1400 people from the USA and 250 people from South American countries to the Beliefs and Attitudes About Memory Scale (BAAMS; Brown, Garry, Silver & Loftus, 1997).[The items are displayed here on page 6.] Additionally, majority selected items from the BAAMS will be presented with corresponding scientific evidence refuting these misconceptions. The results will be discussed in terms of the implications of these prevalent misconceptions.

Introduction

According to Loftus, Garry, Brown and Rader (1994), misconceptions about memory exist due to the lack of clear evidence to sustain memory conceptions and/or overwhelming evidence that supports a contrary belief. Using the Beliefs and Attitudes About Memory Scale (BAAMS; http://www.education.uconn.edu/memorysurvey/), Brown, Garry, Silver and Loftus (1997) found large percentages of people relying on misconceptions about what people can remember and how memory works when storing and recalling events. For instance, Brown, et al., (1997) found that 36% of their sample agreed with the item that memories recalled under hypnosis are more accurate than memories recalled without it. Expanding this area of research Alvarez and Brown (2001) translated and applied the BAAMS to a Spanish-speaking sample (BAAMS-S). The study found a consistent pattern of responses across the two cultures for the following factors: blending memories, pre- and birth memory, and memory permanence.

It is important to clarify misconceptions about memory because they affect other fields such as psychotherapy, witnessing of crimes and accidents, legal trials, education and oral history. Using scientific research evidence, the current paper discusses and clarifies misconceptions related to selected items of the BAAMS and the BAAMS-S. Research on memory related to hypnosis and memory, blending memories, traumatic memories, memory storage and early memories as infants are presented.

Additionally, the response patterns for a sample of over 1400 for the BAAMS and 250 for the BAAMS-S will be discussed as evidence supporting the large amount of misconceptions about memory. The concern is: Why do so many people have beliefs and attitudes about memory that are unfounded in the scientific literature. And even more so, when there is clear evidence presented to the contrary, why do these beliefs and attitudes persist at such a high rate among the populous. Thus, we will focus on the research evidence to combat misconceptions about memory and how it works (see Table 1, next page, for a complete listing of the scale items and scientific evidence combating the misconceptions).

What Do People Believe Despite the Evidence?

Hypnosis and memory

Some misconceptions of memory are related to the accuracy of hypnotic memories. For instance, 30% of the USA sample and 35% of the Spanish-speaking sample agreed that memories recalled under hypnosis are more accurate than memories recalled without it (item #1). However, research related to hypnosis and memory, found evidence that does not support the belief that hypnosis

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enhances memory (Nogrady, McConkey & Perry, 1985; Wagstaff, 1999). The changes in reported memory have been attributed to encouraging the subjects and lax criterion for reporting the memories. Similarly research by Whitehouse, Dinges, Orne and Orne (1988) found evidence that hypnosis does not facilitate retrieval from memory. Furthermore, a study conducted by Burgess and Kirsch (1999) found that hypnosis increased the production of inaccurate memories; especially in highly suggestible participants that were given positive information about the effects of hypnosis on memory committed more errors during hypnosis. Therefore, as Wagstaff (1999) explained hypnosis only encourages participants to use a relaxed criterion when reporting their memories.

Another item of the BAAMS asked participants whether they believe that hypnotic memories can be faulty (item #14). In this case, it seems that lack of clear evidence

Table 1. Selected BAAMS items and scientific evidence combating misconceptions in memory

Item	Data	Data Source
1. Memories that are recalled under hypnosis are more accurate than memories recalled without it.	The author explained that empirical evidence suggests that hypnosis does not improve memory, but it makes the difference only to encourage subjects to adopt a more lax criterion for reporting.	Wagstaff, G. F. (1999).
	"Our data provide no rationale for the use of hypnosis to enhance memory retrieval in the first place. We found no evidence that hypnosis increases accurate recall" (p.29)	Burgess, C. & Kirsch, I. (1999).
	The authors' findings suggest "hypnosis does not facilitate the retrieval from memory concerning meaningful material presented several days earlier" (p.294).	Whitehouse, W.G., Dinges, D.F., Orne, E.C, & Orne, M.T. (1988).
3. Precise records of all our experiences are permanently stored in the brain.	"The act of imagining may generate information whose source later becomes confused, resulting in a stronger belief that the imagined childhood event actually occurred" (p.209).	Garry, M., Manning, C. G. & Loftus, E. F. (1996).
6. Memories for different events can blend with each other.	"Confusion is increased by perceptual similarity between memories from external and internal sources or between two external sources (p. 6).	Johnson, M., Hashtroudi, S. & Lindsay (1993).
	Memory blends means that "subjects will often recall or recognize an item that is neither the original nor the interpolated item but a mixture of the two" (p. 116)	Chandler, C.C. (1991).
7. Everything we learn is permanently stored in the mind, although sometimes certain information is not accessible.	"The actual rate of forgetting and the critical period for entry into long-term storage depends upon the nature of retained information and the circumstances of original learning" (p. 49).	O'Connor, M. G. (2000).
10. People can confuse events they merely imagined with events they truly experienced.	"A source-confusion mechanism predicts greater imagination inflation for long-ago imagined events compared with more recent imagined events, whereas a familiarity mechanism predicts no difference in the amount of imagination inflation……. The subjects who imagined the long-ago childhood events showed the typical imagination-inflation effect, but those who were asked to imagine recent events showed no change in confidence" (p. 8)	Garry, M. & Polaschek, D. (2000
	In the experiment performed the authors found that "subjects who initially reported that an event did n ot happen, but then imagined that it had, were more likely to increase their confidence that it had occurred when asked about it later than were subjects who did not imagine the event" (p. 211)	Garry, M., Manning, C. G. & Loftus, E. F. (1996).
11. The mind accurately captures and preserves the details of traumatic events better than it does the details of non traumatic events.	"False memories of traumatic events can be created, and details of genuinely experienced traumatic events can change over time" (p.11)	Garry, M., Frame, S. & Loftus, E. F. (1999).
	"Questionnaire studies of early childhood memories provide little or no information about the accuracy of adults' memories of extreme trauma, or abut the truth value of memories that are recovered after many years" (p.902)	Pillemer, D.B. (1998).

Item	Data	Data Source
13. Some experiences can never be recovered by hypnosis, nor any other special techniques, because the information is simply no longer available.	"It is highly suggestive that recovered memories may well have been false memories……. 3 of their patients were unable to obtain any corroboration in spite of active attempts to do so" (p. 159)	de Rivera, J. (1998).
	"the present study indicated that neither hypnosis nor imagination enhances memory beyond normal waking performance; that is, hypnotic and waking hypermnesia were equivalent" (p.200)	Nogrady, H., McConkey, K. & Perry, C. (1985).
14. When people are hypnotized to help them remember their previous experiences, they often remember things that never happened.	"It is highly suggestive that recovered memories may well have been false memories… 3 of their patients were unable to obtain any corroboration in spite of active attempts to do so" (p. 159)	de Rivera, J. (1998).
	"More than a third of the subjects (36.2%) incorrectly recalled that a person did not spill pencils. Furthermore, only about fifth of the subjects (19.15%) were "correct" in unequivocally reporting that a telephone did not ring and that a person in fact spilled pencils during the previous session. Thus, a sizable number of subjects exhibit faulty memory of events that are the target of age regression suggestion – even events that actually occurred" (p.324).	Lynn, S.J., Milano, M. & Weekes, J.R. (1991).
18. Things we see on television can blend with our memories of truly experienced events.	"the fictional events that we read or hear are incorporated, along with accurate accounts and our own direct experiences, into our general knowledge and beliefs. Movies, television, books, magazines, newspapers –all are sources of fictional information that may, under some circumstances, be treated as reliable information" (p.13)	Johnson, M., Hashtroudi, S. & Lindsay, S. (1993).
19. Memory records and stores all of our experiences since birth.	When Usher and Neisser asked college students to report childhood memories of a sibling birth, they rarely remembered anything if it happened before the second birthday.	Pillemer, D.B. (1998).
26. Memory is usually not very good for traumatic or stressful situations.	"Research on memory with children and adults, suggests that people are more likely to forget an isolated incidence of abuse than a series of repeated events although the repeated events may become blended in some typical script" (p. 1179)	Loftus, E., Garry, M. & Feldman, J. (1994).
28. Things we read about can accidentally get confused with truly experienced events.	"Presumably, reading about an event often gives rise to imagery related to the event, whereas viewing an event is less likely to give rise to imagined reading" (p. 7)	Johnson, M., Hashtroudi, S. & Lindsay (1993).
33. It is not unusual for people to have accurate memories of events for the first few days after birth.	The earliest memory frequently involves an event that occurred after the third birth. "Traumatic events that occurred before children were 3 years old rarely were accessible to verbal recall, but events that occurred when the victims were older than 3 usually were described in words" (p.899)	Pillemer, D.B. (1998).

lead the majority of the participants to be neutral towards this item (47.4% of USA and 50.2% of Spanish-speaking samples). Neutral response rates at this level raise serious concerns. In addition, 25% of the USA sample and 22% of the Spanish-speaking sample disagreed with this item. Similar to the previous item, scholars have not found evidence to sustain that hypnotic memories are not faulty.

Memory Permanence

When referring to memory permanence a 43% of the Spanish-speaking sample disagreed with the item stating that information in memory can decay and be permanently lost from memory (item #12). People's beliefs toward this item are not consistent with scientific research that has found evidence that information can be lost from memory. When studying short-term recall, Tolan and Tehan (1999) found interference effects in short term recall, in which verbal distracters produced more disruption than nonverbal distracters. In addition, long-term recall research can be traced to 1984 when Bahrick found a constant slope that indicates the number of responses lost per unit of time. Thus, the author suggested that much of the information in memory has a life span of several decades.

Additionally, 31% of the USA sample and 38% of the Spanish-speaking sample indicated their agreement with the item that precise records of all experiences are permanently stored in the brain (item #3). On the contrary, research by Simons (1996) found in the participants inability to notice changes to objects, proposing that we do not maintain visual representation of object properties across views.

Although people believe that memory records all experiences since birth (43% of USA and 35% of Spanish-speaking samples) (item #19), research has found that participants rarely remembered anything if happened prior to their second birthday (Usher and Neisser as cited in Pillemer, 1998). Pillemer (1998) stated that the earliest memories involve events occurred after the third year of age and that traumatic events that occurred before that age were rarely recalled.

Traumatic memories

With respect to items related to traumatic memories, 41% of USA and 42% of Spanish-speaking samples believed that the mind records better the details of traumatic events than the ones of non-traumatic ones (item #11). Likewise the research about the earliest memories by Pillemer (1998) found in his questionnaires no accuracy of adult's memories of extreme trauma when referring to early childhood memories. Furthermore, Garry, Frame and Loftus (1999) indicated that false memories of traumatic memories can be created and that the details of traumatic memories change over time. Garry, Loftus and Brown (1994) pointed out that they suspect that details of traumatic and non-traumatic memories can be wrong. As research done by Loftus (1993, as cited in Garry, Loftus & Brown, 1994) has found, entire episodes can be suggested and created in a person's memory. Moreover, according to Garry, et al., (1994) many people who recovered abuse memories in therapy ultimately believed that these memories were the product of suggestions by therapists.

Related to traumatic memories is whether a significant event can be better remembered. Item 5, for which 45.5% of the USA sample agreed and 45.7% strongly agreed; similarly, 38.1% agreed and 51.8% of the Spanish-speaking sample strongly agreed that the more significant an event is, the more likely it is to be remembered. Pillemer (1998) stated that people can remember information critical to the central event, peripheral details and one's own circumstances during the event, and each of them can also be forgotten.

Blending Memories

As Chandler (1991) defined that blending memories refer to memories that are neither the original nor the interpolated one, but a mixture of the two. Therefore, we are referring to memories blending for different events, or memories confused with imagined events, dreamed events or events seen on television.

In the research of beliefs about memory, it was found that people do believe in blending memories. Seventy-two percent of the USA sample and 50% of the Spanish-speaking sample indicated their agreement with memories of different events blending with each other. In accordance to this belief, research has found that memories blend with each other. In explaining blending memories Johnson, Hashtroudi and Lindsay (1993) indicated that confusion is increased by perceptual similarity between memories from external and internal sources. The authors indicated that "source monitoring" refers to the processes involved in making attributions about the origins of memory, knowledge and beliefs. According to this framework, there are an external, an internal and an internal-external source monitoring types and in all of them there are multiple cues to source. The accuracy in identifying the source depends on the type and amount of the memory, the uniqueness of the characteristics for a given source and the efficacy of the judgment processes.

A similar explanation for blending memories comes from the attribution framework. According to Jacoby (1995 as cited in Gow, 1999), from an attribution point of view the general can be mistaken for the specific and the specific can be mistake for the general. Moreover, Jacoby, Kelley and Dywan (1989) concluded that subjects confuse memory of a particular event for general knowledge.

Similarly, 64% of the USA sample and 43% of the Spanish-speaking sample indicated their agreement with the item stating that people can confuse events they merely imagined with events they truly experienced. Research has shown that people can confused experienced with imagined events, as Garry and Polaschek (2000) indicated imagining can change memories. According to Johnson, Hashtroudi and Lindsay (1993) confusion between memories of perceived and imagined information increases when there is a decrease in the information about the cognitive operations of imagination. Furthermore, Garry and Polaschek (2000) described that time

and familiarity influences these blending memories; a greater imagination inflation occurs for events that are long-ago in time than for recent events, and familiarity predicts the difference in the amount of imagination inflation.

Other Memory Beliefs

Other memories beliefs are related to memories for painful or unpleasant experiences and whether they cause emotional damage and reside in the unconscious. With respect to whether memories for painful experiences are pushed to the unconscious, 62% of the USA sample and 60.6% of the Spanish-speaking sample agreed with that item. Nevertheless, researchers claim that in order to claim that those memories reside in the unconscious, they should show that the memory existed before (Loftus, Garry & Feldman, 1994). In addition, Loftus, Garry and Feldman (1994) remark that normal forgetting of events happens, thus it should not be claimed that a repression mechanism is playing a role.

Conclusions

Memory is a psychological term that everyone understands; but do they? It is clear that large percentages of the population in both the United States and South America have misconceptions about memory, what it is and how it works. Despite contrary evidence, many people seem to have beliefs and attitudes about memory that can have serious effects. These effects may be in the classrooms as our children are presented with information to remember and use, whether they are the beliefs and attitudes of the teachers or the students themselves. They may be in our police stations as people are questions regarding the witnessing of a crime, and in our court rooms as jurors listen to testimony. What is believed and remembered will be affected by the observers' attitudes and beliefs about memory.

This is a crucial concern as we tell our students to "…remember this, because it is important", without corresponding strategies, and those strategies must have a scientific basis. We must educate our college students to better understand the workings of memory, as the majority of the two samples reported here are college students, or have a college degree. They must not leave our colleges and universities with misconceptions and beliefs about memory. If they do, they will not be able to be effective as citizens, using their memory to make decisions everyday, and they will continue to propagate the misconceptions outlined in this paper.

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Items from BAAMS Scale

1. Memories that are recalled under hypnosis are more accurate than memories recalled without it.
2. The battle experiences that war veterans remember are highly accurate and resistant to decay and /or distortion.
3. Precise records of all our experiences are permanently stored in the brain.
4. In general, memories tend to get worse over time
5. The more significant an event is, the more likely is to be remembered
6. Memories for different events can be blend with each other
7. Everything we learn is permanently stored in the mind, although sometimes certain information is not accessible.
8. It is possible for a person to remember things that happened before he/she was born.
9. Things we dream about can accidentally get confused with truly experienced events.
10. People can confuse events they merely imagined with events they truly experienced.
11. The mind accurately captures and preserves the details of traumatic events better than it does the details of non-traumatic events.
12. Information in memory can decay and be permanently lost from memory.
13. Some experiences can never be recovered by hypnosis, nor any other special technique, because the information is simply no longer available.
14. When people are hypnotized to help them remember their previous experiences, they often remember things that never happened.
15. Memories of physical trauma are sometimes "stored" in the muscles of the body.
16. "Forgetting" something just means you can't find the place where the information is permanently stored.
17. By Using special therapeutic techniques, some people can remember things that happened while they were in their mother's womb.
18. Things we see on television can blend with our memories of truly experienced events.
19. Memory record and stores all of our experience since birth.
20. A pretty good rule of thumb for determining accuracy of a person's memory for an event is the amount of detail he/she uses when reporting the memory.
21. Memories for painful experiences are sometimes pushed into the unconscious.
22. Nothing is ever truly forgotten.
23. We usually remember the basic gist of typical experiences.
24. The muscles and skin of the body can remember and store whatever experiences the mind chooses to forget.
25. A "spotty" or fragmented portion of childhood memories usually means something traumatic has occurred.
26. Memory is usually not very good for traumatic or stressful situations.
27. Some athletes are so highly skilled that their muscles remember what to do and how to move.
28. Things we read about can accidentally get confused with truly experienced events.
29. Very traumatic events can sometimes be recalled with the proper therapeutic techniques.
30. Newborn memories can sometimes be recalled with the proper therapeutic techniques.
31. Lost memories for unpleasant experiences reside in the unconscious, where they often cause a lot of emotional damage.
32. People often fill the gaps in their memories with events that "make sense" but never actually occurred.
33. It is not unusual for people to have accurate memories of events for the first few days after birth.
34. If we really focus our attention on remembering, it is possible to retrieve memories of especially important but frightening events, such as baptism or circumcision.
35. With the right techniques, certain people can produce accurate and vivid memories of a past life.
36. I believe that my present life is influenced by a previous life/lives I may have had.
37. It is easier to accurately remember something you have done than something you have said.

Effectiveness of Self-Modeling as an Intervention for Behavioral Change: Or is it Really the Alteration of Memory?

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This newsletter entry is a brief summary of a paper presented at the annual meeting of the American Psychological Association in August, 2001

A considerable body of research has indicated that memory can be altered (Loftus, 1997; Schacter, 1995). The question is what are the mechanisms by which the alteration occurs. Loftus has suggested that it is relatively easy to "create complex and elaborate false memories in the minds of research subjects, and that subjects are confident that these false memories are real." (p. 61). The procedures employed to change memory have involved external suggestion, encouragement both to remember more and imagine former false memories (Loftus).

This synopsis explores the treatment of videotape self-modeling and its relationship to the alteration of memory. Self-modeling is defined as "an intervention procedure using the observation of images of oneself engaged in adaptive behavior. Most commonly these images are captured on video, edited into 2 to 4 minute vignettes, and repeatedly viewed to learn skills or adjust to challenging environments as part of a training or therapy protocol" (Dowrick, 1999, p. 23). We propose that when individuals view a modification in their behavior on edited videotapes, their memories and self-beliefs change to be in agreement with that which was viewed. When individuals view their videotapes on six to eight occasions, over a period of several weeks, they may eventually alter their memories of past maladaptive behaviors, with a memory of engaging in exemplary behavior similar to that depicted on the edited videotapes. It is assumed that they eventually come to believe that they were always capable of performing such exemplary behavior. The following case-study is one of three that were included in an investigation published by Kehle, Madaus, Baratta, and Bray, in 1998. This example describes the procedure.

Megan was a third-grade child with selective mutism that was initially diagnosed in preschool. She was described as having an above average IQ; however, she evidenced poor academic performance in school. Her selective mutism and poor school-related performance were the primary mitigating factors that resulted in her being placed in a special education class for students with serious emotional disturbance. In addition to her selective mutism, Megan also exhibited enuresis, which has been shown to be an associated behavior.

The treatment involved the construction of an edited videotape that depicted Megan supposedly responding to approximately 10 of her teacher's questions. In reality, Megan was responding to questions posed by her father. The edited intervention videotape was around 5 minutes long and was shown back to Megan once or twice a week over the course of 5 weeks. The tape was also viewed by her classmates in order to instill the expectation that she could indeed speak.

During the fifth week of intervention, Megan began conversing in an appropriate and expected manner that was indistinguishable from her classmates. In addition the associated feature of enuresis abated entirely. At a 9-month follow up, Megan's in-school speaking remained age-appropriate. Her placement was now in general education and her academic performance was judged as superior. At the follow-up interview, Megan stated that she could not remember why she did not speak in school, simply suggesting that she was shy.

The possibility that similar mechanisms are involved in the research on memory and the effectiveness of self-modeling is compelling. This is particularly evident in the research focusing on misattribution and suggestibility. The procedure employed to induce these images of events that never took place in order to create a false memory (Loftus, 1997), is strikingly similar to the above described self-modeling procedure in which the student viewed an edited self-modeling videotape of adaptive talking behavior that have never taken place before in the school setting. Both create a false memory that the person(s) either have previously experienced the event, or subsequently, can successfully replicate the visually depicted event.

Additional support for the impact of self-modeling comes from literature suggesting that information presented visually is more potent and enduring than information presented verbally with regard to altering memories (Braun & Loftus, 1998). Individuals who are exposed to visually presented information, come to "really believe in the veracity and strength of the newly created memories, and they report visually re-experiencing the information." (p. 577). Of particular importance, Braun and Loftus reported that altering memories can also result in a subsequent change in behavior. Their study of the effects of misinformation in advertising showed that "memory changes can be directly linked to consumer subjective judgments and choices when the misinformation is particularly salient." (p. 569). The use of edited videotapes depicting oneself engaged in exemplary behaviors should maximize identification with the model The following, taken from Braun and Loftus, is relevant to our argument:

> Advertising is far from unimportant or harmless; it is not a mere mirror image. Its power is real, and on the brink of a great increase. Not the power to brainwash overnight, but the power to create subtle and real change. The power to prevail.(Clark, 1985)

In summary, the positive effects of self-modeling, should dramatically exceed the effects realized as a result of visually conveyed advertising. This is perhaps due to the fact that self-modeling capitalizes on identification and similarity with the model. Finally, it was proposed that alternation of memory may be a plausible alternative explanation for the effects of self-modeling.

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This entry is a brief summary of a paper presented at the annual meeting of the American Psycho9logical Association in August, 2001.

Empirical Support for Memory Beliefs

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Our memories define us. They permit a sense of continuation from one occasion to the next, stringing together a series of moments that we come to call a lifetime, each embedded in the cultural context that comes to discern an era, a history. But how steady is the continence of this history? Is it a jagged peak that serves as a landmark, or the wavering face of a river that changes? Clearly we are aware that each of us is capable of recalling life events, but does the average person know the precision of this record keeping? When does it begin? How malleable are these recollections? And are these beliefs consistent across individuals, or does each person construct his or her own unique understanding of memory? This paper examines common constructs that form a core of beliefs about memory. Using a national sample of 1239 individual's responses to the Beliefs About Memory Survey (BAMS: Brown, Garry, Loftus, Silver, DuBois, & DuBreuil, 1996), our focus for this paper centers on three general beliefs about memory: memory storage; blending of memory; and the possibility of early and pre-life memory.

This research has relevance to many; among them is the juror, therapist, public relations officer, and teacher. Common assumptions about the role and capability of memory pervade our culture, yet as scientists we must ask, are these beliefs a mere reflection of the false consensus effect at work in our own thinking, or are they supported by empirical evidence? Have researchers done well to disseminate findings regarding the role of memory? This paper begins to address these questions.

Our recollection of events is important, as is how we believe we may remember material and how accurate we believe those memories may or may not be. Science has revealed that memories are fallible. Belli's (1989) research proposed that misinformation effects (i.e., repeated false statements and underhanded information that lead people to believe they have seen or experienced something that they have not) may distort recollection. This, coupled with confirmation bias (i.e., the tendency of people's beliefs to drive their behaviors) may cause people to search for and then ultimately remember inaccurately. The work of Loftus and colleagues has focused on this lack of precision in a person's memory, whether related to eye-witness testimony (Loftus & Ketcham, 1991) or repressed memory (Garry, Loftus, Brown, & DuBreuil, 1994). Her theory describes a mixing of current perceptions with schematic representations of memories to cause alterations to an earlier memory. These distorted memories then may appear to be real memories to the individual, but in fact have been influenced by questioning techniques, suggestion, or mere recall efforts. A person's belief that they can recover repressed or newborn memories through specific techniques, techniques for which there is no scientific evidence to support, can significantly impact the belief system about memory and the recollection of 'facts' and 'events.' The study of person's memory beliefs is very important in the field of memory research as it relates to the fidelity of memory for events during an observed situation, such as an argument between two people, a legal trial, or the evaluation of someone's performance (e.g., teacher observation). It also raises questions about the recall of repressed memories of abuse and violence during counseling.

Returning to our initial questions, then, we must examine the commonly held beliefs about memory that are assumed in our culture. Garry, Loftus, and Brown (1994) developed a measure of people's beliefs about memory and found a surprising level of agreement with beliefs that are unsupported by scientific research. Brown, Garry, Silver, and Loftus (1997) reported similar findings. For example, 33% of the sample used in the Brown et al. (1997) study believed memories of physical trauma are sometimes 'stored' in the muscles of the body; 25% believed their present life is influenced by a previous life/lives. The data indicated that large percentages of the sample were subject to misinformation and unfounded and unsubstantiated memory beliefs. These findings point toward the task of better educating the public regarding the nature of memory. An assessment evaluating these beliefs concerning memory can provide a baseline measure of the magnitude of misinformation about memory within our society, serving as a guide for scientists and educators, and has implications in a number of scientific fields of study.

Method

Participants

One thousand two hundred thirty-nine individuals from Connecticut, South Carolina, Maryland, Montana, Oklahoma, Texas, and Utah participated in this study. These

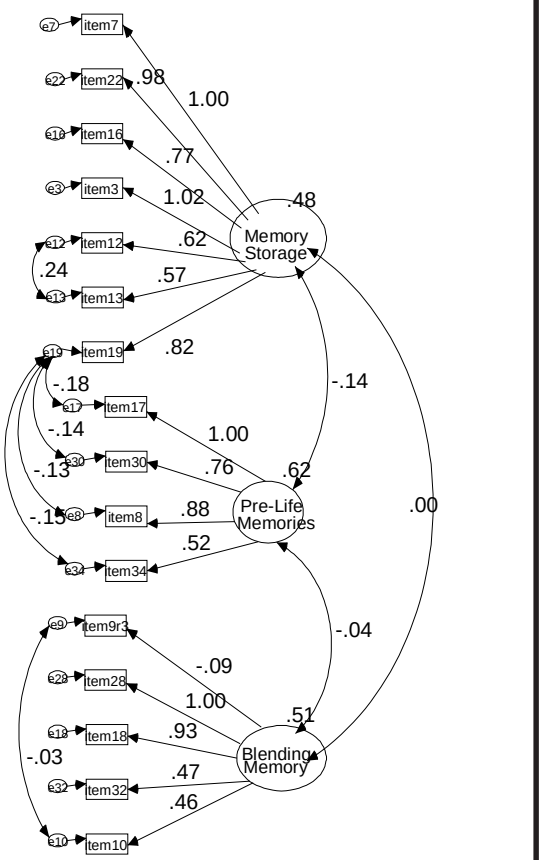

Figure 1. Beliefs about memory: Specified model

participants represent high school, community college, and university students, as well as those residing in senior housing. Some of the school-aged participants were provided extra points in their class for participation.

Instrumentation

The Beliefs About Memory Survey was initially developed by Garry et al. (1994), and further revised by Brown et al. (1996) and Brown et al. (1997). The most recent version of the BAMS contains 37 items on a self-report 5-point Likert scale with labels of 'Strongly Disagree', 'Disagree', 'Neutral', 'Agree', and 'Strongly Agree' (see http://www.education.uconn.edu/memorysurvey/ for the complete survey, the questions of which are presented here on page 6). Principal component evidence provided by Brown et al. (1997) demonstrated a three-component solution. Components were labeled New born, womb, and previous lives memories (6 items), Blending of memories (5 items), and Memory storage beliefs (7 items). The remaining 19 items did not covary with any of the items on the first three components. Rasch analyses (Smith et al., 1998) revealed strong empirical support for 16 of the 18 items identified as loading on the three constructs from the components analysis. This study examines those 16 items, addressing the constructs of *Memory Storage*, *Pre-Life Memories*, and *Blending Memories*, in a confirmatory factor analysis.

Variable 1	Variable 2	Correlation
Pre-Life Memories	Blending Memories	-0.08
Pre-Life Memories	Memory Storage	-0.26
Blending Memories	Memory Storage	0
Error Item 10	Error Item 9	-0.23
Error Item 34	Error Item 19	-0.21
Error Item 17	Error Item 19	-0.42
Error Item 12	Error Item 13	0.34
Error Item 30	Error Item 19	-0.25
Error Item 8	Error Item 19	-0.19

Table 1. Correlations

Items defining the *Memory Storage* construct relate to the durability of memory, such as item 7, "Everything we learn is permanently stored in the mind, although sometimes certain information is not accessible". The *Pre-Life Memories* construct is defined by questions relating to our ability to store memories prior to physiological birth, such as item 8, "It is possible for a person to remember things that happened before he/she was born". The third construct, *Blending Memories*, relates to the authenticity of recollection capabilities. Items that define this construct are similar to item 18, "Things we see on television can blend with our memories of truly experienced events".

Results

All data were subjected to confirmatory factor analysis (CFA). The initial measurement model was altered by the addition of six covariance terms among error terms as determined by the modification indices and theoretical justification and re-estimated. The final measurement model is depicted in figure 1. [For specific details on the procedures and the results contact Bethany Silver].

Correlations. Table 1 shows the correlations among the factors. Recall that the covariance between the Blending Memories and Memory Storage constructs was not significant. Significant correlation occurred between the remaining constructs in the model, with the strongest correlation found between Pre-Life Memories and Memory Storage

Discussion

There are a number of practical uses for the BAMS. It could be used as a screening tool for jurors, to ensure that they are critical consumers of testimony; a self-assessment for educational needs regarding research findings related to memory; and as an evaluation instrument to guide therapists against the encouragement of false memories in clients who believe in the possibility of special techniques, such as hypnosis, to uncover repressed memories. Data collected from this research may be useful to the public relations' officer, who provides information to the media, so as to present information with embedded strategies that would facilitate recall. It is also useful to the teacher, who can help students create and modify memory strategies by defining the capabilities of memory, as well as means for increasing memory skills, so that memory is viewed as a self-regulated, as opposed to attributional, entity.

Conclusion

There are several important results that may be drawn from our analyses. From a clinical standpoint, these

findings have implications for therapists working with clients, lawyers questioning clients and eyewitnesses, teachers instructing students in a classroom, and for the average citizen. As therapists ask questions of clients, they must be aware that a client's beliefs about the functioning of their memory will directly impact the events that they recall and the accuracy with which they report those events. As lawyers question witnesses during a trial, they must consider the juries' beliefs about the memory of the event related to the testimony delivered, as well as the memory beliefs of the jury members listening to the testimony. If great detail is presented in the testimony, it appears that the jury may be more likely to believe that the person's memory of the event is more accurate than if there is impoverished detail. When teachers are instructing in their classrooms, they need to be aware that their students may have many misperceptions about memory and how it operates, and these beliefs may negatively impact the student's ability to recall instructional material. For members of our society, an increased awareness of memory facts and myths can greatly aid expectations about memory capability, and strategies for remembering that will facilitate accuracy.

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Discussion: Research Evidence to Combat Misconceptions About Human Memory

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In 1978, Ulrich Neisser gave the opening address at a conference focusing on the practical aspects of memory. During that speech he stated, and I am paraphrasing here, that if something were an interesting or socially relevant topic concerning the behavior of human beings, that psychologists would rarely study it. He of course was talking about the nearly century long tenure of memory research to date. He argued that findings from the highly controlled laboratory research that had been conducted in the past had little relevance or application in the real world. Neisser called for a more ecological approach to the study of human memory. In this approach, he challenged researchers to take into account the context of memory and the perspectives that the individual brings into the research equation.

Looking at the nearly 25 years of memory research that has passed since Neisser's speech in 1978 – what has changed? Well, psychologists are still conducting those controlled laboratory experiments, and probably always will. This occurs for several reasons, but for the sake of time and space – I offer only the two of the more major reasons. First, it is much easier to present a cogent, theoretically based explanation of human memory if we can parse out intervening variables like context and prior experience. Second, these experiments HAVE lead to some relevant insights into human memory and learning. Take, for example, the enormous body of research on the recall of information from text-based resources. From this research, we know better

how to present text-based information to students, how to organize it, how to heighten attention – what information not to include and how to help students read in order to facilitate better and more accurate recall. Even this body of research, is however feeling the need for a more ecological approach, turning to the use of naturally occurring texts instead of experimentally contrived ones, examining reading in the classroom context and even the impact of collaborative reading environments. So, in roads are being made—even if at a slow pace.

In the same vein, the research presented in this collection of papers takes a stride away from the laboratory. Rather than trying to define human memory, these researchers have attempted to understand how memories define humans. With respect to the Silver et al., and Alvarez and Brown papers, we see an attempt to document the beliefs that we all carry with us that shape the way we see, log, and recall events in our lives. While these beliefs are as unique as the individuals who hold them, this research highlights that there are shared representations of memory among us and across cultures. We know from recent research published by Winckleman and Swartz (2001) that what people believe about memory and how it works does shape the nature and quality of what can be recalled. In addition, research by O'Sullivan and colleagues (1996) illustrates that beliefs about memory change over time and suggests that memory beliefs maybe learned. As suggested in both of these papers, as practitioners in the field of psychology, we need to mindful of the preconceived beliefs about memory that students bring to our classrooms and how these beliefs may effect how they think, acquire knowledge and apply meaning both in and out of educational settings.

Finally, I turn to the Kehle et al. paper. In this paper, we see a new, more ecological explanation of a traditionally behavioristic regime. Forward thinking, thinking that is open to a myriad of plausible hypotheses, like that underlying self-modeling, is the kind of proposal that will allow us as researchers to examine the full spectrum of human memory, rather than a single constrained path. We need to continue to examine such hypotheses, constantly changing the research lens so that we do not continue to explore with tunnel vision. I encourage these researchers to move forward with their postulate and try and document the alterations that might be occurring in participants' memories as a result of this powerful intervention.

Over the 100 plus years of memory research, it may be easy to think that as humans we are merely the compilation of our memories – the end product all that we have ever endeavored. However, the research presented here today illustrates that just the opposite is true. Our memories are the end product of all we have ever thought or done, and are filtered by our perceptions and opinions. As individuals, who we are is shaped by our memory of the past and our memory is continually reinvented by who we have become. This symposium has called upon us as researchers in the field to embrace these complexities and to realize their ramifications on how we study memory and apply research findings in our own work. I hope these lines of research will continue and look forward to how they continue to reinvent my understanding of human memory.

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The GENERAL Psychologist

"Race" and IQ

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This article examines the notions of "race" and IQ. It begins with a history of attempts to tie the brain to the observed black-white difference in average IQ scores. This background is followed by an examination of "race" from genetic and conceptual points of view; consideration of possible additions to the IQ test as they relate to the race-IQ controversy; discussion of the heritability index's implications for a genetic explanation of the black-white, IQ-score difference; exploration of rapid, worldwide gains in IQ as it bears on the IQ-score difference; and a review of neuro-plasticity research as a way to finesse the "race"-IQ debate.

A Brief History of "Brain Size and Intelligence"

During the early 1800s, Franz Gall developed one of the first attempts to relate the brain to human faculties (Boring, 1957). Gall offered "phrenology" as a method of mapping human intellectual and affective faculties. For example, "calculation" was located at the corners of the eyes. Each area was physically represented by a "bump," a protrusion of the skull that presumably was caused by an expansion of the brain at the location of the faculty. It seemed to follow that the greater the number of intellectual "bumps," the larger the brain, and, it was assumed, the greater the intelligence. Phrenology lasted into the early 1900s before a lack of scientific support spelled its demise. However, a related notion, dating to 1839, gave new life to the belief that the bigger the brain the greater the intelligence (Gould, 1981). It's major, modern proponent, J. Philippe Rushton (1995; Rushton and Ankney, 1996), ranks the "races" according to head/brain size and intelligence as follows: Asians, whites, blacks.

During the pre-neuroscience mid-1800s the idea that "the bigger the brain the greater the intelligence" probably seemed intuitively compelling. In fact, physician Samuel G. Morton appeared to produce convincing evidence that whites had larger brains than blacks and, it was assumed, greater intelligence. Gould (1981) performed an in-depth analysis of Morton's measurements and found them deficient in several ways (e.g., his rounding errors favored his biases). Rushton's assumptions and methods have also been criticized (e.g., Cernovsky,1992; Neisser, et al., 1996). However, a more important issue may be the basic assumption behind 160+ years of race, brain-size and intelligence work. In this era of major neuroscience advances, it may not make sense to simply assume that the bigger the brain the greater the intelligence.

Einstein's Brain

Witelson's, Kigar's, and Thomas' (1999) examination of Albert's Einstein's brain illustrates that something more complicated than a brain's size relates to its owner's intelligence. They compared Einstein's brain with an average specimen from a sample of 35 intact, control brains. Einstein's brain has about the same dimensions and the same weight as the comparison brain. However, in areas specific to Einstein's unique skills, his brain was quite different. Whereas, in normal brains, the post central sulcus and the Sylvian Fissure do not flow into one another, in Einstein's brain they form a single, continuous rut. The net result is that Einstein's brain lacks the parietal opercula. Extensions of the inferior parietal region that governs spatial-visual, mathematical ability fill the vacated space. It is the structure of the brain that relates to the intelligences, not its size. As considered in the last sections of this article, structure includes the distribution of functions in the brain and actual growth processes in the brain.

Races?

In the course of cataloging human genes around the world, geneticist Cavalli-Sforza and his colleagues (Cavalli-Sforza, Menozzi, Piazza, 1994; and see Cavalli-Sforza, 2000) have failed to find groups that are so genetically unique that they can be called "races." They quote Charles Darwin on the subject of "races": "it is hardly possible to discover clear distinctive character" between races, because they "graduate into one another." (p. 17). They summarized their own findings: "All populations or populations clusters overlap when single genes are considered, and in almost all populations, all alleles [forms of genes] are present but in different frequencies." (p. 19). That is, humans share the same pool of genes and a gene can be found such that, for any two groups, the frequencies are not significantly different (they overlap on that gene). In regard to "races," it is possible to find some alleles (e.g., blood types) for which allelic frequencies are significantly different. However, for most genes on which the "races" can be compared, frequency differences are not significant. In fact, when comparing any two groups, no matter how geographically distant they are from each other, genetically they will be much more similar than they are differ-

ent. Owens and King (1999) estimate that more than 80% of genetic variability is within groups, leaving less (maybe considerably less) than 20% of genetic variability invested in differences between groups.

Findings such as these have led the American Anthropological Association (AAA) to declare the notion of "race" to be "meaningless and unscientific" (Anthropology Newsletter, 1995, p. 7). Similarly, J. Craig Venter of Celera Genomics, the private group that was first to specify the human genome, reported, "We have sequenced the genomes of three females and three males who identified themselves as Hispanic, Asian, Caucasian or African American." Why the variety? "out of respect for the diversity that is America, and to help illustrate that the concept of race has no genetic or scientific basis." (quoted in Recer, 2000 p. A 7). Recent issues of Science contain other similar pronouncements regarding the lack of scientific evidence for "race" (e.g., Owens & King, 1999; Paabo, 2001).

Conceptual Problems With the Notion, "Race"

Especially in the U.S. the overlap between blacks and whites is quite large. The mixture of the "races" began early in what was to become the U.S. By the time of the Revolutionary War, there were several hundred thousand people of mixed African and European heritage (Peoria Journal Star, April, 25, 1995, C10). Obviously this number would greatly increase over the years to the present time. While the great majority of blacks have European heritage (Davis, 1991), the number of people who are labeled "white" by self and others, but have African heritage, has not even been the target of speculation. A population value for this group with an upward boundary of 14,000,000 or 5% of the U.S. population was suggested by sociologist F. James Davis author of Who is Black? (1991), the most carefully documented study of the issue (personal communication January 2, 2001).

On a psychological level, "racial" categories have been considered self-evident by those who value differentiating people into "racial" groups. Rather than simply declaring one group "black" and the other "white," or classifying by appearance or by subjects' self-declarations, the following conditions must be satisfied by researchers interested in "racial" differences, if their results are to be meaningful (Allen & Adams, 1992; also see Yee, Fairchild, Weizmann, and Wyatt, 1993). First, consensually accepted criteria for differentiating the "races" must be developed and actually shown to erect clear boundaries between one "race" and another. A consensus on criteria for differentiating people into "racial groups" does not exist, as signified by the observation that most "racial" researchers fail to state criteria (skin color? hair texture? facial bone structure?). Second, variability within "races" on criteria and traits of interest (e.g., IQ) must be adequately reconciled with assumptions of intraracial homogeneity. "Races" vary greatly within themselves on criteria such as skin color as well as on traits such as IQ, but researchers tend to ignore this variability in favor of emphasizing average differences between groups. Third, overlap among races on criteria and traits must be reconciled with the assumption that the "races" are meaningfully distinct. When comparing any two large groups on just about any psychological trait (and on some classification criteria, such as hair texture) it will almost always be true that the distributions of trait scores for the groups will greatly overlap.

The importance of considering differences among people within groups is well illustrated by comparing the genders on the intellectual trait for which they differ the most (Levy, 2000). The average difference between the genders accounts for only 15% of the variability in spatial-visual scores.[1] The other 85% of variability in spatial-visual ability is accounted for by within group differences. Obviously, if one wants to know whether a person has strong spatial-visual ability, it makes little sense to rely on gender. One would do better by having the person draw a map to guide travel between points in a major metropolitan area.

Beyond IQ: Possible Additions to the IQ Test

Let us assume, for the sake of argument, that meaningfully distinct groups called "races" do exist. If so, would an observed difference between two "races" on IQ test scores signify that one race is more intelligent than the other? An affirmative answer would be relatively reasonable and defensible only if IQ were all there is to intelligence. However, there are a number of candidates for additions to IQ tests. Sternberg (1988; also see Sternberg, 1997; 1999) has proposed three kinds of intelligences: (1) g(general)-like intelligence—the ability to collect information and analyze it (what is measured on the IQ test); (2) "Creativity"—being able to assemble pieces of information into something entirely novel (Einstein's thinking illustrates this category); and (3) "Street smarts"—solving, everyday practical problems, including adapting to one's changing environment.

Gardner (1983) has proposed seven intelligences. Linguistic ability and logical-mathematical ability are essentially what is measured on the IQ test. Spatial ability is a third entry and music ability the fourth. If one defines "intellectual ability" broadly—as any skill that contributes to the survival and prosperity of people—music ability may qualify for inclusion with the other intelligences. While the number of people who make a living directly through musical skill—e.g., pop singers—is probably in the order of a few hundred thousand, adding others, for example music teachers, generates a figure in the millions. However, the number of those directly making a living from music pales by comparison to the multiple millions who make a living indirectly from music. Further, recent genetic research on relative pitch perception illustrates the importance of considering very specific skills in genetic research (Dryna, D. Manichaikul, de Lange, Snieder, and Spector, 2001; Holden, 2001). At the same time it shows that the genes play a role in a music ability that might be related to language skills.

[1]While this gender group difference may be important for acquiring rare jobs requiring very high spatial abilities, for most practical purposes it is unimportant. Levy's estimate is one of the highest reported in the literature.

Bodily-kinesthetic ability is, simply put, dexterity and body control. Artistic and athletic skills are included here: ballet and other dance skills as well as ability to play sports and excel in gymnastics. Like music skills, bodily-kinesthetic ability provides a living for millions directly and multiple millions indirectly.

Intrapersonal ability is knowing oneself. Knowing one's abilities and deficiencies allows for the selection of life-circumstances in which one can succeed. Interpersonal ability is knowing others. For example, the ability to decode others' non-verbal, postural and facial communications can lead to the kind of interpersonal success that yields success in general.

Emotional intelligence has captured the fancy of the public (Goldman, 1995; Salovey & Mayer, 1990). Self-awareness—ability to recognize an emotion when it occurs—is among its five components. One cannot control emotions without being aware of them. In fact, sudden acts of self and other destruction (e.g., school shootings) may, in part, result from individuals' inability to monitor their levels of depression and anger.

Mood control—the ability to turn a bad mood into a good one—may be essential for an adequate sense of subjective well-being, a prerequisite for successful living (Diener, 2000; Myers, 2000). While everyone suffers through periods of dysphoria, those who are able to develop the cognitions and behaviors needed to reverse the course of a bad mood will enjoy greater life satisfaction and contribute positively to others' lives.

Self-motivation is the ability to focus on a goal and continue to pursue it even in the face of failures to obtain it. Athletes invariably suffer defeat, but the great ones renew efforts to attain their goals. They show resilience in response to set-backs, just as do accomplished writers and scientists (Bandura, 1994). Success, regardless of the arena in which it is pursued, depends to a significant degree on the ability to maintain motivation whether or not outcomes are favorable.

Impulse control involves the ability to regulate behavior so that a sudden whim does not result in socially embarrassing or destructive behavior. The work of Walter Mischel and colleagues on "delay of gratification" aptly illustrates the social and cognitive benefits of impulse control (Mischel, Shoda, & Rodriguez 1989). Ability to delay gratification during the pre-school years correlates strongly and positively with adolescent academic and social success (Shoda, Mischel, and Peake 1990). Also having important implications for impulse control is Albert Bandura's and colleagues' work on the self-regulatory process, self-efficacy, as it relates to academic achievement, and their research on moral disengagement (Bandura, Barbaranelli, Caprara and Pastorelli, 1996a and 1996b, respectively).

"People skills"—social skills by another name—include the ability to effectively interact with, relate to, and cooperate with other people. Intuitively, people who possess social skills appear to have increased odds of survival and prosperity. For example, a person who obtains a prestigious Ph.D. in physics would almost invariably end up as a member of a research team at some institution. Under these conditions, lack of social skills could seriously limit success.

Proposals to add intelligences to those already measured on typical IQ tests are relatively new. Thus, it is not surprising that there is, at present, relatively little hard evidence favoring candidates for inclusion on intelligence tests. For example, an investigation of emotional intelligence as a whole generated disappointing results (Davies, Stankov, and Roberts, 1998) and Gardner's candidates have been bolstered by logic and indirect evidence rather than direct, empirical support (Sternberg, 1988; introduction in the 1993 reprint of Gardner's 1983 book). However, Sternberg does provide evidence to support his three kinds of intelligences (e.g., see Sternberg, 1999). Despite the scarcity of evidence, it would be surprising if, fifty years from now, none of the candidates considered here were included on revised intelligence tests.

Measures of spatial ability are currently available (Gardner, 1983), but this crucial skill appears to be given relatively little weight in the intelligence testing process. If so, it provides a good model of how group differences in IQ scores might change if candidate abilities were added to intelligence tests. Kearins (1981; 1986) has shown that Aborigines children possess higher spatial-visual ability than Australian children of European heritage. The gap between Aborigines and European-Australian children in average IQ scores would be narrowed if spatial-visual ability figured more prominently in intelligence testing. More generally, the addition of new abilities to the IQ test might narrow the assumed IQ gap between people of color and others.

Heritability

Again, for the sake of argument, let us assume that there are "races" and that IQ is all there is to intelligence. If such were the case, could it be asserted that an observed difference between blacks and whites in IQ scores is inherited? An affirmative answer would be reasonable only if some measure is available to show that a difference between groups is inherited.

At first blush the heritability index may (and did at one time) appear to be the relevant measure. "Heritability" refers to the proportion of variance in a trait that is accounted for by the genes (McGuire & Hirsch, 1997; Weizmann, Wiener, Wiesenthal and Ziegler, 1990). The heritability index—h2 (narrow) = additive genetic variance/total phenotypic variance—was developed by geneticists to help predict the outcome of breeding experiments. It was never intended to be used as psychologists have employed it: to divide the total variance in a trait into that which is "determined" by the genes (h2) and that which is "determined" by the environment (1-h2). Obviously use of the index may be criticized because environments and genes are not manipulated or controlled as they would be in biological, genetic research (Gottlieb, 2000). While there have been other criticisms of the heritability index (e.g., Devlin, Daniels, and Roeder, 1997; Gottlieb, 2000; Schonemann, 1989), a more important point can be made about a misinterpre-

tation of genetic effects associated with h2: genes are expressed in environments and expressions may vary as a function of the environments in which they occur (Neisser et al., 1996; Weizmann et al., 1990).

Environmental interventions can change genetic expression. Perhaps the simplest and clearest illustration of this point is in regard to the disorder, phenylketonuria (PKU). If left untreated, PKU can result in retardation and other maladies (NIH, 2000). However, a simple nutritional intervention, avoidance of phenylalanine, can change the harmful expression of this disorder. Other examples abound, although they may not have occurred to the general public or some psychologists. The genes play a role in lack of muscular development, but a person from a long line of frail people can become very muscular through weight lifting. Plastic surgery can change the shape of body parts that undoubtedly are influenced by the genes (e.g., noses and ears). Injection or extraction of fat can change the shape of other bodily features that are influenced by the genes: lips, buttocks, and abdomen. Finally, one of the major goals of medical science is to change the expression of disorders that are heavily influenced by the genes.

In regard to the question, "Can h2 index the inheritance of a difference between groups on IQ?" the answer is unequivocally, "no." The h2 statistic is meaningful only for the single population that contributed data to its calculation and only at the time the calculation is made (Weizmann et al., 1990). It cannot be used to make statements about the inheritance of differences between groups. In fact, there appears to be no incontrovertible means to show that an alleged difference between groups is in any sense "inherited."

Implications of Rapid Gains in IQ for the "Race"-IQ Debate

New Zealand, political-scientist James R. Flynn has reported rapid and large IQ gains during the last three quarters of the twentieth century. Maximum gains approximating 20 IQ points occurred in as little as a generation (30 years; Flynn, 1999; 2000; Dickens & Flynn, 2001). Such rapid and large gains cause an immediate problem for genetic determinists. Genetic change requires many, many generations (Cavalli-Sforza, 2000; Cavalli-Sforza et al., 1994). Accordingly, these gains are not "genetic."

Rapid IQ gains also pose a problem for those who believe that intelligence can be characterized as one factor, "g" or general intelligence. For example, it has long been known that heritability (h^2) assumptions rest on the belief that intelligence is general (g) rather than composed of many specific abilities (McGuire & Hirsch, 1977; Yee et al., 1993).

"g" has been broken down into two components. Fluid "g" (g_f) is the "think on your feet," problem solving part of "g" and is thought to be almost entirely inherited (Cattell, 1966). By contrast, crystallized "g" (g_c) depends on "applications of [g_f], and amount and intensity of schooling" (Cattell, 1966, p. 369) and is little affected by the genes. Thus, g_c should show the largest gains. In fact, however, g_f shows the largest gains (Flynn, 1999; 2000), exactly the opposite of what those who endorse "g"-genetic-determinism-link would expect.

As rapid IQ gains cannot be "genetic" they cannot be used to argue that the observed black-white IQ-score difference is "inherited." Actually, these gains may be seen as contradicting expectations derived from the belief that the black-white difference is "inherited." Flynn (1999) reports that blacks are gaining at a slightly higher rate than whites and Neisser et al. (1996) indicate that the black-white IQ gap is closing.

Do the Genes Play a Role in Intelligence?

Directly or indirectly, the genes play a role in almost all human, psychological characteristics (as well as almost all other human traits; Cavalli-Sforza, 2000; Dickens & Flynn, 2001). One does not have to do heritability calculations on identical twin IQ data; the large correlation between the IQs of identical twins strongly implies a genetic contribution to IQ. The problem is that genes and environments are so inextricably tied up that they cannot be separated, as is done when heritability calculations are conducted. One implication of this assertion is that the nature-nurture debate is over: It is not possible to decide between nature and nurture as determinants of human characteristics (Turkheimer, 2000). Environments can change the expression of genes, and genes can, for example, produce behaviors that change environments (Dickens & Flynn, 2001). Another implication is that psychologists need a different approach to studying the influence of the genes on human intelligence and other characteristics. Training in university genetics departments is sorely needed so that more psychologists can do genetics as biologists do it, in the laboratory, not by resorting solely to statistical methods. A third implication is that the dogmatic environmentalists are just as incorrect as the genetic determinists (Gottlieb, 2000).

Major discoveries of genes that influence human intelligence (and other psychological characteristics) await the isolation of very specific intellectual abilities, an eventuality that is unlikely until psychologists abandon "g." It is time to take another hard look at "g." Criticisms of "g" have been offered on mathematical grounds (Guttman, 1992; Schonemann, 1992) and conceptual grounds (McGuire & Hirsch, 1977; Sternberg, 2000).

Because almost every human characteristic is very complex, finding genes that influence a given ability is unlikely if that ability is very broad. For example, finding genes that play a role in alcoholism has been frustrating partly because alcoholism is studied as if it is one unitary entity rather than many, each complex in its own right, and because psychological traits are complex, each probably involving multiple genes (see the debate that followed the report by Crabbe, Wahlsten, and Dudek, 1999, in Science, September, 24, 1999, pp. 2067-2069).

Neuro-plasticity:
A Way to Finesse the Race and IQ Debate?

Until relatively recently, neuroscientists assumed that the brain was hard-wired at birth and any physical changes that occur thereafter were in modification of

existing neural connections, not in the generation of new connections (Greenough, Black, and Wallace, 1987). Now it is widely known that the brain is plastic, it undergoes actual, physical change in response to experience in environments (Greenough, 1991; Azari and Seitz, 2000). When all abilities are considered, it appears that the brain's capacity to reorganize, reconstruct, and rebuild itself is greatest at birth, and declines thereafter (Azari and Seitz, 2000). However, when specific abilities are considered, such as language learning, sensitive periods during which plasticity is greatest may occur after the first three years (Greenough, 1997). In any case, across abilities, the slope of the plasticity curve reflects a slow, linear decline so that the brain's malleability is maintained into old age. For example, patients of average age 57 who had strokes an average of nearly five years prior to physical therapy and were forced to use their previously paralyzed arms, regained use of their arms (Liepert, Bauder, Miltner, Taub, and Weiller, 2000). Further, an electrical stimulation technique that allowed mapping of the stroke-effected motor cortex showed that, during the course of therapy, these areas became as large as corresponding areas in the unaffected, contralateral motor cortex. This kind of brain change may be called redistribution or, in the researchers' words, "reorganization."

Another kind of brain alteration involves actual growth processes. The work of William T. Greenough and his colleagues nicely illustrates this variety of brain change. They have studied changes in the connectiveness of neurons and have focused on the dendrites. The Greenough team have shown that rats exposed to a "superenriched" environment (a cage crammed with different shaped, three dimensional, complex objects), compared to those reared in normal cages, displayed greater dendritic length and more dendritic branching (Camel, Withers, and Greenough, 1997). They also have shown that dendritic change can occur after only a short exposure to enrichment (4 days in Wallace, Kilman, Withers, and Greenough, 1992). In other research, this team reported that rats forced to perform complex motor activity, compared to rats that were forced to traverse an empty runway, displayed greater synaptic proliferation that showed up early and persisted even after training had ended (Kleim, Vij, Ballard, and Greenough, 1997). Finally, Comery, Shah and Greenough (1995) have shown that spines on dendrites—sprouts that serve to increase amount of communication between neurons—grow more densely in the brains of enriched compared to normal cage animals. Greenough and colleagues note that previous research had shown that enrichment enhanced performance on a rat intelligence test (Hebb-Williams maze; Camel et al., 1986) and that the pattern of connections among neurons is crucial, not merely the number (Greenough et al., 1987). Thus, pruning, not just growth of connections, is important (Greenough, 1997).

But does early enrichment reap intellectual benefits for children? It has long been known that intense, enriched experience beginning as early as the first months of life and extending as long as the eighth year has beneficial, intellectual effects (Ramey, Bryant, and Suarez, 1985; Ramey and Ramey, 1992). Thus, there is no doubt that enrichment effects shown with rats extend to children, at least in terms of intellectual benefits (revelation of brain effects of early enrichment programs for children await further advances in neurological assessment techniques). A follow-up study by Campbell and Ramey (1994) illustrates the effects of early enrichment on children recruited at an average age of 4.4 months. Ninety-eight percent were black. The program was conducted 8 hours a day, five days a week. At age twelve, the experimental group (pre-school plus school-age program and pre-school-only program) scored above the control group (school-age-only program and no enrichment) and 87.2% of the experimental group, compared to 55.8% of the control group, scored within the normal range for IQ. So, remarkably, although there were long periods of no further enrichment, children who experienced early enrichment showed higher IQ scores than controls and maintained normal IQ to age 12, where the research ended.

This study and many others like it, dating back at least to 1968, show that genes are not necessarily intellectual destiny (Ramey et al., 1985; also see Nesser et al., 1996). Even if it is assumed that some "races" are "genetically disadvantaged," it does not follow that they are destined to be intellectually disadvantaged. Enrichment programs can yield intellectual equality.

Conclusions

It is important to note that the logic of this paper is "even if a condition exists, it does not follow that dire consequences will result." Even if there is a correlation between brain size and IQ, even if there are "races," even if IQ is all there is to intelligence, it does not follow that the future of children of color is bleak. Modern neuroscience and early experience research with animals and humans make it clear that there is hope for children who have often been written off.

However, let's assume there is real change regarding the issues raised in this article. Suppose, for example, that the various relevant scientific bodies reached a consensus regarding the notion, "race," declaring in a single voice that the concept is without scientific merit. Given that the American Psychological Association, the American Association for the Advancement of Science, the National Academy of Science and other relevant bodies all come out against "race," would the notion, along with it's horrific effects, disappear rather quickly? Much solid research suggests that it would not. "Race" is learned early (Towes-Schwan & Fazio, 2001; Williams & Roberson, 1967) and its mental representation is like the iceberg, the greater part of it is submerged (non-conscious; see Payne, 2001 and his reference list). It would still take many, many generations to erase the notion from the backs of peopleís minds. Nevertheless, should psychologists cease to make the knee-jerk assumption that "races" exist, they would be taking the first step toward eradicating the notion from the minds of people. Opening the experts' minds could feedback to open the public mind. Further, challenging "race" could lead to reconceiving ideas related to it, such as the race-IQ gap. Openness about "race" could lead to greater flexibility regarding conceptions of intelligence, which could ren-

der the gap moot. Questioning "race" could direct developmental psychologists' attention to devising new methods based on neuroscience research that would bolster the intellects of children for whom predictions of adult mental ability have been dire. There is much productive work to be done, even if, decades from now, traces of the notion "race" still plague the common psyche.

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Message from APA President Philip Zimbardo

Dear Colleagues,

I am looking forward to an exciting and challenging year ahead as the new President of APA, and will enjoy working with— and for— you.

Below is an essay that was published in the SF Chronicle on 12/30/01, it is part of my mission to present Psychology as a vital force in our society, and to do that we must develop more effective relationships with all the media. I have just been made the psychological consultant to NBC, and hope to use that position to spread the word about all the good we are doing.

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S.F. Chronicle "Insight" Year-End Special Edition, Dec. 30, 2001, p. D6

THE PSYCHOLOGY OF TERRORISM:
MIND GAMES AND MIND HEALING

As the war in Afghanistan winds down and the relentless hunt for Osama bin Laden continues, our government is gearing up for what is promised to be a long battle against the shadowy, ubiquitous enemy of world wide Terrorism. Leaders from the corporate, scientific and technical sectors of our country are collaborating to develop strategies for combating almost every conceivable kind of terrorist attack - bio-terrorism, cyber-terrorism, nuclear-terrorism, terrorism against our reservoirs, grain stores, food delivery systems, and of course airlines, tunnels and bridges. They are working on the assumption of international enemies with sophisticated technologies and ample resources to deliver lethal attacks that would cripple our nation's functioning. Putting their big security plans into operation will cost billions of "better safe now than sorry later" taxpayers' dollars. Given the current state of national angst over the devastating attacks on the World Trade Center and Pentagon, along with the anthrax mail contamination, most Americans are ready to pay almost any price for greater security.

But what is missing in this big view of the demonic, technologically savvy Enemy bent on mass destruction? Missing is the recognition of the less obvious psychological perspective on what terrorism is all about. Terrorism is the process of inducing fear in the general population by means of acts that undercut an established sense of trust, stability and confidence in one's personal world. Unpredictable, dramatic acts of seemingly random violence are the terrorist's signature. Our fear is a realistic emotional response to events that can harm us, and we react to fear by fleeing or fighting it, or freezing in its presence. Fear becomes anxiety when it generalizes beyond the specific danger situation to become a more pervasive feeling of personal vulnerability to things that are not intrinsically dangerous, but are linked symbolically or historically to danger. Anxiety may be triggered by current events that link to unresolved earlier conflicts, to feelings of loss of control, or to childhood states of inadequacy. The actual danger of most terrorist attacks is relatively small compared to on-going dangers in our every day lives, such as accidents, stress-induced heart attacks, obesity-induced diabetes, or disability and death from smoking. It is the irrational anxiety that terrorists are able to spread wide and deep that amplifies their impact. Kill one president, make everyone feel threatened. Torture and rape a few and make many feel insecure. Destroy a building and have citizens worry that theirs will be next. The terrorists' omnipresent weapon is exaggerated fear that spreads into action-crippling anxieties, especially when delivered repeatedly by television and print media. It is more likely that terrorists would suicide bomb some urban subways or time bomb a few rural school buses than poison our water or food supply. The key to combating terrorism is adopting their minimalist mind set of the rippling impact of singularly dramatic deeds, not using the lens of our grand vision of what major calamity we would inflict given our power — if we were terrorists.

In a profound sense, everything of terrorism is about psychology. Beyond their mind games is the way we cope with their threat. When national leaders repeatedly issue alarms for hyper-vigilance, they ignore all the psychological research about the negative effects of non- specific warnings without any action focus - only making us more paranoid and less mindfully alert. Many of the victims of the Sept. 11 attacks have turned to psychologists for counsel, therapy and aid to help with their overwhelming personal and family grief and stress, and we have continued to give them our services freely. Psychology is also at work in the remarkable transformation that has been taking place in communities throughout the United States. We have changed since our initial sense of feeling victimized as the hated enemy of unknown forces, as being vulnerable in a way Americans have never felt on our homeland. We are developing a more thoughtful, mature outlook on life, sensitive to the preciousness and fragility of all life, and aware of the need to connect more deeply to family and friends. Research shows that reinforcing one's social support network is the single most powerful act any of us can do to improve our health and longevity. There seems to a be a shift away from our preoccupation with future goals and materialistic ambitions towards a better blending of our time frames to include present joys and indulgences as well as embracing past links to our roots and spiritual values. In volunteering money, blood and services, more Americans than ever before are reaching out to help our near and distant neighbors. We have all been the beneficiaries of learning of the sacrifices of so many ordinary men and women in police, fire and emergency forces at Ground Zero, who have become the nation's new breed of hero, replacing celebrities and the idle rich and famous.

The losses of Sept. 11 still hurt and sadden us, but we are emerging as wiser, and are collectively discovering new sources of resiliency that are apparent only when our resolve and courage are put to extreme tests. We are going beyond simplistic patriotism, with its songs and slogans, to question how much of our basic freedoms we are willing to surrender for an illusion of security? We are becoming aware that there are not simple, immediate solutions for complex problems that have been in the making for decades. We can be proud of the ways in which most Americans have demonstrated tolerance for the ethnic and religious diversity that so enriches our national purpose. We can now better appreciate the depth of resiliency that has always been the hallmark of people of color and the poor in our nation, learning from them that a sense of community and kinship helps transcend suffering and victimization.

Psychology is all about making the human connection, about understanding and contributing to enriching human nature. And it is about our enduring televised imprinted memory of September 11. Vibrant lives of thousands of people from New York City and its neighboring Global Village are now images held tenderly in the arms of our million memories. Psychology is about thinking, feeling and acting — sometimes to create a bit of hell and sometimes a bit of heaven on earth.

Cordially,

Philip Zimbardo, President
American Psychological Association
Psychology Makes a Significant Difference