

**interamerican
journal of
psychology**

numbers 1 & 2

1979

volume 13

**revista
interamericana
de psicología**

**REVISTA INTERAMERICANA DE PSICOLOGIA
INTERAMERICAN JOURNAL OF PSYCHOLOGY**

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Inter-Am. J. Psychol.

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INTERAMERICAN JOURNAL OF PSYCHOLOGY**

1979

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A NUESTROS LECTORES

- Dado que con éste número hemos publicado todos los manuscritos que teníamos aceptados, éste número de la revista corresponde a los números 1 y 2 del volumen 13. El próximo número de la revista corresponderá al número 1 del volumen 14 para 1980.

Como la revista se encuentra al día en la publicación de artículos aceptados, queremos invitar a futuros autores a que nos envíen sus manuscritos para ser considerados para su posible publicación en el volumen 14 correspondiente a 1980.

- Sumarios o resúmenes de los artículos publicados en nuestra revista serán publicados en "Spanish Language Psychology," una nueva revista de resúmenes y de revisiones de la literatura que la Sociedad Interamericana de Psicología publicará a partir de 1981. Para ayudar a nuestros futuros autores en la preparación de los resúmenes de sus artículos, sugerimos los siguientes lineamientos:

(A) *Introducción.* La primera frase o frases del resumen o sumario deben incluir claramente el propósito del estudio o las hipótesis del mismo. Esta frase por lo general se escribe en tiempo pasado. (Ejemplo: "Este estudio analizó la relación entre el sexo del sujeto y su calificación en el test x.").

(B) *Método.* Una segunda frase(s) debe especificar las características de los sujetos estudiados (su número, sexo, edad, etc.) y describir el diseño del estudio, los instrumentos utilizados o los procedimientos seguidos al recolectar los datos.

(C) *Resultados.* A continuación se deben detallar los mas importantes resultados del estudio.

(D) *Conclusiones.* Finalmente, el resumen debe incluir las implicaciones de los resultados obtenidos. Aquí cabe hacer referencia a la relación encontrada entre los datos y el marco teórico del estudio.

- A partir del volumen 14, el Gerente Editorial de nuestra revista será Barbara VanOss Marín. Gerardo Marín quien se desempeñó en ésta función desde 1975 pasará a servir como Editor de la revista *Spanish Language Psychology: A Journal of Abstracts and Reviews* que la Sociedad Interamericana de Psicología iniciará en 1981.

TO OUR READERS

- Due to the fact that we have now completely eliminated our backlog of accepted manuscripts, this issue combines issue Number 1 and issue Number 2 of Volume 13 for 1979. The next issue of the journal will be 1980, Volume 14, Number 1.
- Our journal has completely eliminated its backlog of accepted manuscripts. We therefore strongly encourage all authors to submit manuscripts for review for our forthcoming 1980, Volume 14, Number 1 issue.
- Beginning with Volume 14, the Managing Editor for the journal will be Barbara VanOss Marín. Gerardo Marín who held that position since 1975 will become the Editor of *Spanish Language Psychology: A Journal of Abstracts and Reviews*, a new journal which the Interamerican Society of Psychology is starting beginning 1981.

A NOTE TO LIBRARIANS

This double issue corresponds to Volume 13, 1979. The next issue will be Number 1, Volume 14, 1980. Please keep in mind that we have changed the numbering system for our issues so that it more closely reflects the actual printing schedule: the first issue for each volume is numbered 1 and the second and last is numbered 2.

O PAPEL DA SOCIEDADE INTERAMERICANA DE PSICOLOGIA NO DESENVOLVIMENTO DA PSICOLOGIA NA AMÉRICA LATINA¹

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This article analyzes the main activities that the Interamerican Society of Psychology (SIP) has carried out during the 28 years of its existence while trying to help in the development of Psychology in the Americas and particularly in Latin America. The paper recalls the seventeen interamerican congresses of psychology held by the SIP from 1953 through 1979 emphasizing the theme and main topics covered by each congress. Information is also given on dates, attendance, invited speakers, and other factors related to the various congresses. The publications sponsored by SIP are also recalled, particularly the Revista Interamericana de Psicología and the Interamerican Psychologist, given their significance for scientific exchange among psychologists in the Americas. Finally, homage is paid to those psychologists who have participated in the different Board of Governors of the Society and who in their jobs have helped in the development of psychology in this hemisphere. The 17 presidents and 7 Secretary Generals are named for their contributions in this regard.

Nesta conferência são analisadas as principais atividades que a Sociedade Interamericana de Psicologia vem realizando ao longo de seus 28 anos de existência com o objetivo de contribuir para o desenvolvimento da Psicologia nas Américas, especialmente na América Latina. São recordados os dezessete Congressos Interamericanos realizados pela S.I.P. no período de 1953 a 1979, destacandose, em relação a cada congresso, o tema central e os principais aspectos cobertos pelo conclave, além de

informações sobre as datas dos eventos, número de participantes, principais conferencistas convidados, número de sessões, etc. Publicações da S.I.P. como os Anais dos Congressos, a Revista Interamericana de Psicología e o Interamerican Psychologist são lembradas pelo que significam para o intercâmbio científico entre os psicólogos das Américas. Finalmente presta-se uma homenagem aos psicólogos que até agora participaram das sucessivas diretorias da S.I.P. e que, nessa qualidade, emprestaram colaboração valiosa para o desenvolvimento da Psicologia neste hemisfério, com referência nominal aos 17 presidentes e aos 7 secretários-gerais.

A Sociedade Interamericana de Psicologia, completará dentro de alguns meses 28 anos de existência e pareceu-me oportuno tentar fazer um pequeno balanço de suas principais realizações pelo significado que representam para o desenvolvimento da Psicologia nas Américas, com especial ênfase nos países latino-americanos.

Com o objetivo geral de promover neste hemisfério comunicação direta entre psicólogos e pessoas interessadas em ciências afins, um grupo de psicólogos e psiquiatras presentes ao IV Congresso Internacional de Saúde Mental, reunidos sob a direção de Oswaldo Robles, do México, e contando com o apoio decisivo de Werner Wolf, dos Estados Unidos, fundava, no dia 17 de dezembro de 1951, na cidade do México, a Sociedade Interamericana de Psicologia.

O pequeno grupo de idealistas, que reconheceu a necessidade de ser estabelecida uma estrutura institucional para a comunicação no campo da psicologia entre os países da Américas, acalentava além desses objetivos mais imediatos, a esperança de que a Sociedade então fundada poderia contribuir, como de fato vem contribuindo, para incrementar em cada país os estudos psicológicos e promover o intercâmbio de fatos e de idéias capazes de melhorar a compreensão internacional, através da adequada apreciação das diferenças e semelhanças culturais.

Para a consecução de tais objetivos, afigurou-se desde logo como medida de extrema importância a realização de Congressos Interamericanos.

O primeiro Congresso Interamericano de Psicologia foi realizado na República Dominicana, no período de 10 a 20 de dezembro de 1953, precisamente na Universidade de Santo Domingo, a mais antiga das Américas, tendo sido *Culturas e Valores em Psicologia* o tema central do Congresso. A ele compareceram 50 participantes, iniciando-se, assim, a série de Congressos Interamericanos que reunidos periodicamente com intervalos médios de tempo inferiores a dois anos, atinge hoje a sua décima sétima realização.

A capital do México, em sua então recente Cidade Universitária de inconfundível estilo arquitetônico abrigou o segundo Congresso Interamericano de Psicologia, realizado no ano seguinte, isto é, no período de 14 a 19 de dezembro de 1954. *Psicologia da Educação* foi o tema central deste segundo Congresso.

O terceiro Congresso Interamericano de Psicologia, foi o primeiro da série a ser realizado nos Estados Unidos da América do Norte, na cidade de Austin-Texas, de 16 a 21 de dezembro de 1955. A Universidade do Texas e a "Hogg Foundation for Mental Health" serviram como hospedeiros do conclave e o tema principal foi *A Psicologia das Tensões Interpessoais do Ponto de Vista Interdisciplinar*.

Wayne Holtzman que ora recebe merecidamente o Prêmio Interamericano de Psicologia de 1979, como representante dos psicólogos norte-americanos, ao realizar a conferência presidencial da S.I.P. por ocasião do XI Congresso, reunido no México, declarou que seu interesse em psicologia intercultural começou em meados do ano de 1955, quando dos entendimentos com Werner Wolf, então Secretário-Geral da S.I.P., relativamente à realização do terceiro Congresso na cidade de Austin.

Segundo Holtzman, aquele terceiro Congresso constituiu o marco inicial de um intenso intercâmbio de professores e estudantes de psicologia e de ciências afins, americanos e mexicanos, interessados em problemas sócio-culturais das duas culturas limítrofes e, de modo mais amplo, empenhados no desenvolvimento de projetos, visando a melhor compreensão internacional entre os Estados Unidos e a América Latina (Holtzman, 1969).

Iniciaram essa atividade de intercâmbio, pelo lado americano, principalmente, o próprio Holtzman, Robert Peck, Carl Hereford, colaboradores e discípulos; pelo lado mexicano, Guillermo Davila, Rogelio Diaz-Guerrero, colaboradores e discípulos. Inúmeras pesquisas de natureza intercultural foram levadas a cabo desde aquela época, constituindo, muitas delas, objeto de comunicações nos Congressos subsequentes.

O quarto Congresso Interamericano teve lugar em Porto Rico no período de 26 a 30 de dezembro de 1956. A Universidade de Porto Rico em Rio Piedras hospedou o Congresso que foi realizado com o apoio da Associação Psicológica local e do Departamento de Estado de Porto Rico. *Psicologia e Psicopatologia do Comportamento de Grupo* foi o tema central, incluindo 4 simpósios, a saber: (1) Características nacionais do comportamento; (2) Ajustamento de grupos; (3) Comportamento anti-social de grupos; e (4) Psicoterapia de grupo.

Em 1957, no período de 18 a 23 de dezembro, a Cidade Universitária do México serviu novamente como local de um dos Congressos Interamericanos, o quinto da série, que teve o seguinte tema central: *Diversos enfoques da personalidade normal e seus desvios*.

Este tema central foi dividido em seis simpósios que assim se intitularam: (1) Aspectos genéticos e evolutivos da personalidade; (2) Dinâmica da personalidade; (3) Tipos de personalidade e seus desvios; (4) Personalidade e psicoterapia; (5) Personalidade e fatores sócio-culturais; e (6) Personalidade coletiva e seus problemas.

Como se observa, até 1957 os Congressos foram realizados anualmente o que, sem sombra de dúvida, representou um grande esforço dos responsáveis pela organização destes encontros.

Todavia, devido ao crescente número de participantes e a conveniência de se dispor de mais tempo para a preparação, os Congressos subsequentes foram mais espaçados. Assim, o VI Congresso ocorreu em 1959, no período de 16 a 21 de agosto e teve como sede a cidade do Rio de Janeiro. Foi o primeiro Congresso Interamericano a ser realizado no Brasil, bem como na América do Sul.

O tema central continuou sendo o da personalidade, mais

especificamente, *Avaliação da personalidade e Relações Humanas*, dividido em sete secções de estudos: (1) Relações entre grupos e atitudes; (2) Seleção de pessoal e relações humanas no trabalho; (3) Testes de personalidade e de aptidão nas escolas; (4) Fatores sociais da higiene mental; (5) Relações humanas na psicoterapia; (6) Fundamentos experimentais das teorias da personalidade; e (7) Recentes progressos em gerontologia.

A propósito deste temário do Congresso do Rio de Janeiro, cabe recordar palavras pronunciadas pelo Prof. Lourenço Filho, então Presidente da Associação Brasileira de Psicologia Aplicada e membro da Comissão Organizadora daquele conclave, por ocasião da solenidade de abertura:

No tema central dos trabalhos deste Congresso, não é por simples coincidência que figura o estudo das relações humanas. Nem é, como extensão inconsequente, que as nossas diversas secções técnicas incluem problemas sobre grupos e atitudes, fatores de higiene mental, relações humanas no trabalho, diagnóstico de aptidões escolares. E não é enfim, como simples alegoria, que pretendemos dar um balanço às teorias da personalidade.

Cada um desses itens e todos em conjunto, exprimem uma atitude geral dos trabalhadores da psicologia nas Américas, desde os mais experientes, do Norte, até os mais novos, daqui e algures. É ela a de fazer de sua disciplina um instrumento útil ao desenvolvimento das nações, ao entendimento entre os homens, e, com isso, à conquista de melhores níveis de vida social (Lourenço Filho, 1960).

O sétimo Congresso da Sociedade Interamericana de Psicologia realizou-se no período de 19 a 23 de dezembro de 1961, com a presença de 650 participantes de 11 países. O México foi novamente escolhido como sede do Congresso por sua localização geográfica privilegiada relativamente aos países do hemisfério e pelas facilidades que pode oferecer para encontros dessa natureza.

O Congresso esteve reunido no *Centro Médico del Seguro Social* da cidade do México, o qual conta com excepcionais comodidades para a realização de reuniões científicas.

Quatro foram os temas principais desse Congresso, a saber:

(1) Personalidade e Cultura; (2) Psicologia Experimental; (3) Psicologia Aplicada (Educativa e Industrial); e (4) Saúde Mental e Psicologia Clínica.

O número de trabalhos apresentados se elevou a 95 e foram realizadas cinco conferências em sessões plenárias a cargo, respectivamente, de Gustav Gilbert, Carlos Alberto Seguin e Robert B. Malmø, ex-presidentes da S.I.P. e ainda Erich Fromm e Abraham Maslow.

Durante a realização do sétimo Congresso, com apoio do Instituto de Estudos Latino-americanos da Universidade do Texas e do Centro de Investigações Sociais A. C., de Monterrey, foi realizada uma série de reuniões, sob forma de mesa redonda, sobre o tema *Choque Cultural e Mudança Social*, com a participação, mediante convite especial, de mais de quarenta especialistas em ciências sociais, principalmente psicólogos, antropólogos, sociólogos e psiquiatras sociais, representado diversos países das Américas.

A Mesa Redonda teve como finalidade avaliar a situação dos problemas sociais nas Américas e estudar as possibilidades da contribuição das Ciências Sociais para sua solução. Do relatório final desse encontro, preparado por pequenos comitês organizados durante a conferência e editados pelos co-presidentes da Mesa Redonda, Wayne Holtzman e Rogelio Diaz-Guerrero, recordarei alguns trechos que elucidam o significado do trabalho então realizado por aquele grupo de cientistas sociais, cujo conteúdo se justifica por retratar problemas que em grande parte ainda persistem atualmente, não obstante os consideráveis avanços havidos nos últimos anos nas Ciências Sociais na América Latina, particularmente, no domínio da Psicologia.

Ao tratar das características gerais das atividades de pesquisa em ciências sociais na América Latina o relatório destaca as diferenças marcantes no grau de progresso alcançado pelos países latino-americanos, afirmando que o

Brasil e o México, por exemplo, têm uma variedade de centros onde já se desenvolvem, com algum sucesso, programas relativamente estáveis de pesquisas relacionadas com problemas de mudanças sociais, urbanização e industrialização, educação e desenvolvimento psicológico. Países como a Bolívia e o Paraguai, no

entanto, têm pouca atividade de pesquisa ou de treinamento em Ciências Sociais, e apenas os aspectos introdutórios da antropologia, sociologia ou psicologia são cobertos nos centros de treinamento ali existentes. A maioria dos países têm instituições que se colocam entre esses dois extremos, e que apresentam grande promessa de desenvolvimento posterior, se propriamente estimulados (Holtzman & Diaz-Guerrero, 1961).

No tocante aos problemas especiais de relações entre a pesquisa social e o desenvolvimento na América Latina, refere-se o relatório a falhas na tradição dos estudos nessa área e arrola alguns fatores cruciais impeditivos do desenvolvimento da Ciências Sociais como, por exemplo, a “pouca experiência de encorajar o crescimento da competência científica em campos relacionados com o comportamento social do homem” (p. 2); o fato dos docentes das Universidades latino-americanas trabalharem geralmente em regime de tempo parcial e com salários inadequados, a falta de auxiliares bem preparados para os trabalhos de campo, a falta de materiais e equipamentos como livros, revistas e facilidades de computação.

Essa conferência de trabalho que reuniu expressivo número de cientistas sociais das Américas e que se constituiu num dos pontos altos do Sétimo Congresso Interamericano da S.I.P., aprovou, ao final, algumas recomendações destinadas a “vencer as dificuldades mais urgentes com que se defrontam os cientistas sociais na América Latina” (p. 3) e que ainda hoje são válidas, pelo que merecem ser lembradas.

Referem-se elas, em resumo, à ampliação do movimento de intercâmbio de cientistas entre as universidades e institutos de pesquisa das Américas; ao uso de consultores técnicos por períodos curtos em programas de desenvolvimento rápido, onde já houver núcleos de atividade de pesquisa; ao estímulo de jovens no envolvimento em pesquisa e na busca de apoio financeiro a fim de ser desenvolvida a tradição da pesquisa científica; à ampliação da compreensão básica da natureza da pesquisa em Ciências Sociais bem como da contribuição que ela possa apresentar para a solução de problemas sociais; à ampliação do intercâmbio de livros e revistas especializados; à maior interação profissional entre cientistas sociais das Américas, mediante

conferências e reuniões científicas; e, finalmente, às medidas visando à instituição de um órgão ou conselho na América Latina com o objetivo de conceder fundos para o desenvolvimento de projetos de valor ou para centros interessados na pesquisa e treinamento nas ciências sociais.

O oitavo Congresso de nossa Sociedade foi o segundo a ter lugar na América do Sul. Sua sede foi a cidade de Mar del Plata, província de Buenos Aires-República Argentina. A Universidade Nacional de La Plata através do seu Departamento de Psicologia responsabilizou-se pela organização do conclave que esteve reunido de 02 a 06 de abril de 1963.

Pela primeira vez na história dos Congressos Interamericanos houve um destaque para o tema sobre a formação e o exercício profissional do psicólogo, assunto que viria a ser retomado em Congressos posteriores, pela importância de que se reveste especialmente para os países da América Latina.

O temário oficial incluiu outros três grandes tópicos: orientação profissional, psicologia experimental e fisiológica e a equipe psicoterapêutica.

Além de uma grande conferência a cargo de Harry Harlow sobre *Effects of Early Experience on Social Behavior of Monkeys*, cinco simpósios completaram o programa deste Congresso. Foram eles: (1) Estudos interculturais de desvios mentais; (2) O problema da metodologia na pesquisa intercultural; (3) Treinamento profissional aplicado em Psicologia; (4) Desenvolvimento e gerência de sub-sistema industrial de pessoal; e (5) Estudos representativos em desenvolvimento infantil.

No ano seguinte, isto é, em 1964 teve lugar o IX Congresso, realizado de 17 a 21 de dezembro em Miami, pela segunda vez nos Estados Unidos, reunindo 300 participantes. *Psicologia para o progresso cultural* foi o tema central deste Congresso, cujo programa foi bastante amplo e diversificado predominando, entretanto, os trabalhos na área da psicologia intercultural.

O programa do Congresso incluiu sete grandes Conferências mediante convite, 12 simpósios e 14 sessões destinadas à apresentação de comunicações individuais em diversas áreas da psicologia.

Este Congresso ensejou importante acontecimento que contribuiu para o intercâmbio entre instituições das Américas devotadas à pesquisa em psicologia. Graças aos esforços de George

Kelly, da Ohio State University, chairman do Comité do Programa, a National Science Foundation, dos Estados Unidos, concedeu um auxílio financeiro que permitiu cerca de 10 psicólogos latino-americanos, diretores de institutos e laboratórios de pesquisas, visitarem universidades norte-americanas a fim de observar as facilidades de pesquisa e os projetos em desenvolvimento.

A visita foi organizada de tal forma que cada grupo de dois psicólogos deveria percorrer três tipos de instituições norteamericanas: uma que apresentasse grandes facilidades de pesquisa, uma com instalações pequenas, porém bem estabelecidas e uma que estivesse fazendo planos para uma rápida expansão de suas instalações. Os participantes desse projeto reuniram-se em uma das sessões do Congresso para apresentar suas observações e trocar impressões, ocasião em que relataram algumas idéias julgadas aproveitáveis em suas próprias universidades.

O décimo Congresso Interamericano, o primeiro a ser realizado no Perú e o terceiro na América do Sul, teve lugar nesta mesma cidade de Lima, de 03 a 07 de abril de 1966 e as reuniões respectivas se realizaram na Facultad de Medicina de San Fernando, Universidad Nacional Maior de San Marcos, com a participação de 466 inscritos representando 15 países.

O Congresso foi parcialmente subvencionado pelo *National Institute of Mental Health* dos Estados Unidos. Essa ajuda financeira permitiu também convidar alguns psicólogos latino-americanos de renome, para participar do conclave.

Do programa constaram seis grandes conferências mediante convite, 9 simpósios, 7 *workshops* e 48 comunicações individuais. As contribuições de natureza intercultural foram de tal ordem neste Congresso que os Anais, publicados posteriormente em forma de livro, receberam o título *Aportaciones de la Psicología a la Investigación Transcultural* (Hereford & Natalicio, 1967), justificando plenamente o pensamento manifestado por Carlos Seguin, Presidente do Congresso, por ocasião do discurso inaugural quando afirmou:

A Sociedade Interamericana de Psicologia preenche uma necessidade de nosso continente que é a de aproximar, não somente os psicólogos, mas todos aqueles profissionais interessados no comportamento do homem, e se presta à realização de uma aspiração

largamente sentida por todos os americanos, o mútuo conhecimento.

Um aspecto dessa aspiração é o da investigação intercultural. Em que se parecem e em que se diferenciam nossos povos? Quais são as características que a raça, a cultura e a geografia impuseram à sua capacidade de adaptação psicológica e social? Como se traduzem essas características em sua vida, não somente em sua vida pessoal, como também naquela mais ampla da comunidade, das relações sociais e internacionais? Creio que somos nós, os que nos ocupamos das Ciências do Homem, que podemos oferecer aos políticos e aos estadistas, firmes bases para seu trabalho de fraternidade e de progresso (Seguin, 1967).

A cidade do México serviu novamente como sede do Congresso Interamericano, no ano de 1967, no período de 17 a 22 de dezembro, para a realização do Décimo Primeiro da série, o qual teve lugar na Unidade de Congressos Médicos do Instituto Mexicano de Seguro Social, em instalações modernas e confortáveis já conhecidas dos psicólogos participantes do Congresso de 1961. Era a quarta vez que os psicólogos das Américas se reuniam no México para a realização de um Congresso de nossa Sociedade.

Bastante significativo foi o tema principal desse Congresso: *A contribuição da psicologia e das ciências do comportamento para o desenvolvimento social e econômico dos povos*. Para se ter uma idéia do que representou este Congresso na história das atividades a S.I.P., basta recordar as palavras com que Rogelio Diaz-Guerrero inicia o Prefácio dos Anais respectivos:

Quando um Congresso Interamericano duplica o número de contribuições: trabalhos individuais, simpósios, sessões especiais e trabalhos principais, em relação a qualquer dos anteriores, e quando o número de participantes é superior pelo menos de um terço da assistência de qualquer anterior e ultrapassa a 900 delegados a as sessões e providências locais andam razoavelmente bem, poder-se-ia predizer de antemão que um grande número de pessoas e instituições colaboraram devota e lealmente com alto sentido de responsabilidade. Isto foi precisamente o que aconteceu em relação ao XI Congresso Interamericano de Psicologia (Diaz-Guerrero, 1969).

Em verdade, o programa deste XI Congresso foi o mais amplo dentre todos aqueles até então realizados; em cinco dias de trabalho, foram realizadas: 10 grandes conferências mediante convite, além da conferência presidencial, 19 simpósios, 15 sessões especiais e 25 sessões para comunicações individuais. Ainda uma vez as pesquisas e os trabalhos de natureza intercultural predominaram na temática do Congresso. A própria conferência presidencial proferida pelo então Presidente da S.I.P. Wayne Holtzman, versou sobre: *Estudos Interculturais em Psicologia (Cross-Cultural Studies in Psychology)* (Holtzman, 1969).

Com a colaboração da Sociedade de Psicologia do Uruguai, a Sociedade Interamericana de Psicologia realizou seu XII Congresso entre 30 de março e 04 de abril de 1969, na cidade de Montevideo.

Novamente o interesse despertado pelo acontecimento foi muito grande, pois permitiu que psicólogos de 15 países se reunissem totalizando 392 participantes.

A partir deste Congresso começou-se a verificar um crescente interesse dos estudantes de psicologia pelos Congressos Interamericanos, especialmente quando realizados em países da América Latina. De fato, neste Congresso, do total de inscritos, 28% eram estudantes de psicologia. O tema central novamente reflete a preocupação com o treinamento do psicólogo sendo assim expresso: *Formação, Especialização e Investigação em Psicologia*. Foram então levadas a efeito cinco grandes conferências, quatro mesas redondas, 12 simpósios, duas sessões especiais e 17 sessões de trabalho nas quais foram apresentadas 111 comunicações individuais.

O XIII Congresso Interamericano de Psicologia foi levado a efeito na cidade Universitária da Universidade do Panamá, no período de 18 a 22 de dezembro de 1971, com a colaboração da Associação Panamenha de Psicólogos. Quinze países das Américas e um da Europa (França) estiveram representados neste conclave que reuniu 283 participantes, além de 333 estudantes de Psicologia.

O programa deste Congresso incluiu quatro grandes conferências mediante convite, 18 simpósios, 10 sessões destinadas a

comunicações sobre temas específicos, 20 sessões para a apresentação de trabalhos individuais, duas mesas redondas e uma sessão para exibição de filmes científicos. Predominaram os trabalhos de psicologia social, notadamente na área da pesquisa intercultural e com especial ênfase os realizados em países da América Latina.

No período de 14 a 19 de abril de 1973 esteve reunido em São Paulo, o XIV Congresso Interamericano de Psicologia, o segundo a ser realizado no Brasil. Contou com a colaboração da Universidade de São Paulo, da Pontifícia Universidade Católica de São Paulo, da Associação Brasileira de Psicólogos, da Sociedade de Psicologia de São Paulo e da Associação Profissional dos Psicólogos do Estado de São Paulo.

Este foi o maior Congresso já realizado pela S.I.P., pelo menos do ponto de vista do número de participantes. Dentre psicólogos e profissionais de áreas afins, o Congresso registrou 930 inscrições, além da participação, como observadores dos trabalhos, de mais de 2.500 estudantes que lotaram as amplas dependências do moderno Centro de Convenções que abrigou o conclave. As sessões plenárias, as grandes conferências, bem como alguns dos simpósios mais concorridos foram realizados no grande auditório para 3.500 pessoas. Não obstante as amplas instalações do Centro de Convenções utilizado, em quase todas as sessões, o número de pessoas interessadas excedia de muito a capacidade das salas.

Neste Congresso foram levados a efeito quatro grandes conferências, mediante convite, uma delas a cargo do ex-presidente da S.I.P., Otto Klineberg, sobre o tema *A Psicologia e o Futuro* (Psychology and the Future), além de seis mesas redondas, 15 simpósios, 20 grupos de trabalho, 19 sessões destinadas a apresentação de 153 comunicações individuais e ainda duas sessões para a apresentação de filmes científicos. Conforme já manifestei ao prefaciar os Anais desse Congresso, uma das suas grandes inovações consistiu na organização dos chamados Grupos de Trabalho.

Durante um dia inteiro destinado ao certame, os congressistas previamente divididos em grupos de 20, de acordo com os interesses e preferências pessoais, tiveram a oportunidade de visitar

entidades educacionais, assistenciais, clínicas ou de outra natureza, que na cidade de São Paulo mantêm serviços de psicologia aplicada ou desenvolvem atividades nas quais os subsídios da psicologia desempenham papel de relevância. Em cada local, o grupo era recebido por psicólogos especialmente designados e visitas e demonstrações eram realizadas além do debate de tema previamente selecionado.

Esta atividade despertou grande interesse dos congressistas, especialmente no caso dos congressistas estrangeiros (Angelini, 1973).

A nota impressionante deste Congresso residiu no grande interesse despertado nos estudantes de psicologia. Pela primeira vez na história dos Congressos da S.I.P., o número de estudantes ultrapassou de muito o número de participantes inscritos, proporcionando um aspecto característico ao certame. O interesse maior se observou na área da psicologia clínica, na qual foi grande o número de trabalhos apresentados. Os trabalhos referentes a testes também se destacaram no conjunto das comunicações individuais.

Outro grande Congresso da S.I.P., ocorrido também na América do Sul, foi o XV, celebrado em Bogotá-Colômbia, no período de 14 a 19 de dezembro de 1974. Compareceram a este Congresso entre participantes e estudantes de psicologia, estes na qualidade de observadores, cerca de 2.800 pessoas (Marín, 1975).

Ao que parece, este foi o Congresso que teve o maior número de países representados: 20 países das Américas, além da França, Austrália, Itália, Espanha, Suécia e Rússia, num total de 26 países.

Em suas sessões foram apresentados 363 trabalhos referentes às diversas áreas da Psicologia, sendo que cerca de 50% deles de autoria de psicólogos latino-americanos.

O programa deste Congresso foi, talvez, o mais amplo e diversificado dentre todos os já organizados para os Congressos da S.I.P., Incluiu 5 grandes conferências por convite; 48 simpósios distribuídos pelas áreas da Psicologia Clínica, Psicologia do Desenvolvimento, Psicologia Educacional, Psicologia Geral, Psicologia Industrial, Psicologia Social e Testes e Medidas; 9 sessões destinadas a comunicações livres; 6 mesas redondas; 3

workshops, além de 23 sessões destinadas à apresentação de revisões da literatura em áreas de investigação ou aplicação da psicologia. Este último tipo de sessão constituiu inovação proposta por Gordon Finley no Congresso anterior realizado em São Paulo, de grande interesse, especialmente para os estudantes que podem, dessa forma, ter uma visão geral do estado atual de desenvolvimento das diversas áreas da Psicologia.

Paralelamente a este Congresso foi realizada a I Conferência latino-americana sobre Formação em Psicologia que contou com o apoio financeiro da UNESCO, através da União Internacional de Psicologia Científica e mediante os esforços desenvolvidos por Wayne Holtzman.

Participaram dessa conferência 34 psicólogos que assistiam também ao XV Congresso da S.I.P. e que representavam os países: Argentina, Brasil, Colômbia, Cuba, Chile, El Salvador, México, Nicarágua, Panamá, Paraguai, Perú e Venezuela. Durante esta conferência realizada em dois dias de intensos trabalhos foram apresentadas comunicações que traduziam principalmente o estado de desenvolvimento da psicologia como profissão na América Latina. Além disso, os participantes foram sub-divididos em cinco comissões que trataram dos seguintes temas: (1) Fundamentos filosóficos e políticos da formação do psicólogo; (2) Legislação sobre a profissão; (3) Pesquisa e formação; (4) Seleção de candidatos aos cursos de Psicologia; e (5) Currículo.

Os trabalhos apresentados nessa conferência e as conclusões da mesma foram reunidos em livro editado por Rubén Ardila sob o título *La profesión del psicólogo* o qual constitui importante documento a caracterizar o desenvolvimento da profissão de psicólogo na América Latina, ao mesmo tempo em que oferece oportunas sugestões para o aprimoramento de sua formação (Ardila, 1978). Este foi um dos grandes resultados do Congresso de Bogotá.

A S.I.P. realizou o seu XVI Congresso Interamericano no período de 12 a 17 de dezembro de 1976. Miami-Beach foi escolhida novamente como sede do Congresso, pela terceira vez realizado nos Estados Unidos.

Participaram do conclave 800 pessoas aproximadamente e do programa científico constaram seis conferências por convite,

incluindo-se as de Rogelio Diaz-Guerrero e Charles E. Osgood, os primeiros ganhadores de Prêmio Interamericano de Psicologia.

Nesse Congresso a S.I.P. celebrou o seu 25º aniversário e uma das inovações introduzidas foram as sessões designadas *horas de conversação bi-cultural*, em cada uma das quais dois psicólogos de larga experiência, um latino-americano e um norte-americano, reuniam-se para debater problemas de psicologia, teóricos ou práticos, de interesse geral.

Neste momento reunimo-nos novamente sob a égide da S.I.P. para realizar o XVII Congresso, o segundo a ser realizado nesta cidade de Lima.

Portanto, até o dia de hoje devemos creditar à nossa Sociedade o extraordinário empreendimento de promover nada menos do que 17 Congressos Interamericanos, sendo 4 no México (1954, 1957, 1961, 1967); 3 nos Estados Unidos (1955, 1964, 1976); 2 no Brasil (1959, 1973); 2 no Perú (1966, 1979); e um nos seguintes países respectivamente: República Dominicana (1953), Porto Rico (1956), Argentina (1963), Uruguai (1969), Panamá (1971) e Colombia (1974). Foram, portanto, 14 Congressos realizados em países latino-americanos e 3 nos Estados Unidos.

Esses conclaves têm servido com já afirmei em outra oportunidade, como forum

para as apresentações e os debates dos trabalhadores da psicologia das Américas, por nossa entidade reunidos e interessados em apresentar resultados de suas pesquisas, comparar técnicas, rever modelos teóricos e métodos, reinterpretar teorias e intercambiar experiências (Angelini, 1973).

Os dois últimos Congressos da S.I.P. realizados na América do Sul, antes do atual que também se realiza neste Continente, já permitiram evidenciar o grande avanço alcançado pela psicologia nos países latino-americanos, especialmente naqueles onde já foi reconhecida legalmente a profissão de psicólogo e onde foram instalados cursos de pós-graduação, com o conseqüente desenvolvimento de atividades de pesquisa, condição indispensável para o progresso do conhecimento científico.

Como se sabe, os Anais dos Congressos constituem importantes documentos a perpetuarem a memória de tais realizações. Infelizmente por diversas razões, geralmente de ordem econômica, vieram à luz até agora, apenas os Anais relativos a sete Congressos, dentre os 17 realizados pela S.I.P. Foram publicados os Anais dos dois Congressos realizados no Brasil (VI no Rio de Janeiro, 1959 e XIV, em São Paulo, 1973); do IX Congresso, em Miami (1964); do X Congresso, em Lima (1966); do XI Congresso, no México (1967); do XII Congresso, em Montevideo (1969) e do XV Congresso realizado em Bogotá (1974), esta última publicação surgida antes do início das atividades do próprio Congresso a que se referia.

Além dos grandes Congressos Interamericanos cujas realizações acabamos de recordar, a S.I.P. vem estimulando a concretização de reuniões regionais como a *Convenção Regional da S.I.P. para o México, América Central e Zona do Caribe* que já se reuniu duas vezes (maio-1976 e junho-1978).

Em alguns países das Américas a nossa Sociedade ensejou a criação das chamadas *Ramas Nacionais da S.I.P.*; em outros, estimulou a criação ou o desenvolvimento de Sociedades locais de psicologia.

Por outro lado, creio que se poderá creditar à nossa organização, pelo menos em parte, a fundação de sociedades interamericanas, para o cultivo de áreas específicas da psicologia pela oportunidade que vem proporcionando de por em contacto psicólogos que se dedicam à mesma especialidade dentro da ampla gama de áreas de estudo próprias do conteúdo da ciência psicológica. Refiro-me, por exemplo, à Associação Latino-americana de Psicologia Social (ALAPSO) e à Associação Latino-americana de Análise e Modificação do Comportamento (ALAMOC), em grande parte integradas, respectivamente, por psicólogos que também pertencem à S.I.P. e que provavelmente já vinham mantendo contactos nos Congressos promovidos pela S.I.P., antes da fundação dessas entidades especializadas.

No plano do relacionamento internacional caberia lembrar a crescente atuação da S.I.P. junto a entidades como a União Internacional de Psicologia Científica (IUPS), a Associação Internacional de Psicologia Aplicada (AIPA), o Conselho Internacional de Psicólogos (ICP) e a Associação Internacional de Psicologia Intercultural (IACCP).

A S.I.P. não apenas tem recebido apoio dessas instituições internacionais como com elas tem colaborado efetivamente, através da participação dos associados de nossa Sociedade nas atividades e Congressos por aquelas entidades promovidos.

Outra importante iniciativa da S.I.P. a contribuir para o intercâmbio científico entre os países do hemisfério no campo da psicologia reside na publicação da Revista Interamericana de Psicologia. Embora as tentativas para o lançamento dessa publicação tenham ocorrido praticamente desde a fundação de nossa Sociedade, somente em 1967, devido, principalmente, a razões de ordem econômica, foi possível iniciar-se a publicação da Revista.

A manutenção dessa Revista, incluindo artigos nos idiomas oficiais da S.I.P., espanhol, inglês e português, inicialmente com resumos nos três idiomas e agora em inglês a espanhol é, como se poderá imaginar, tarefa das mais difíceis no gênero, a exigir esforços continuados e persistentes de seus responsáveis. Por isso, creio que um reconhecimento muito especial é devido aos sucessivos editores da Revista: Carl F. Hereford, Luiz F. Natalicio, Horacio J. A. Rimoldi e atualmente Gordon E. Finley, pela manutenção da publicação com bastante regularidade, inicialmente com quatro números anuais e a partir de 1971 com dois números.

Esse órgão da S.I.P. tem contado com um corpo selecionado de consultores, representando diversos países das Américas; porém a responsabilidade maior do empreendimento cabe, sem dúvida, ao Editor.

A Revista constitui um meio de comunicação de especial interesse para os países latino-americanos, por contribuir para a aproximação científica entre esses países que ainda vivem em relativo isolamento.

Por este motivo, ao ser anunciado o primeiro número da Revista Interamericana de Psicologia, em nota publicada no Boletim de Notícias da S.I.P., nº 19, de dezembro de 1966, afirmavam os editores que

devido à escassez de publicações na América Latina, solicitavam-se contribuições em espanhol ou em português. Os trabalhos de investigação especialmente de tipo intercultural seriam muito bem recebidos pela Revista, ainda que trabalhos de tipo teórico fossem também solicitados (Hereford et al., 1966).

Ao assumir as responsabilidades pela edição, o atual Editor da Revista, Gordon E. Finley, em Nota Editorial, publicada no. Vol. 11, nº 1 de 1977, assim definiu as características dos manuscritos para publicação:

estarão em uma das três categorias: Artigos Originais (teóricos, revisões, empíricos, clínicos, educacionais ou profissionais, que não excedam 20 páginas; Informações Curtas (500 palavras); e Revisões de Livros (por convite). Em especial nos interessam aqueles artigos que sejam relevantes aos temas e preocupações da Psicologia Interamericana ou que reflitam colaboração trans-nacional (Finley, 1977).

Na maioria dos países latino-americanos, os progressos e realizações no campo da Psicologia já alcançaram um estágio de desenvolvimento que possibilita a publicação de revistas locais de elevado nível científico.

A mais recente de que temos notícia é a Revista Chilena de Psicologia, de excelente qualidade e ótima apresentação, publicada sob o patrocínio do Colégio de Psicólogos do Chile, com previsão de dois números ao ano e cujo primeiro número apareceu em outubro de 1978.

Estas iniciativas são da maior importância para o estímulo e a difusão dos conhecimentos de nossa disciplina no plano nacional. Mas é preciso que também no âmbito interamericano haja maior divulgação das idéias e dos achados científicos da Psicologia, pelo que, seria altamente desejável que os psicólogos latinoamericanos contribuíssem mais intensamente com trabalhos originais para a Revista Interamericana, especialmente trabalhos de relevância internacional.

Além da Revista Interamericana de Psicologia, a S.I.P. mantém a publicação e a distribuição entre seus associados, de um boletim, atualmente denominado *Interamerican Psychologist*.

Desde 1954 já se sentia a necessidade de se estabelecer um instrumento rápido de informação que pudesse divulgar anúncios sobre congressos interamericanos, bibliografias, relações de novos sócios, notas breves relativas aos principais fatos e acontecimentos a respeito dos membros da S.I.P. e registrar notícias

de interesse para o desenvolvimento da psicologia nos vários países da área geográfica a que corresponde nossa Sociedade.

Somente em 1957, entretanto, apareceu o primeiro número, com a denominação de *Boletim de Notícias*, sob a direção do então Secretário Geral da S.I.P., Victor D. Sanua.

Até o mês de maio de 1979 foram publicados 52 números do Boletim, sendo que a partir do nº 43, correspondente a fevereiro de 1976, com a nova designação de *Interamerican Psychologist*. a publicação vem se apresentando com conteúdo mais amplo, incluindo pequenos artigos de autoria de membros da S.I.P., notícias sobre congressos e outras reuniões científicas nacionais ou internacionais no campo da psicologia e em áreas afins, oportunidades de trabalho e intercâmbio de profissionais, além das tradicionais informações e notícias do Editor.

Embora tenha variado a periodicidade da publicação, bem como seu formato e conteúdo, em verdade, este instrumento de divulgação das notícias da S.I.P. vem prestando um excelente serviço aos associados dos diversos países, especialmente da América Latina, de acordo com os objetivos mais gerais da Sociedade.

Fiel ao espírito de estimular o desenvolvimento da psicologia nas Américas e promover o intercâmbio entre os psicólogos do hemisfério, a S.I.P. criou o Prêmio Interamericano de Psicologia com o objetivo de reconhecer as atividades daqueles psicólogos que tenham feito importantes contribuições à Psicologia como ciência e como profissão.

O Prêmio que é outorgado durante a realização dos Congressos Interamericanos foi idealizado por Rubén Ardila quando Presidente da S.I.P. e é concedido a um psicólogo latino-americano e a um anglo-americano, tendo sido entregue pela primeira vez durante o XVI Congresso realizado em Miami (1976) e, pela segunda vez, no presente Congresso em Lima.

A eficiência na realização das atividades de uma entidade de âmbito internacional como a S.I.P., que se propõe manter intercâmbio entre os países das Américas, onde as comunicações diretas nem sempre são muito fáceis ou frequentes, depende naturalmente do trabalho idealista e persistente de um grupo de pessoas abnegadas e cônscias dos elevados propósitos da organização.

Para integrar suas sucessivas diretorias, felizmente, a S.I.P. vem encontrando sempre entre os psicólogos das Américas elementos dispostos a lutar pela causa da Sociedade com extrema dedicação.

Nos seus 28 anos de existência, a S.I.P. já teve 17 presidentes; 8 provenientes de países anglo-americanos e 9 de países latino-americanos, assim distribuídos: 6 americanos (Willard C. Olson, Otto Klineberg, Gustav M. Gilbert, Harold H. Anderson, Wayne Holtzman e Herbert Kelman); 2 canadenses (Robert B. Malmø e David Belanger); 2 mexicanos (Guillermo Dávila e Rogelio Diaz-Guerrero); 2 brasileiros (Arrigo L. Angelini e Aroldo Rodrigues); 1 argentino (Eduardo Krapf); 1 venezuelano (Oliver Brachfeld); 1 cubano (José A. Bustamente); 1 peruano (Carlos A. Seguin) e 1 colombiano (Rubén Ardila).

Entretanto, ao lado da significação e da importância do cargo de Presidente é preciso recordar que um posto-chave da Diretoria da S.I.P. é o de Secretário Geral, de cujo trabalho depende, em grande parte, a própria sobrevivência da Sociedade.

Por isso, desejo encerrar este esboço histórico das atividades da S.I.P., prestando uma homenagem particular aos sucessivos Secretários Gerais: Oswaldo Robles, Werner Wolf, Samuel Pearlman, Victor D. Sanua, Carl Hereford, Luiz F. Natalicio e Gerardo Marín. Cabe lembrar ainda as contribuições dos outros companheiros que compuseram as Diretorias da S.I.P. ocupando diversos cargos em distintos momentos de sua história.

A S.I.P. deve um reconhecimento especial a todos esses colegas de origem anglo ou latino-americana pelo que fizeram em prol do intercâmbio de idéias e experiências entre psicólogos das Américas, contribuindo decisivamente, não apenas para o desenvolvimento da psicologia como ciência e como profissão, mas também para o aperfeiçoamento da compreensão internacional a qual se revela essencial no mundo moderno.

NOTES

1. Conferência pronunciada no XVII Congresso Interamericano de Psicologia, Lima Peru, oportunidade na qual o autor recebeu o "Prêmio Interamericano de Psicologia 1979."

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CULTURE, PERSONALITY DEVELOPMENT, AND MENTAL HEALTH IN THE AMERICAS¹

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Like most North American psychologists trained in the experimental tradition of academic psychology shortly after the second World War, I hadn't given much thought to the importance of national and cultural differences that influenced human behavior. My parochial naivete was forever destroyed in 1955 when I agreed to serve as chairman and host for the Third Interamerican Congress of Psychology. Among the psychologists attending the Congress from Latin America were 27 Mexicans under the leadership of Dr. Guillermo Davila. The Mexicans had collected a wealth of interesting data on social stereotypes of North American "gringos." Their instruments included projective techniques, interviews, and questionnaires given to hundreds of Mexicans throughout the country. The remarkable diversity in response varied from one part of Mexico to another, depending upon the kinds of experiences and the implicit cultural assumptions held by the people of the region. The Mexicans needed our methods of data analysis, and we profited greatly from their creative ideas about culture and personality.

One of the leaders among the Mexicans at that time was Rogelio Diaz-Guerrero. A number of exchanges developed between the psychologists in Mexico and Texas over the next few years. Little did I know at the time how profoundly my own research would be affected by this lifelong relationship.

In 1955 at the time of the Interamerican Congress in Texas, I was deeply involved in developing a new inkblot technique aimed at overcoming the major defects of the Rorschach as a projective technique for the assessment of personality and differential diagnosis. Preliminary work indicated that a completely new set of inkblots could be constructed on sound

psychometric principles only by embarking on a major program of developmental research. After experimenting with thousands of inkblots, the final version of the Holtzman Inkblot Technique was completed in 1958. An extensive standardization program on thousands of individuals was conducted across the country on populations varying from preschool children to superior adults and including schizophrenics, mentally retarded individuals, and depressed patients. The two parallel forms of the technique each contain 45 matched inkblots of various color, form, and shading nuances, together with two trial inkblots common to both forms. Improved psychometric properties were achieved without loss of the rich symbolic quality of projective responses for which the Rorschach had proved valuable. The final version together with the standardization data were published in 1961 by Holtzman, Thorpe, Swartz, and Herron.

The technique has proven useful in a wide variety of cross-cultural situations varying from primitive tribes of New Guinea to college graduates in New York City. Among the 22 scores that have been standardized are many that are particularly useful for cross-cultural studies of personality development. Since each subject is asked to give only one response per card and the inquiry is considerably simplified from that used in the Rorschach, group administration of the test yields similar results to the individual method for many populations. A computer-based scoring system for 17 of the 22 scores was developed by Gorham (1967).

With the cooperation of colleagues throughout the Americas, Moseley (1967) applied the Holtzman Inkblot Technique in a multi-variate comparison of seven cultures—Argentina, Mexico, Panama, Venezuela, the United States, and two subcultures of Colombia—Bogota and Cartagena. Using the 17 inkblot scores in a multiple discriminant analysis, Moseley applied his formula in predicting the cultural identity of 714 college students, about 100 from each of the seven cultures. He then compared the actual cultural identity with that predicted solely from inkblot responses. The resulting classification matrix for selected North, Centra, and South American cultures is most interesting.

On the basis of patterns of inkblot scores alone, not a single

college student from Argentina, Colombia, or Venezuela (the three South American countries) was misclassified as a Mexican, a Panamanian, or a North American. Nor were any of the Mexicans or Panamanians misclassified as Argentines. Only two Mexicans and five Panamanians were misclassified as Colombians, while only one Mexican and no Panamanians were misidentified as from Venezuela.

It is interesting to note which countries seem closest to others in their patterns of responses. Among the six Latin American cultures, only Mexico appeared close to the United States; 21 percent of the U.S. were misclassified as Mexican compared to less than one percent of U.S. misclassified in any other culture. Of the Mexicans, 17 percent were misclassified as U.S. while 24 percent were misclassified as Panamanians. The Mexicans are more like North Americans and the North Americans more like Mexicans than either is willing to admit, at least as reflected by these data.

While this type of global analysis across major cultures of the Americas is difficult to interpret in any depth, it is clear from Moseley's study that the degree of cultural exchange and diffusion between two countries is strikingly parallel to the degree of similarity in personality patterns as measured by inkblot scores.

Quite a different approach to the cross-cultural study of personality in the Americas grew out of my close association with Rogelio Diaz-Guerrero in Mexico City. During the extensive standardization program for the Holtzman Inkblot Technique mentioned earlier, developmental trends across different normative samples of children proved particularly interesting. In 1962 Jon Swartz, Joe Thorpe, and I launched a major longitudinal study of large representative samples of children in Austin, Texas, who were measured repeatedly on an annual basis for six years. Shortly after this program began, plans were completed with Rogelio Diaz-Guerrero and his colleagues for a cross-cultural replication of the entire study in Mexico City. Previous successful collaboration and long-term commitment to cross-cultural studies by both the Mexican and U.S. psychologists enabled members of the research teams in both countries to reach a high level of mutual understanding and sophistication essential for collaboration in large-scale cross-cultural investigations.

Once adequate funding was obtained, the major concern in both countries was to establish a long-range program aimed at determining the relative importance of cultural factors, school environment, and characteristics of the family and home environment as they affect the development of cognitive, perceptual, and personality functioning in normal children from these two major contrasting cultures.

DESCRIPTION OF THE AUSTIN-MEXICO CITY PROJECT

An overlapping longitudinal design was employed in the Austin-Mexico City Project so that a span of twelve years of child development could be covered in only six calendar years of repeated testing. The basic design is presented in Table 1. The three-year overlap between groups is particularly powerful since it makes it possible to study curvilinear developmental trends and

Table 1
Overlapping Longitudinal Design for Six Years of
Repeated Testing in Austin and Mexico City

Group	Initial Age*	Number of Cases		School Grades Covered
		Austin	Mexico	
I	6.7	133	150	1 2 3 4 5 6
II	9.7	142	143	4 5 6 7 8 9
III	12.7	142	150	7 8 9 10 11 12
Total		417	443	

*The starting ages of 6.7, 9.7, and 12.7 years were chosen since most children in the public schools of Texas reach these exact ages at some time during the school year, September 15–May 15. Actual time of testing took place within 30 days of the age as specified in the table.

This and subsequent tables are from the following book: Holtzman, W.H., R. Diaz-Guerrero, and J.D. Swartz, in collaboration with L. Lara Tapia, L.M. Laosa, Maria Luisa Morales, Isabel Reyes, and D. Witzke. *Personality Development in Two Cultures*. Austin: University of Texas Press, 1975. Spanish language edition by same authors. *Desarrollo de la Personalidad en dos Culturas: Mexico y Estados Unidos*. Mexico: Editorial Trillas, 1975.

interactions longitudinally as well as cross-sectionally. Furthermore, assuming adequate sampling and careful matching at each age level, the effects of repeated testing *per se* can be isolated so that the adjusted data reflect true developmental trends rather than artifacts of the methods employed.

The children in Austin were mainly drawn from six elementary schools and one junior high school, representing a broad range of working-class, business, and professional families. Only white, English-speaking families were used. The resulting sample can be characterized best as working-class and middle-class urban children from fairly stable families who represent the dominant values in U.S. culture.

In Mexico City, extensive preliminary studies were necessary to obtain demographic information upon which a detailed sampling plan could be based. Children were selected from two public and one private school systems, with a heavier sampling from the private schools since the earlier surveys indicated that the Mexican families in the private school system were very similar in socioeconomic status to most of the U.S. families in Austin. Nearly two-thirds of the Mexican and Austin children could then be used for cross-cultural comparisons in which important sub-cultural variables were precisely matched across the two samples.

The basic psychological test battery included many cognitive, perceptual, and personality tests given individually to each child once a year on the anniversary date of the initial testing. Criteria employed in deciding whether or not to use a particular test consisted of (a) suitability for individual administration under field conditions; (b) demonstrated reliability and objectivity; (c) appropriateness for use throughout the age span of six to seventeen years; (d) relevance to perceptual-cognitive development or importance as a measure of significant personality traits pertinent to developmental stages of children; and (e) feasibility for use in both Spanish and English languages within Mexican and U.S. cultures.

The techniques employed could be divided into three categories: (a) those which were applied uniformly throughout the six years of repeated testing—the basic core battery; (b) measures which were applied uniformly for all children in the second

grade or above and tests that were employed two or more times though not uniformly—the partial core battery and supplementary repeated battery; (c) other measures which were used once or twice but not successively across years. A list of the techniques employed in these three categories is presented in Table 2.

The data domains common to school children in both cultures

Table 2
Psychological Test Batteries and Related Measures

Core Test Battery (All Ss for 6 years)

Holtzman Inkblot Technique
Human Figure Drawing
Vocabulary (WISC or WAIS)
Block Design (WISC or WAIS)

Supplementary Repeated

Test Anxiety Scale for Children
Time Estimation
Filled Time Estimation (Texas Ss 4th, 5th, and 6th years)
Test Behavior Ratings
Object Sorting Test (first 3 years)
Embedded Figures Test (all Ss age 9.7 or older)
Stroop Color-Word Test (Texas Ss age 9.7 or older for 4 years)
Visual Fractionation Test (all Ss for 2 years)
Conceptual Styles Test (ages 7.7 and 8.7 only)
Perceptual Maturity Scale (last 3 years)
Word Association Test (last 3 years)
WISC or WAIS Arithmetic and Picture Completion (all Ss, 1st, 4th, 5th, and 6th years)

Other Measures

WISC Remaining Subtests (age 6.7)
Family and Home Ratings from Interviews with mothers
Parental Attitude Scales (mother)
Academic Summary (School record data)
Occupational Values Inventory (all Ss, 6th year)
Personality Research Form (all Ss, 6th year)
Survey of Study Habits and Attitudes (Texas Ss age 17.7, Mexico Ss 4th and 5th years)
Manuel's Reading Test (Mexico Ss 4th and 5th years)
Views of Life and Sociocultural Premises (Mexico selected Ss 6th year)

can be divided into four major categories: (a) performance data by children in testing sessions; (b) ratings of the child's behavior, personality, or other characteristics; (c) variables dealing with the family and home environment taken largely from interviews with the mothers and observations in the home; and (d) attitudes toward child rearing and certain personal beliefs and values collected from the mother by use of a questionnaire. Running through all levels of data are the major classification variables of culture, socio-economic status, sex, and age of the child. The many findings for each of these independent variables, both in isolation from each other and for any interactions among them, constitute the essential outcomes of the study that require interpretation. Intercorrelational studies as well as numerous analyses of variance were completed. Only a sampling of the findings concerning cultural influences on personality development can be presented here.

In most cross-cultural studies of personality development, it is not possible to control systematically major subcultural variation that often accounts for a great deal of the obtained variance in results. Where two cultures are markedly different, there is even a question as to whether enough overlap in such factors as socio-economic status and life style exists between the two cultures to permit systematic control. One of the major objectives of the present study was to control precisely for such subcultural variation in order to eliminate the possibility of serious confounding of cultures and subcultural factors that influence a child's performance on psychological tests.

Matched cross-cultural samples were developed using an overall socioeconomic status index based upon education and occupation. A total of 203 matched pairs, one member of each pair being a North American and the other a Mexican, were used in the design. In most of the cross-cultural comparisons, a four-way analysis of variance design was formulated. The four independent factors in the design consisted of two cultures by two levels of socioeconomic status by three age groups by two sexes. Let's look at some of the specific findings, particularly as they pertain to personality development among children in Mexico and the United States.

CROSS-CULTURAL SIMILARITIES AND DIFFERENCES IN PERSONALITY DEVELOPMENT

Clear and uniform differences were found across the two cultures for many psychological dimensions and test scores, regardless of the sex, age, or socioeconomic status of the child. At least some measures in each of the domains for which tests were given to the children yielded uniformly significant differences cross-culturally. Thirty of the performance measures from the children proved significant across cultures, as did a large number of items from interviews with the mothers.

Lack of any differences across two cultures in cognitive, perceptual, and personality characteristics can be just as important as the existence of significant differences. Out of over 100 dependent variables, only 18 psychological measures from the children and items from the interview with the mother showed no differences whatsoever between Mexicans and North Americans. These measures tended to be minor. Obviously, far more measures produced significant differences or interactions between culture and other variables. In most cases, social class, sex, and the age of the child proved to be significant factors related to the child's performance in both cultures. It is worth noting, however, that differences in performance due to social class are generally present for the Mexican children, though not for the U.S., resulting in significant culture-social class interactions for many variables.

Before examining the findings in detail, it is important to note the extent to which the many personality measures show similar patterns of intercorrelations in the two cultures. If the major dimensions underlying these intercorrelations are identical in the two cultures, one can interpret the results with a high degree of confidence that the meaning of the variables is similar in both cultures. On the other hand, if the patterns of interrelationships among the many variables in the Mexican samples are strikingly different from patterns involving these same variables in the samples of children from the United States, considerable doubt could be cast upon the interpretation of the results since the meaning of the variables is quite different.

Extensive intercorrelation and factor analysis studies were

carried out separately for the U.S. and Mexican samples. In nearly every case, patterns of intercorrelations were markedly similar in both cultures, yielding sets of major dimensions having comparable cross-cultural meaning. Factor analysis of the Holtzman Inkblot scores for each of the age groups in each culture revealed five well-defined factors highly similar in each of the six groups. The dimensions underlying mental abilities as measured by the WISC and other cognitive tests also proved to be very similar in the cultures. Even the 15 scales in the Personality Research Form yielded strikingly similar results, lending strong support to the hypothesis that personality measures have similar meaning and applicability in both cultures.

Holtzman Inkblot Technique. Comparison of Mexican and U.S. children revealed strikingly significant differences for seven of the scores from the Holtzman Inkblot Technique (HIT), regardless of age, sex, or socioeconomic status of the child. The means for all Mexican and U.S. children in the first year of testing are given in Table 3 for these seven HIT scores, together with a brief interpretation of the meaning of the difference. The Mexican children took longer than the North Americans to give a response to each inkblot; they tended to use smaller details more often than whole inkblots; and they were less inclined to integrate various parts of a blot into a larger whole response. The Mexican children also gave markedly less movement, anxiety, hostility, or pathology in the fantasy elaborations of their percepts.

The HIT was given repeatedly to all children in both cultures for the six years of the longitudinal study, making it possible to employ a repeated-measures analysis-of-variance design to determine the components of variation arising from changes in an individual through time. Such a trend analysis is a powerful method of studying growth and development within an individual, provided that practice and adaptation effects are minimal. The use of an overlapping design where Groups I, II, and III overlap three years (Table 1) permits some correction for such practice or adaptation effects. In addition, Form A of the HIT was given to some subjects in the first year, while Form B was given to others, alternating forms in subsequent years to

Table 3
Cross-Cultural Mean Scores on the Holtzman Inkblot Technique
for Which Uniformly Significant Differences
were Obtained in the First Year of Testing

Score	Mexican	American	Interpretation for Mexican
Reaction Time	21.7	17.9	Slower response time to inkblots
Pathognomic Verbalization	3.1	6.4	Less pathology in fantasy
Location	43.3	33.3	More small details
Movement	14.1	25.7	Less movement in fantasy
Integration	2.0	3.3	Lower integration of parts into whole
Anxiety	5.6	9.1	Less anxiety in fantasy
Hostility	6.3	10.1	Less hostility in fantasy

yield a counterbalanced design. The striking similarities of Forms A and B, assuring their interchangeability as parallel forms for repeated testing, constitute another advantage of the Holtzman Inkblot Technique for longitudinal research involving repeated measures. The basic analysis-of-variance design employed for the first year's data was extended to include year of repeated testing as a fifth major factor in the design. The interactions of culture with age, repeated testing, sex, and socio-economic level are of particular interest.

Typical of the results obtained is the interaction between culture and age of the child for Shading on the HIT. The young U.S. children gave over twice as many responses with shading as a determinant as did the young Mexicans. This gap narrows gradually until the age of 13 after which the differences disappear.

A general finding emerging from this analysis is that U.S. and Mexican children become more alike with increasing age. It is almost as though socialization in the two cultures and the influences of society, peer groups, and the school, as contrasted to the family, bring the two populations of children closer together on some perceptual and personality characteristics as measured by the Holtzman Inkblot Technique.

Most of the differences between the Mexican and U.S. children on the HIT can be understood better in terms of coping style than

any other concept. North American children produced faster reaction time, used larger portions of the inkblots in giving responses, gave more definite form to responses, and were still able to integrate more parts of the inkblots while doing so. In addition, they incorporated other stimulus properties of the inkblots, such as Color and Shading, into their responses more often than did the Mexican children and elaborated their responses by ascribing more movement to their percepts. In attempting to deal with all aspects of the inkblots in such an active fashion, however, they failed more often than the Mexican children; that is, the Mexican child gave responses with better form and less often produced responses that showed deviant thinking and anxious and hostile content. In general, the North American child tried to deal with the testing situation in a much more active fashion than the Mexican child, even when unable to do so successfully.

A deeper insight into the meaning of these cross-cultural findings can be obtained by noting a closely related study undertaken by Mary Tamm in the American School in Mexico City (Tamm, 1967). Tamm designed a study involving bilingual Mexican and North American children attending the same school. Thirty children in the first, fourth, and seventh grades were tested at six years-eight months, nine years-eight months, and twelve years-eight months of age respectively in order to provide precise parallels to the experimental design employed in the cross-cultural study between the United States and Mexico. One-half of the children were native Mexicans for whom Spanish was the primary language. They generally came from upper-class Mexican families in which there was a strong desire on the part of the parents for their children to obtain a U.S.-style education. The remainder of the children were North Americans whose fathers were businessmen or government representatives in Mexico City. These U.S. families wanted their children to develop bilingual-bicultural skills and attitudes. The curriculum in the American School was taught half in English and half in Spanish.

Tamm administered the Holtzman Inkblot Technique and all the subtests of the Wechsler Intelligence Scale for Children to each of the ninety school children two years in a row. The children's test performance was analyzed in a three-way analysis-of-variance design—by culture, age group, and year of testing. Of

the WISC subtests, only Digit Span proved significant across cultures, the Mexican children doing slightly better than the North Americans. The usual developmental differences were clearly apparent in both groups. On the Holtzman Inkblot Technique, however, marked differences were found between the Mexican and U.S. children—differences that in every respect were essentially the same as the major differences found for inkblot scores in the larger cross-cultural study. The Mexican children used much more small detail, gave less color, less movement, less pathognomic verbalization, less human content, less anxiety, and less hostility than did the U.S. children.

The lack of any notable differences between the Mexican and U.S. children on the intelligence tests in Tamm's study, regardless of the length of time the child had spent in the American School or the child's age, provides convincing evidence that the combination of home environment and schooling is important in the development of these mental abilities. At the same time, the dramatic differences in personality and perceptual style reflected in the Holtzman Inkblot Technique—differences that are identical to those obtained when North Americans in Austin are compared with Mexican children in Mexico City—indicate that fundamental aspects of the North American and Mexican personality or "national character" remain intact in spite of common schooling and other forces within the immediate milieu of the children that would tend to produce convergence of the two cultures. The sociocultural premises underlying U.S. and Mexican societies and the basically different styles of coping with the challenges of life in the two cultures provide a key to the interpretation of the above results.

A basic value in Mexico is represented by the saying "As long as our family stays together, we are strong." As Maslow and Diaz-Guerrero (1960) have pointed out, in its solidarity, the Mexican family tends to shut itself off from the outer world. The child is brought up in the bosom of the family, playing with his siblings rather than with schoolmates or neighborhood children as the U.S. child usually does. Unlike the father in most U.S. families, the Mexican father is the undisputed authority on all family matters, an authority usually obeyed without question. Though she may frequently suffer in silence, the mother is revered as the

primary source of affection and care. This emphasis on family affiliation leads the Mexican to say, "I will achieve mainly because of my family, and for my family, rather than myself." By contrast, the self-reliant North American would say, "I will achieve mainly because of my ability and initiative and for myself rather than my family."

I have presented in some detail, selected cross-cultural findings based on the Holtzman Inkblot Technique. Many other measures in this study revealed important differences between school children in Mexico and the United States. Let's turn to the extensive interview data obtained from mothers in order to gain further insight into the importance of home environment and family lifestyle as they affect personality development differentially in these two cultures.

Parental and home variables. Patterns of child rearing, family lifestyles, and home environment have a profound influence upon the personality development of young children. Variables dealing with the family and home environment were developed from interviews with the mothers and observations of the home that were conducted mid-way through the six-year longitudinal study. Items for the interview were drawn from a number of previous studies dealing with family and social background factors as they influence developmental processes in children. Attitudes toward child rearing and certain personal beliefs and values were also collected from the mother by a specially developed Parent-Attitude Survey containing 68 items. At the end of the 68 items were placed 15 traits identical to those used by the Lynds in their "Middletown" studies (1937) and repeated once again by Murphy and Moriarty (1976) in their studies of parent attitudes and values in Kansas in the early 1950's. The mother was asked to rate the importance of these personal traits as she valued them in her own child.

While many significant interactions between culture and other factors in the analyses of data obtained from the parental interview and home environment observations cannot be discussed here, a summary of the cross-cultural comparisons in which uniformly significant differences were obtained for the mothers will follow below.

Intellectual stimulation of the child in the U.S. home is generally greater than that in the Mexican household, and U.S. mothers value curiosity in the child much more highly than do Mexican mothers. Socialization of the child in the U.S. home is aimed at producing greater self-reliance or independence than is the case for children in the Mexican home.

When it comes to spoken languages, the Mexican families showed decided advantages over the North American. Foreign languages (usually English in Mexico City) were spoken in half the Mexican homes, encouraging large numbers of Mexican children to broaden their horizons beyond their native language. In addition, it should be pointed out that Mexican families have a custom of regular story-telling to young children rather than reading to them from books. Consequently, one would expect the oral language facility and associated interpersonal relations to be more highly developed among Mexican children, other things being equal, than they would for their U.S. counterparts.

Other aspects of child rearing are particularly significant for personality development in the two cultures. Fewer Mexican fathers, particularly from the lower-class group, share activities with their sons. Mexican children are given less responsibility in the home and are more likely to have their friends chosen by their parents. Mexican mothers are more likely to admit to problems in child rearing, to be less accepting and more controlling of their children. They are also more likely to press their children toward socially favored goals and to place a higher value on strict obedience in their children.

From differences noted in the two cultures, one would expect that in the traditional, passive, affiliative hierarchy of Mexico, there would be more value placed on affective rather than cognitive aspects of life, coupled with a preference for a static rather than a dynamic approach. The Mexican should be family-centered rather than individual-centered; should prefer love, friendship, and leisure to work; and should prefer external controls to self-directed impulsiveness. At the same time, the Mexican should be somewhat more pessimistic about the hardships of life and passive-obedient rather than active-rebelling in style of coping with stresses in the environment. For the U.S., on the other hand, the opposite of each of these statements should tend

to be true. The many significant differences found between Mexican and North American children led to the above broad generalizations.

Other investigators working with Mexican and U.S. populations have reported findings highly compatible with these results. When taken together, these several studies lead to a set of six major hypotheses concerning personality differences between Mexicans and North Americans that can be attributed to recognizable features of the two contrasting cultures. These hypotheses can only be stated here with a word or two concerning the evidence bearing upon their validity.

1. North Americans Tend to be More Active than Mexicans in Their Style of Coping with Life's Problems and Challenges.

Many of the cross-cultural differences noted can be best understood in terms of this general dimension of active vs. passive coping styles. The U.S. child tends to be more actively independent and to struggle for a mastery of problems and challenges in his environment, whereas the Mexican child is more passively obedient and adapts to stresses in the environment rather than trying to change them.

2. North Americans Tend to be More Technological, Dynamic, and External than Mexicans in the Meaning of Activity within Subjective Culture.

This hypothesis sheds further light on the meaning of the more general active-passive dimension. The concept of subjective culture as defined by Triandis, et al. (1972) concerns the internalized norms, ideals, values, expectations, and other shared attributes of the cognitive structures of entire groups of people rather than specific individuals. Typical of the methods proposed by Triandis for describing subjective culture is Osgood's Semantic Differential, a flexible technique consisting of a large number of concepts (such as world, body, I myself, and prayer) rated on a series of seven-point bipolar scales (such as loved-hated, tender-tough, relaxed-tense, and fast-slow). Three general dimensions underlie the Semantic Differential—evaluation, potency, and activity. Recent unpublished studies by Diaz-Guerrero and

Osgood show striking differences between young men in Mexico City and in small towns in Illinois. In each case, the Mexican assigns higher activity than does the North American to internal and static clothing and food concepts. By contrast, the North American assigns higher activity scores to modern technological, external, and dynamic concepts than does the Mexican. From studies with inkblots it was learned that Mexican children see less movement and have longer reaction times in test situations than the U.S. child. Time passes more slowly for the Mexican than the North American.

3. North Americans Tend to be More Complex and Differentiated in Cognitive Structure than Mexicans.

Mexican children in the present study tended to develop more slowly, on the average, in terms of their cognitive skills and mental abilities than was generally true for their U.S. counterparts. North American six-year-olds also showed a greater degree of complexity in their cognitive functioning, as evidenced by the fact that more factors were necessary to explain intercorrelations among cognitive tests for the U.S. children. The evidence thus far strongly indicates that the differences in level and pattern of cognitive development among Mexican and U.S. children are due primarily to differences in the social-cultural premises, value orientations, and environmental milieu in the two societies.

4. Mexicans Tend to be More Family-Centered, while North Americans are More Individual-Centered.

Unlike most North Americans, families in Mexico tend to stretch out in a network of relatives that often runs into scores of individuals. Mexicans tend to see themselves achieving by standing on the shoulders of their father and mother or other family members, while North Americans see themselves as achieving primarily by virtue of their own independent efforts. Some of the most striking evidence favoring this hypothesis comes from Diaz-Guerrero's studies with his Views of Life questionnaire. For example, one bipolar item consists of the following pair of statements: (a) One must fight when the rights of the family are threatened, or (b) One must fight when the rights of the individual are threatened. The great majority of Mexicans selected

the family-centered alternative, while just the reverse occurred for the North American.

5. Mexicans Tend to be More Cooperative in Interpersonal Activities, while North Americans are More Competitive.

Experimental studies comparing Mexican and American children by Kagan and Madsen (1971) bear directly upon this hypothesis. Mexican children tend to be highly cooperative in experimental games while Anglo-Americans are highly competitive, even when such competition may be dysfunctional.

6. Mexicans Tend to be More Fatalistic and Pessimistic in Outlook on Life than North Americans.

A primary scale from the Parent-Attitude Survey deals with internal vs. external locus of control. In general, Mexican mothers tend to appear more pessimistic, while the U.S. were more optimistic in their general outlook on life. These differences are quite understandable in view of the general tendency of U.S. society to be full of hope for the future (at least until very recently) and the social turmoil in Mexico where the milieu would more likely induce a pessimistic-fatalistic outlook on life, especially among the lower class.

It is important to emphasize that, in spite of statistically significant differences across the two cultures, the degree of overlap in distribution of personal characteristics of both Mexican and U.S. children, regardless of the trait measured, is far greater than the mean differences attributable to culture. A substantial number of North Americans share the characteristics of the Mexican modal personality described above. Similarly, many Mexicans, especially among the better educated families, exhibit highly active coping styles more characteristic of the modal North American personality.

Eight years have gone by since the last year of data collection on large numbers of school children in Mexico City and Austin. Both societies have gone through major changes in this same period. Whether the Mexican elite will gradually take on the characteristics of the modal North American personality or the North American will shift closer to the Mexican, cannot be predicted with any reliability at this time. More likely than not, the

subjective cultures of both societies will move on to a new order more in keeping with future demands, retaining some common features of the old while establishing new priorities and values. Whatever the specific outcome of these trends in Mexican and U.S. societies, it is clear from the above studies, as well as from the findings of many other investigators, that culture has a profound influence on personality development in children, an influence that can be specifically isolated and measured by properly designed cross-cultural research.

Culture, the family, and mental health

Acceptable family patterns and child-rearing practices undergo continuous refinement as society changes. A number of social critics and commentators have noted important changes in the United States since the early 1960s when this major cross-cultural, longitudinal study of personality development in Mexico and the United States was first launched. Certain shared attitudes, beliefs, and values within the culture provide a common basis for socialization of the child. As these change within both Mexican and North American society, the shared personality characteristics within each culture also change. For these reasons, studies of families and their children within different cultures can shed considerable light upon the significance of both psychological and cultural factors as they influence the mental health and development of the individual.

A child's cultural milieu and family environment have a more profound impact on mental health and illness than upon any other aspect of individual health and illness because of the interpersonal and behavioral nature of mental health. For this reason there is growing concern throughout the Americas for the development of community mental health services which focus upon children and their families. This positive mental health approach emphasizes educational and social intervention on a large scale to overcome the cultural and environmental factors which prevent the full development of an individual's growth potential.

Early intervention with infants and preschool children has proven promising as a preventive approach, provided certain

general principles are carefully followed. In a review of large-scale experiments in the United States, Bronfenbrenner (1974) has formulated some principles of early intervention that are worth noting. Foremost among these principles is the development of family-centered intervention which takes the culture into account.

The evidence to date indicates that the family is the most effective and economical means for fostering the development of the child. Active participation of family members is critical to the success of any intervention program. Ideally, intervention begins in preparation for parenthood and in providing an adequate cultural milieu for nurturing the newborn infant. Large-scale parent-child development centers established as national experiments have clearly demonstrated the value of parental training in the first years of life followed by preschool group experiences in which parent and child continue to work closely together. Highly significant results have been obtained in the United States, not only for disadvantaged black minorities but also for middle-class white families, Spanish-speaking Mexican-Americans, and other ethnic groups. A closer look at a representative parent-child development center for Spanish-speaking Mexican-American children in Houston illustrates the way in which this type of educational-social intervention improves the mental health of children and their families.

In the Houston model program, social intervention consists of working closely with both the mother and father of very young children. Beginning at the age of 12 months, frequent home visits by a bilingual worker introduce the mother to a number of techniques for intellectual stimulation of the child. The mother is coached in her communication with the child in order to promote cognitive and personality growth while maintaining strong affectual bonds between mother and child. Mothers and fathers meet regularly several times a month in the evening to discuss their family problems, to share their ideas, and to seek advice. The family is dealt with as a whole and the techniques are carefully adapted to the cultural milieu in which the family lives. Consequently, the parents are uniformly enthusiastic.

When the child is two years old, mother and child attend a special nursery school four mornings a week where parent-child

relations continue to be stressed at the same time that the child is introduced to social interactions with other children in a controlled, stimulating but playful environment. Videotape recordings of mother-child interactions are played back for the mother so that she can see where she is facilitating or inhibiting desired behavior in the child. Periodic contacts with the family are maintained after the child is three years old in preparation for entering school.

A model program of this type incorporating all of the best techniques from earlier experiments is expensive, particularly when carried out as an experiment with a great deal of research and evaluation accompanying the program. Most of the essentials of such a preschool program, however, can be applied without a great financial investment by use of volunteers and the heavy involvement of parents. Still, one can rightly ask whether or not the benefits from such a model program are worth the costs. The final answers to this important question are not yet available. Nevertheless, early returns from evaluative research indicate the following important findings when the experimental families receiving the program are compared to similar families who do not participate:

1. As compared to controls, the program mothers grew significantly more affectionate, encouraged more child verbalization, showed more praise, and had children who were more verbally responsive.

2. Home observation scales revealed greater maternal involvement with the child, greater emotional and verbal responsivity of the mother, avoidance of restriction and punishment, and more provision of appropriate play materials on the part of the program mothers.

3. The experimental children maintained a nearly constant level of mental ability over time, as measured by the Bayley Scales and Stanford-Binet, while the control children fell steadily behind the norm.

A grant from the Hogg Foundation for Mental Health to the University of Houston has made possible a follow-up study of both experimental and control children in the Houston Parent-Child Development Center in order to determine the extent to

which these early experiences and parental training have a lasting positive influence upon the child's later mental and emotional development. Preliminary results indicate that the program does indeed have lasting effects of a positive nature.

The elegant simplicity of this parent-child development center approach takes advantage of informal support systems and is readily adaptable to other ethnic and cultural groups. Adaptations of this basic model are already being developed in Mexico City and Mérida as forerunners of parent-child development programs in Mexico. Rogelio Diaz-Guerrero, Isabel Reyes, and Victor Castillo Vales are developing programs using this new technology but adapting it carefully to the sociocultural premises, the family values, and the special needs of Mexico as a society. While the success of these experimental programs in México remains to be seen after completion of research currently underway, it is already clear that many of the principles and techniques of this parent-child development center approach are suitable for child development in societies other than the United States and Mexico. The approach deserves the careful consideration of anyone interested in a better understanding of personality development and mental health of families and children throughout the Americas.

UNESCO and its affiliated organizations have declared 1979 as the International Year of the Child. All too frequently in dealing with the crises of the moment in our societies, we neglect the problems and opportunities of the future. Opportunities for a better life for our children depend largely upon the degree to which we are successful in promoting better education, nutrition, and socialization of today's children. As psychologists concerned with human development, we have a great deal to offer in meeting these challenges. It is not enough to strive only for a deeper understanding of culture, personality development, and mental health in the Americas, however noteworthy and valuable such understanding may be. It is also our responsibility to transmit this understanding and new knowledge to all citizens and especially to our leaders who influence public policy and national priorities.

The final report of President Carter's Commission on Mental

Health (1978) as well as a number of other recent studies, all indicate an urgent need for strengthening the grass roots involvement of local citizens in the development of more effective mental health services. A focus upon the underserved and the sociocultural factors that must be taken into account has been neglected too long. The degree to which services are likely to be effectively used is directly related to their accessibility and appropriateness as defined in sociocultural terms by the individuals constituting the community. Indigenous systems of support, both social and family, are hidden assets that must be recognized and strengthened rather than thoughtlessly destroyed.

NOTES

1. Adapted from an address at the XVII Interamerican Congress of Psychology, Lima Peru, as recipient of the 1979 Interamerican Psychology Award.

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FACTORES GENETICOS Y MEDIO-AMBIENTALES EN LA INTELIGENCIA EN UNA MUESTRA DE MELLIZOS PERUANOS

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Este estudio fue diseñado para examinar la relación existente entre los factores hereditarios y medio-ambientales y sus efectos en la inteligencia general en una muestra de mellizos monozigóticos y dizigóticos en Lima metropolitana. Estimaciones de heredabilidad obtenidas se asemejaron satisfactoriamente a los índices obtenidos por investigaciones previas utilizando mellizos caucásicos. Esta evidencia conduce a inferir que factores genéticos están produciendo diferencias individuales en la inteligencia. Asimismo, diferencias individuales en distintas facetas cognoscitivas estuvieron sujetas a diversos grados de variabilidad producidas por factores genéticos y medio-ambientales. Memoria y habilidades numéricas resultaron tener una mayor variabilidad de tipo genética. Mientras que las habilidades verbales resultaron con una mayor variabilidad de tipo medio-ambiental, reflejando la influencia de factores tales como adiestramiento escolar, ambiente familiar, etc.

The primary purpose of this study was to examine the effects of genetic and environmental factors of general intelligence using a sample of monozygotic and dizygotic Peruvian twins. Estimates of heritability and the patterns of correlations found seemed to satisfactorily agree with estimates obtained in previous twin studies using Caucasian samples. Individual differences in the various areas of intellectual functioning were found not to be attributable in equal degrees to hereditary or environmental factors. Immediate memory and numerical tasks were found to be more influenced by genetic factors than more verbally loaded tasks which are more susceptible to environment (family, school training).

VARIABLES tales como la inteligencia han sido consideradas como transmitidas hereditariamente por un gran número de genes que poseen individualmente efectos acumulativos en el rasgo observado. Genéticos modernos (Eichorn, 1969) han establecido que las características fenotípicas (manifestación física del genotipo) de la conducta incluyen a un gran número de genes con efectos continuos difíciles de predecir, a menos que se apliquen principios y sistemas hereditarios poligenéticos. Esta modalidad de transmisión hereditaria de características de la conducta es llamada poligenética o multi-factorial (Sinnot, Dunn & Dobzhanski, 1968). La distribución de estos poligenes en los cromosomas no ha sido todavía localizada por genéticos, por consiguiente, la modalidad multi-factorial de transmisión no es muy bien entendida.

Hasta el momento, se ha establecido sin lugar a dudas el que factores genéticos y medio-ambientales son causantes de la variabilidad total en la expresión fenotípica de la inteligencia medida por pruebas convencionales que generan un coeficiente de inteligencia. También está establecido en genética de la conducta, el que cada habilidad en el ser humano es el resultado del medio ambiente, la herencia y de la interacción de estos dos factores. El estudio de mellizos idénticos (monozigóticos) y fraternos (dizigóticos) es un método utilizado ampliamente por genéticos para estudiar la similitud familiar con el objeto de examinar la influencia de factores hereditarios y medioambientales en el desarrollo de habilidades intelectuales.

Un número considerable de investigaciones con mellizos han sido llevadas a cabo en los últimos 20 años y la mayoría de ellas han encontrado en forma casi uniforme el que una porción sustancial de la variabilidad en la inteligencia entre individuos se debe a factores genéticos. Los coeficientes de inteligencia obtenidos utilizando pruebas de inteligencia general ("g"), han sido medidos repetidamente encontrándose una elevada proporción de variabilidad de índole genética en poblaciones caucásicas de origen europeo o estadounidense (Nicholes, 1965; Shields, 1962; Huntley, 1966; Jensen, 1969; 1970; Vandenberg, 1968; Pezzulo y otros, 1972; Burt & Howard, 1965; Block, 1968; Husen, 1955; 1960; 1967). Asimismo, los coeficientes de heredabilidad (h^2) definidos como la proporción de variabilidad total que se

atribuye a factores genéticos, han sido estimados como causantes de un 60 a 80% de la variabilidad total de los puntajes de las pruebas.

Sin embargo, una de las objeciones más serias dirigida a estos estudios que reportan un h^2 sugiere que estos índices son específicos a las poblaciones estudiadas y varían en forma considerable de una población a otra (Crow & Felsenstein, 1968, Crow, 1969; Hirsh, 1972). Lerner (1958) y Jensen (1969) han sugerido por ejemplo el que estimaciones de heredabilidad provenientes de diferentes poblaciones son sumamente necesarias para obtener una mejor información sobre la posibilidad de generalizar el h^2 . Estos autores han reconocido la falta de investigaciones transculturales utilizando mellizos de poblaciones no caucásicas.

Después de una extensa revisión de la literatura el autor del presente estudio ha encontrado que en realidad existe una escasez de investigaciones trans-culturales de genética de la conducta y en especial de genética de la inteligencia con la excepción de los estudios de Nichols (1970) y de Scarr-Salapatek (1971) quienes utilizaron mellizos estadounidenses de raza negra. Consiguientemente, la importancia del presente estudio radica principalmente en el valor de estudiar factores genéticos de la inteligencia en una población de composición genética completamente distinta a la nor-europea y estadounidense, como es la población peruana compuesta de genes nativos (indios), mestizos (híbridos) y migrantes europeos (españoles).

MÉTODO

La muestra consistió de 180 pares de mellizos y 19 pares de niños adoptados que asistían a colegios públicos y privados de educación primaria en Lima metropolitana. Ciento cuatro pares de mellizos fueron diagnosticados como monozigóticos (MZ) y 76 pares como dizigóticos (DZ). Los mellizos fueron localizados y entrevistados principalmente en los colegios a donde asistían a clases utilizando la ayuda del personal administrativo y docente de cada colegio. Las características de la muestra están descritas en la Tabla 1.

El nivel socio-económico fue medido a través de un índice

Tabla 1
Datos Demográficos de la Muestra de Mellizos

Variables	MZ	DZ	Sin relación sanguínea
N pares	104	76	19
Edad (años)			
Promedio	10.1	10.0	10.4
DS	2.8	2.6	2.2
Rango	10	10	10.8
Sexo			
M/M	61	29	
F/F	43	24	
M/F	—	23	
Etnicidad			
Indios	32	18	
Mestizos	47	37	
Blancos	25	21	

Nota: Los números en cada columna referente a sexo y etnicidad indican número de pares.

compuesto que incluyó la educación y ocupación materna y paterna, el ingreso familiar, y el lugar de residencia. La zigotidad fue determinada cuantitativamente utilizando el método empírico de comparación de características morfológicas propuesto por Husén (1959) y complementado por análisis de huellas palmo-dactilares. El análisis dactiloscópico fue conducido en el "Center for Human Growth and Development" de la Universidad de Michigan por el Dr. Cirilo Plato utilizando su propio método (Plato y Wertecki, 1972). Las huellas dactilares y palmares de los mellizos fueron grabadas utilizando el método de "tinta invisible" distribuido por Faurot Inc. de New York.

Las variables cognoscitivas fueron medidas de acuerdo con el enfoque jerárquico-factorial (Vernon, 1960). Este enfoque teórico postula que en casi todo estudio de tipo factorial y que ha utilizado pruebas de tipo cognoscitivo, un factor de tipo general ("g") surge que explica casi el 50% de la varianza total (este porcentaje de varianza se incrementa en el caso de niños infantes y disminuye con muestras de adolescentes o adultos). Por el contrario, los factores secundarios que aparecen solamente explican un 10% o menos de la varianza total. Después de remover el

factor "g", las correlaciones residuales de tipo positivo tienden a formar dos grupos principales: v:ed (verbal educativo) y p:e:m (práctico, mecánico-espacial).

En la presente investigación, la inteligencia fue medida a través de la batería verbal del WISC compuesta por seis pruebas: Información, Comprensión, Aritmética, Analogías, Dígitos, y Vocabulario. La parte no-verbal fue reemplaza por las Matrices Progresivas de Raven que mide inteligencia abstracta "g" de tipo espacial.

Ureta (1974) ha sugerido con base en datos empíricos el que las normas estadounidense del manual WISC son más deseables que las normas puertorriqueñas desarrolladas por Roca (1974). Afortunadamente, la presente muestra de mellizos obtuvo un promedio de 96 en el CIV y una DS de 15.4. Estos parámetros fueron muy similares a los encontrados por Wechsler en E.E.U.U. Concerniente a los puntajes de las Matrices de Raven, se decidió dividir la muestra de mellizos de acuerdo a la edad usando un año como intervalo y se obtuvieron promedios y desviaciones estandard para cada grupo de edad. Seguidamente se utilizaron ecuaciones de regresión para estimar el promedio de cada grupo y una función lineal para estimar las desviaciones estándar. Los efectos de la edad fueron exitosamente atenuados ya que el coeficiente de correlación Pearson fue $r = .01$ entre edad y el puntaje en las Matrices de Raven.

El índice de heredabilidad (h^2) fue estimado utilizando la fórmula de Falconer* (1960, p. 185). La fórmula h^2 es la siguiente:

$$h^2 = \frac{2(r_{mz} - r_{dz})}{1 - \hat{\sigma}_e^2}$$

donde los términos del numerador son las correlaciones de los dos tipos de mellizos, y el término del denominador es error de medición y que se obtiene del coeficiente de confiabilidad de las pruebas. El término del denominador es la corrección de h^2 por atenuación.

RESULTADOS Y DISCUSIÓN

Para determinar el grado de similaridad de los puntajes en cada prueba administrada a los mellizos, se obtuvieron correlaciones intra-clase para cada grupo de mellizos. La Tabla 2 muestra las correlaciones calculadas en forma separada para MZ y DZ. Además hay otra columna de correlaciones que corresponde a un grupo de niños adoptados y criados en un mismo ambiente desde muy tierna edad (de uno a tres años), con sus hermanos adoptivos. Los coeficientes de heredabilidad se presentan en la misma tabla. Como era de esperarse, los mellizos MZ obtuvieron en forma consistente correlaciones más elevadas que los mellizos DZ. Estos datos indican en forma evidente, que los factores genéticos afectan de forma significativa las variables cognoscitivas estudiadas. Por otra parte, las correlaciones de los niños adoptados con sus hermanos adoptivos ("hermanos" sin ninguna relación biológica pero criados en un mismo hogar) aparecen muy bajas e inclusive algunas con signo negativo. Las correlaciones de los niños adoptados resultaron sumamente bajas debido a la considerable variabilidad *entre* las familias (variabilidad del medio ambiente familiar).

Tabla 2
Correlaciones de Intra-clase y Coeficientes de Heredabilidad para MX, DZ, y Niños Adoptados en las Pruebas Verbales del WISC y las Matrices Raven

Pruebas	r_{mz}	r_{dz^*}	r_a	Error	
	(N = 104)	(N = 76)	(N = 19)	h^2	Standard h^2
1. Información	.813	.677	.10	.34	.11
2. Comprensión	.646	.623	-.09	.07	.16
3. Aritmética	.709	.579	.01	.321	.12
4. Similaridades	.696	.445	-.21	.63	.09
5. Vocabulario	.858	.794	-.21	.63	.09
5. Vocabulario	.858	.794	-.20	.141	.13
6. Dígitos	.729	.449	.13	.72	.08
CI Verbal	.928	.775	-.10	.33	.06
Raven	.817	.553	.01	.57	.07

N = número de pares

(*) Incluye mellizos del sexo opuesto y del mismo sexo.

h^2 con corrección para atenuación.

Otra forma de observar la influencia de los factores genéticos en las variables de conducta estudiadas es a través del análisis de los diversos componentes de variabilidad expresados como proporciones de la variabilidad *total*. Estos componentes son: variabilidad proveniente del medio ambiente familiar (entre familias), variabilidad de tipo hereditario, variabilidad de tipo medio-ambiental (dentro de cada familia), y el componente de error de medición. La Tabla 3 presenta los distintos componentes de variabilidad para las pruebas verbales del WISC y para las Matrices de Raven. Nótese que los valores *F* son significativos en todas las pruebas, con la excepción de la prueba de Comprensión. Se puede observar también que los índices *F* más significativos aparecen en el CI Verbal y Raven.

Tabla 3
Componentes de Variabilidad Expresados en Proporciones
de las Pruebas del WISC y las Matrices de Raven en
la Muestra Total de Mellizos

Pruebas	Varianza					
	Total	BF _{dz}	G _w	E _w	error	F
1. Información	12.47	.677	.106	.082	.136	1.48*
2. Comprensión	7.49	.617	.047	— ^a	.335	1.15
3. Aritmética	9.69	.579	.206	.039	.175	1.96**
4. Similitudes	8.70	.445	.187	.162	.206	1.51*
5. Vocabulario	15.10	.795	.084	.067	.055	1.68††
6. Dígitos	6.39	.438	.252	—	.310	1.87**
CI Verbal	243.97	.775	.156	.032	.037	3.27**
Raven	232.34	.553	.236	.126	.085	2.12**

^a Procedimientos de estimación genera valor negativo

BF_{dz} = Estimación de la variabilidad *entre* familias DZ
 (MS_B - MS_{W/2})

G_w = variabilidad atribuida a factores genéticos
 (MS_{Wdz} - MS_{Wmz})

E_w = variabilidad atribuida a factores medio-ambientales
 (MS_{WMZ})

error = variabilidad atribuida a factores de medición
 (I-r), donde r es el coeficiente de confiabilidad de la prueba.

F = índice que compara la variabilidad *dentro* de cada grupo
 (MS_{Wdz}/MS_{Wmz})

* $p < .05$

** $p < .01$

También se puede notar que el componente de variabilidad atribuido a factores hereditarios (G_w) es el más elevado en la prueba de memoria inmediata (Dígitos) y en Raven. Este hallazgo es corroborado por los coeficientes h^2 que aparecen en la Tabla 2, donde estas dos pruebas obtienen coeficientes de heredabilidad muy elevados (.72 y .57 respectivamente). Esta misma tendencia se puede observar en Aritmética y Similaridades, pruebas altamente saturadas de procesos superiores de categorización, abstracción y formación conceptual. Contrariamente a esta tendencia, las pruebas de Comprensión y Vocabulario presentan los índices h^2 más bajos. Este hallazgo también es corroborado por los resultados de la Tabla 3, donde los componentes hereditarios de Comprensión y Vocabulario son igualmente los más bajos por ser pruebas cargadas de factores altamente verbales.

Estos resultados conducen a pensar que probablemente factores de índole hereditaria están ejerciendo un rol más importante que factores ambientales en los procesos cognoscitivos en donde el factor verbal es menos importante (memoria y procesos de abstracción). Obviamente, tareas que tienen que ver con factores verbales, están siendo altamente influenciadas por el medio ambiente familiar, el entrenamiento escolar, el proceso de aculturación, etc. Nótese que la variabilidad medio-ambiental *dentro* de cada familia y *entre* las familias son las más elevadas para los sub-tests de Información, Comprensión, Vocabulario, y para el CI Verbal. Es probable que las correlaciones de intra-clase bastante elevadas en estos sub-tests, están siendo "infladas" por el medio ambiente *común* en ambos miembros del par.

Estos datos confirman la importancia de examinar distintos componentes de habilidad en lugar de ver un sólo factor o índice global. Las diferencias individuales en los diversos procesos cognoscitivos, no deben ser atribuidas igualmente a factores genéticos o medio-ambientales. En el presente estudio, existe suficiente evidencia para concluir que los procesos de memoria inmediata, abstracción, y categorización están influenciados principalmente por factores genéticos; mientras que los procesos que tienen que ver con "aprendizaje antiguo" (v.g., Vocabulario, Comprensión) parecen ser influenciados principalmente por factores ambientales.

Ya que uno de los objetos del presente estudio fue comparar los

coeficientes de heredabilidad con investigaciones previas, la Tabla 4 muestra las correlaciones y h^2 para cada estudio incluyendo el presente. Las correlaciones de MZ y DZ presentan una similitud. Utilizando la transformación de Fisher, se obtuvo el promedio r para cada grupo de mellizos en la Tabla 4. El promedio de las correlaciones y los coeficientes de heredabilidad fueron: $r_{mz} = 0.64$, $r_{dz} = .64$, y $h^2 = 0.72$. El error standard de h^2 fue estimado según la fórmula propuesta por Jencks y otros (1972) ($ES_{h^2} = \pm 0.10$). Ya que h^2 es una estimación del parámetro de una población, este índice fluctúa de muestra a muestra y de un medio a otro. Los índices de heredabilidad obtenidos en

Tabla 4
Correlaciones de Mellizos MZ y DZ e Índices de Heredabilidad
en Pruebas de Inteligencia Obtenidos en Estudios
Previos con Muestras Caucásicas

Estudios previos	r_{mz}	N	r_{dz}	N	h^2	Test Usado
Newman y otros (1937)	.91	(50)	.64	(52)	.75	Binet
Newman y otros (1937)	.92	(50)	.62	(52)	.80	Otis
Husén (1951)	.87	(36)	.55	(71)	.71	I-test ¹
Wictorin (1952)	.91	(228)	.73	(141)	.67	C-test ²
Husén (1959)	.90	(215)	.70	(416)	.67	I-test
Erlenmeyer-Kimling y Jarvik (1963)	.87	() *	.56	() *	.72	Varios tests g
Nichols (1965)	.87	(687)	.63	(482)	.65	NMSQT
Burt (1966)	.92	(95)	.55	(127)	.82	Tests g
Owen y Sines (1970)	.87	(18)	.68	(24)	.59	CI Verbal (WISC)
Owen y Sines (1970)	.95	(18)	.69	(24)	.84	CI Total (WISC)
Presente estudio (1979)	.93	(104)	.77	(76)	.70	CI Verbal (WISC)
Presente estudio (1979)	.82	(104)	.55	(76)	.60	Raven

N = número de pares en cada grupo

h^2 = Estimada a través de la fórmula de Holzinger (1929)

1 = Test colectivo de inteligencia que incluye: Sinónimos, Discriminación de Conceptos (verbal), Series de Números, y Matrices (no-verbal).

2 = Test de inteligencia general (g).

NMSQT = National Merit Scholarship Quantitative Test.

* Mediana obtenida en 14 estudios.

el presente estudio son similares a los índices obtenidos previamente por diversos investigadores que han utilizado mellizos de origen caucásico.

Estos resultados sugieren que es muy importante estimar separadamente los diversos componentes de las diversas esferas cognoscitivas en una determinada población con el objeto de establecer objetivos y estrategias en educación compensatoria en niños marginados socio-económicamente. Los resultados en la presente muestra indican de manera global que existen diferencias entre los diversos factores cognoscitivos en referencia a los componentes de variabilidad genética y medio-ambiental. Por ejemplo, existe suficiente evidencia para pensar que memoria inmediata y habilidad numérica están más influenciadas por factores genéticos que habilidades verbales. Por consiguiente, sería quizás sensato desarrollar alocaiones diferenciales en el esfuerzo que se realiza en los programas curriculares de compensación para niños desventajados socialmente, poniendo mayor énfasis en factores verbales y comprensión.

NOTAS

1. El autor se encuentra actualmente como profesor de psicología en el Centro Caribeño de Estudios Postgraduados. Casilla Postal 41246 Minillas Station, Santurce Puerto Rico 00940.

2. La presente investigación se llevó a cabo bajo los auspicios de la Pontificia Universidad Católica del Perú y con fondos de un beca de tesis doctoral otorgada al autor por la Fundación Ford. El presente trabajo es parte de un estudio más extenso llevado a cabo por el autor para su tesis doctoral. Se agradece la asistencia en estadística de Alex Wilkinson, Timothy Parker del Centro de Desarrollo Humano de la Universidad de Michigan, y Carlos Bryan de la Universidad Internacional de Florida. La preparación de este informe estuvo en parte respaldada económicamente por el Laboratorio de Biometría de New York University Medical Center, donde al autor se encontraba cumpliendo una beca post-doctoral en Psicología Clínica.

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SOBRE LA NECESIDAD DE EFECTUAR ADAPTACIONES REGIONALES DEL MMPI

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En el presente estudio se trabajó sobre una muestra de 211 estudiantes a su ingreso a la Universidad de San Luis, Argentina, en 1978. Se observó que los puntajes promedio en las nueve subescalas clínicas del MMPI son significativamente mayores que los correspondientes al grupo normativo de Minnesota, tanto para el subgrupo de sujetos de sexo femenino como para el subgrupo de sexo masculino. Se indica la necesidad de elaborar normas locales.

In the present study, the MMPI was administered to 211 subjects of both sexes who applied to enter the University of San Luis, Argentina, in 1978. This population scored significantly higher on the nine clinical subscales of the MMPI than those of the initial Minnesota group suggesting that new norms, regionally adapted, are required.

El Inventario Multifásico de la Personalidad de Minnesota (MMPI) (Hathaway & McKinley, 1951) ha sido utilizado a menudo para el estudio de la personalidad de estudiantes universitarios, debido a que es un instrumento económico, confiable, válido, que provee información sobre una amplia gama de rasgos que pueden ser comparados entre sí en un perfil global. Sin embargo, varios investigadores han señalado que las normas elaboradas en Estados Unidos no deben ser utilizadas cuando la prueba se aplica a sujetos de otros medios culturales o cuando se usa con adolescentes. A continuación se reseñan brevemente algunos trabajos que aluden directa o indirectamente al tema.

En un estudio llevado a cabo en 1963 con 408 estudiantes a su ingreso en la Universidad de Iowa, Goostein observó que existe un perfil del MMPI característico para los universitarios de sexo

masculino, que no difiere sustancialmente de región a región, pero que es marcadamente diferente del perfil característico del adulto no universitario. El autor concluye señalando la necesidad de construir nuevas normas para la población universitaria.

En 1967, Margot Velez de Pava aplicó el MMPI a 500 universitarios Colombianos de primer año y elaboró una escala T para ese grupo, la que resultó diferente de la originaria de Minnesota, con valores medios considerablemente más elevados. En consecuencia, la autora observa que muchos de los perfiles que podrían considerarse claramente indicativos de una seria patología al ser evaluados con las normas de Minnesota, pierden tal carácter si se analizan con el baremo propio de la población.

Las puntuaciones T promedio obtenidas por Rafael Nuñez (1968) en un grupo de 230 estudiantes universitarios Mexicanos de sexo masculino, oscilan en todas las escalas entre 53 y 59, resultando de este modo un perfil global ubicado enteramente por encima de los valores medios del baremo de Minnesota.

Similarmente, Gonzalez del Pino y colaboradores (1969) y De la Torre y colaboradores (1971), trabajando con muestras de varones universitarios Españoles, obtuvieron, tanto en la tríada neurótica como en la tétrada psicótica del MMPI, valores medios significativamente diferentes a los del grupo normativo de Minnesota.

Navarro (1971), en un estudio realizado con una muestra de 144 varones y 144 mujeres Mexicanos de ambos sexos, de 14 a 25 años de edad, observó que el uso de las normas elaboradas en Estados Unidos tiende a exagerar la patología de los jóvenes Mexicanos, particularmente de los de sexo masculino, y que algunas de las diferencias registradas podrían explicarse como debidas al uso de la versión española del MMPI en una muestra de jóvenes pertenecientes a un medio sociocultural diferente al de Estados Unidos. Indica, además, que las diferencias de puntajes para distintos niveles de edad sugieren que las normas para jóvenes de 14 a 17 años no pueden ser las mismas que las que se utilizan para jóvenes de 20 a 25 años, porque se corre el riesgo de que el primero de los grupos aparezca con falsos desajustes emocionales. En 1973, el mismo autor, trabajando con otro grupo de jóvenes Mexicanos de ambos sexos, entre 18 y 21 años de edad, arribó a conclusiones similares.

Montoya y Barbenza (1972), Barbenza y Montoya (1974), Montoya, Barbenza y Papa (1977) y Barbenza, Montoya y Borel (1978), en estudios realizados con muestras de alrededor de 200 sujetos de ambos sexos, en el momento de su ingreso a la Universidad Nacional de San Luis (Argentina) y cuya edad promedio era de aproximadamente 19 años, señalaron la necesidad de efectuar la estandarización del MMPI para la población universitaria local, dado que se observaban sensibles diferencias entre los puntajes medios obtenidos por las muestras de estudiantes sanluisenses y los estándares de Minnesota. En las muestras estudiadas, el 66% de los sujetos aparecía con rasgos patológicos, cifra que parece excesivamente elevada, aun cuando se reconoce que la etapa evolutiva en que se encuentran los jóvenes y la misma situación de ingreso a la Universidad, podrían justificar algunos desajustes.

Teniendo en cuenta lo expuesto precedentemente, los autores se propusieron verificar si las diferencias observadas en distintas oportunidades en su medio, resultaban tan significativas como para justificar la elaboración de normas locales o regionales. En el presente trabajo se informa sobre la labor realizada en ese sentido.

MÉTODO

En relación al propósito enunciado, los autores se propusieron verificar la siguiente hipótesis: Los valores promedio en las escalas del MMPI, obtenidos por los estudiantes que ingresan en la Universidad Nacional de San Luis (Argentina) son significativamente diferentes a los del grupo normativo de Minnesota.

Las definiciones de las variables involucradas en esta hipótesis-hipocondría, depresión, histeria, desviación psicopática, masculinidad-feminidad, paranoia, psicastenia, esquizofrenia, hipomanía y contacto social- son las mismas que Hathaway y McKinley formularon en su Manual (1951); operativamente se definen a través de la medición efectuada mediante las correspondientes escalas del MMPI.

La población de donde se extrajo la muestra estaba constituida por todos los inscriptos como aspirantes a ingresar como alumnos

en la Universidad Nacional de San Luis en 1978. Todos eran egresados de escuelas de nivel medio, con once años por lo menos de escolaridad total, con una edad promedio de 18.98 años y una desviación estándar de 2.85, y de los cuales el 71 % eran mujeres y el 29 % varones.

Muestra

La muestra en estudio estuvo integrada por 157 mujeres y 54 varones, quienes, habiéndose inscripto, asistían a los cursos pre-universitarios. La edad promedio del grupo de mujeres fue 19.89 y la desviación estándar 2.71, en tanto que la media de edad del grupo de varones fue de 19.10 años, con una desviación estándar de 3.94. En ambos casos, las edades cubrían el rango de 16 a 35 años, con sólo un 10 % de sujetos en cada grupo cuyas edades eran superiores a 22 años. La composición de la muestra (25.59 % de sujetos de sexo masculino y 74.41 % de sujetos de sexo femenino) se explica por la composición de la población por una parte, y por otra, por la menor disposición para responder al cuestionario mostrada por los sujetos de sexo masculino.

Procedimiento

Se utilizó la versión del MMPI traducida al español por El Manual Moderno, México, 1967, con algunas pequeñas adaptaciones de vocabulario.

El cuestionario fue aplicado por un mismo psicólogo, colectivamente, a grupos de 30-35 sujetos, en una sola sesión por grupo, sin límite de tiempo. Los protocolos no entregados al finalizar la sesión se desecharon. Las instrucciones orales consistieron en explicar que se trataba de un test psicológico aplicado por un equipo de profesionales de la carrera de Psicología a todos los estudiantes del curso de ingreso dispuestos a responder, con el propósito de hacer un estudio del alumno universitario. Se dieron, además, por escrito, las instrucciones usuales relativas al procedimiento para responder al cuestionario.

RESULTADOS Y DISCUSIÓN

Un primer examen de los protocolos evidenció que no se obtuvo en toda la muestra ningún puntaje T individual por debajo de 30 en ninguna escala.

Los valores promedio en cada una de las escalas, para la muestra en estudio discriminada por sexos, se presenta en la Tabla 1.

La Tabla 1 presenta las puntuaciones medias y desviaciones estándar obtenidas para cada una de las escalas clínicas y para la escala Sc del MMPI en la muestra en estudio, tanto en el subgrupo femenino como en el masculino, así como los correspondientes valores de la prueba de significación "t."

Los resultados muestran que para todas las escalas analizadas, los valores promedio de la muestra local son mayores que los correspondientes a las normas de Minnesota; esto se observa tanto en el subgrupo de varones como en el de mujeres, siendo las diferencias estadísticamente significativas al nivel del 0.001 en todas las comparaciones efectuadas, exceptuando la correspondiente a la escala Sc en el subgrupo masculino, donde el nivel de significación es de 0.05.

En todas las escalas, salvo Mf, los valores de "t" resultan más elevados y significativos en el subgrupo femenino.

Estos resultados guardan coincidencia con los obtenidos por Goodstein en Estados Unidos (1963), por Velez de Pava en Colombia (1967) con alumnos que recién ingresaban en la universidad; también con los de Nuñez en México (1968) y con los obtenidos por Gonzalez del Pino y colaboradores con muestras de estudiantes universitarios Españoles (1969).

Podría suponerse que las diferencias observadas entre este estudio y las normas originarias pueden ser atribuidas a las diferencias de edad entre los sujetos que integraron los respectivos grupos (19 y 33 años respectivamente). En tal sentido las diferencias podrían derivarse fundamentalmente de características de personalidad propias de la edad evolutiva por la que atraviesa la mayor parte de los sujetos que ingresan a la universidad. Esto confirmaría lo observado por Navarro en sus trabajos, al distinguir como grupos significativamente diferentes entre sí los de 14-17 y 20-25 años.

Por otra parte, podría pensarse que la población universitaria constituye de por sí un grupo o población de características propias y diferentes de la población general, con respecto a personalidad (Goodstein, 1963), aunque no se dispone de elementos suficientes para afirmarlo con respecto a la población argentina.

La posibilidad de que el nivel socioeconómico-cultural pueda

Tabla 1

\bar{X} y DS correspondientes a los subgrupos de sexo femenino (N = 157) y de sexo masculino (N = 54) de la muestra en estudio. Los valores de "t" muestran la significación de la diferencia entre estas medias muestrales y las del grupo normativo de Minnesota, en las nueve escalas clínicas y la escala Sc del MMPI.

Escalas	Hs	D	Hi	Pd	Mf	Pa	Pt	Es	Ma	Sc
\bar{x}	M 58.30	62.41	57.66	58.87	61.38	59.95	64.48	64.48	62.04	57.29
	V 56.70	62.59	56.35	59.68	59.65	60.52	61.06	65.87	63.85	52.52
	M 10.30	10.32	9.19	12.44	9.96	11.31	10.65	12.29	11.42	9.54
t	M 10.09**	15.00**	10.41**	8.86**	4.62**	12.56**	11.68**	14.72**	13.16**	9.54**
	V 4.38**	8.66**	5.14**	6.62**	8.29**	6.30**	7.93**	8.71**	10.50**	2.25*

**p < .001; *p < .05

ser un factor determinante de estas diferencias no puede ser establecida, ya que no se dispone de datos suficientemente confiables acerca de los niveles socioeconómicos de los integrantes de la muestra.

Desde otra perspectiva, en el ambiente universitario Argentino es frecuente afirmar que los estudiantes de psicología eligen esta carrera con el propósito de resolver sus conflictos. Dado que en la muestra en estudio, aproximadamente el 40% de los sujetos eran aspirantes a ingresar en la carrera de psicología, se estimó oportuno considerar si el subgrupo determinado por los estudiantes de carreras humanísticas concentraba los puntajes más elevados. Una confrontación de este subgrupo con el de estudiantes de ciencias evidenció que las puntuaciones elevadas se encuentran uniformemente distribuidas en toda la muestra: 65% de protocolos con índices de patología entre los estudiantes de humanidades y 67% entre los de ciencias, aun cuando puedan aparecer algunas diferencias significativas en algunas escalas, entre los subgrupos mencionados (Montoya, Barbenza & Papa, 1977; Barbenza, Montoya & Borel, 1978).

No podría tampoco descartarse totalmente la posibilidad de que las diferencias observadas en este trabajo estén relacionadas —al menos en parte— con el hecho de haberse empleado una traducción del MMPI original. Algunos autores han señalado que usando traducciones de este cuestionario al italiano y al alemán, resultan datos muy diferentes de los que se obtienen en Estados Unidos con sujetos de características generales parecidas (Lanyon, 1969).

Por último, cabría pensarse en la posible influencia de factores de orden social sobre algunos aspectos de la personalidad de los jóvenes del grupo estudiado, la que podría haberse traducido en la elevación de sus puntajes medios en las escalas del MMPI. Si bien no se dispone de suficientes datos para realizar una comparación de esta naturaleza en el medio local, trabajos como los de Schubert y Wagner (1975) y Schneider y Cherry (1976), han encontrado diferencias entre los perfiles obtenidos en grupos de estudiantes de nivel terciario en diferentes décadas: los de la década de 1960 evidenciaban deterioro emocional creciente, en tanto que en la década de 1970, los perfiles anuales mostraban un movimiento hacia esquemas más deseables de ajuste, similares a

los de la década de 1950. Dado que en la Argentina, en la última década se ha atravesado por situaciones sociales particularmente conflictivas, no puede descartarse la posibilidad de que estos factores hayan incidido sobre el ajuste emocional de los jóvenes, lo cual se traduciría en una elevación general de los puntajes en el MMPI.

Los resultados obtenidos en el presente trabajo permiten afirmar que la población universitaria sanluisense, de la cual se extrajo la muestra estudiada, es significativamente diferente de la población estadounidense para la cual se calcularon las normas ($p < 0.001$). Por lo tanto, se considera necesario obtener normas locales, a partir de muestras representativas.

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LEADERSHIP PREFERENCES IN CHILE

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International studies of leadership have been confined to evaluation of traditional "concern for people" and "concern for task" dimensions. The present study departs from this approach by emphasizing an inductive formulation of leadership preferences. Inductive development and testing of a forced-choice instrument identified four leadership preferences: integrity, commanding, responsible, and understanding. The relative importance of the four qualities is shown and analysis of preferences by socio-economic group, work experience, and sex of respondent is presented from a survey of 1258 households in Valparaíso, Chile. The study offers a systematic approach to understanding leadership preferences in Chile and demonstrates the need for evaluations of indigenous concepts in building an international approach to organizational psychology.

Los estudios internacionales de liderazgo han estado limitados a la evaluación tradicional de las dimensiones: "preocupación por las personas" y "preocupación por el trabajo." El presente estudio se aleja de este enfoque, enfatizando una formulación inductiva de las preferencias por liderazgo. El desarrollo inductivo y la evaluación de un instrumento de elección forzada identificaron cuatro características deseadas para el líder: íntegro, dominante, responsable, y comprensivo. El estudio muestra la importancia relativa de estas cuatro cualidades y presenta un análisis de estas preferencias por grupo socio-económico, experiencia en el trabajo, y sexo de las respondientes a una encuesta de 1258 dueños de casa en Valparaíso, Chile. El análisis ofrece, también, un enfoque sistemático para comprender las preferencias por liderazgo

en Chile y demuestra la necesidad de evaluar los conceptos populares para formular un concepto internacional de la psicología organizacional.

While differentiation of leadership styles and practices across cultures is an important element of an international approach to organizational psychology, previous research in this area has been limited to applications of North American theories overseas or to comparisons of Western concepts between world regions. Haire, Ghiselli and Porter (1966) compared managers' attitudes in five regions according to McGregor's (1960) framework of Theory X and Theory Y. French, Israel and Äs (1960) conducted an experimental replication in Norway of a study on worker participation in the United States. Whyte's work in Peru (Whyte and Williams, 1963; Williams, Whyte and Green, 1965) examined the familiar relationships of closeness of supervision and supervisor understanding with worker satisfaction; Farris and Butterfield (1973) evaluated Likert's (1967) climate factors in Brazilian Development Banks; and Van Fleet and Al-Tuhaih (1978) report a study of foreign students attitudes toward leadership using Fleishman's Opinion Questionnaire and a Leadership Performance Survey. These studies of leadership have been confined to the basic North American themes of concern for people and concern for task, rather than exploring concepts which might be more relevant to other societies.

This approach is a poor strategy for the development of organizational psychology on an international level. First, North American theories are not necessarily well grounded in broad cultural concepts of leadership because items for widely accepted instruments are often generated by a small group of faculty colleagues (Bowers and Seashore, 1966; Fleishman, 1973). Secondly, past studies have ignored differences in ideal leadership between cultures. If different societies may have significant variations in preferences for leadership, inductive development of knowledge becomes a research priority. This paper presents an effort to formulate an inductive understanding of leadership in Chile, South America. The project was guided by two questions. First, what major dimensions of leadership are both conceptually

coherent and capable of reliable measurement? Second, how are leadership ideals related to background and demographic factors?

METHOD

Development of Leadership Questionnaire.

The project began with a set of open-ended questions to develop leadership concepts from the thoughts, aspirations, and preferences of a cross-section of Chileans. Respondents were asked to name the qualities they would like to be seen as possessing if they were in a leadership position in an employment setting and what qualities they would like in others for whom they might work.

In this phase of the research, each respondent was contacted by approximately 70 students participating in a research seminar at the Business School of Valparaíso. Students could interview family members, friends, or neighbors and were encouraged to contact strangers encountered in public settings. Two hundred thirty-seven persons were interviewed in this manner.

Approximately forty items of a short adjective nature—such as just, friendly, dynamic—recurred at least six times in response to the open-ended questions. A panel of seven persons drawn from the business school staff individually sorted the forty items into groups having distinct leadership qualities. In order to qualify for the leadership instrument, an item needed to be a member of a group of at least three items. Specifically, each of three items, A, B, and C, needed to be placed in the same group by at least four of the seven judges.

Five groups of items met this criterion. Where more than three items were present within a group, the three most frequently mentioned by respondents were selected for the instrument. The average number of times each three items forming a group were placed with each other by the panel was 4.5, while the average number of times the items in one group were placed with items of a different group was .64.

To construct a forced-choice instrument, each of the items in a group needed to be compared with an item from each of the other groups. To determine the most balanced matching by social desirability, another panel of eleven persons from the school was asked to rank order the three adjectives within each group according to social desirability. An average rank was computed for each item within its group and a forced-choice instrument was formed by opposing the same ranked items against each other. The thirty two-item choices were randomized for order of presentation.

The items within each group are listed below according to the social desirability rankings:

Integrity (integro)	Commanding (dominante)	Competent (capaz)	Responsible (responsable)	Understanding (comprensivo)
Upright (recto)	Authoritative (autoritario)	Efficient (eficiente)	Vigorous (esforzado)	Amiable (amable)
Honest (honrado)	Strict (estricto)	Dynamic (dinámico)	Reliable (cumplidor)	Friendly (amistoso)

Study Design.

The study involved interviews with male or female heads of households across all socio-economic levels of the Valparaíso/Viña del Mar area. A sample of 1400 households, roughly representative of the actual proportions of socio-economic strata in this two-city area, was drawn from census data maintained by the research center of the business school. Interviewers were the 70 students of the school's first year research seminar and the interviews were conducted over three weeks of late November, early December, 1976.

In addition to leadership preferences, the following measures were obtained: approximate respondent age, age of family, civil status, present or past work experience, supervisory experience, and level of education achieved. The interviewer also recorded the sex of the respondent and made an observation of socio-economic level. Interviewers utilized a written guide for assessing socio-economic level which gave a written description of each of seven socio-economic levels: A (high), B (lower high), C₁ (upper middle), C₂ (middle), C₃ (lower middle), D (upper low),

and E (low). These descriptions involved the general economic level of the neighborhood, the economic nature of the specific residence, the self-presentation and occupation of the respondent and, if available, the nature of the internal residence.

Reliability.

The reliability of the questionnaire was evaluated by relating the three two-item choices intended to measure each pair of concepts. For example, questions 1, 12, and 14 all measured the relative importance of the authoritative cluster against the competent cluster. If these three choices were significantly related, reliability would be established between the two concepts. Since each group had three items and was compared against four other groups, each group had twelve reliability checks.

The number of significant reliability checks for each cluster were: integrity, 8; commanding, 12; competent, 7; responsible, 10; understanding, 11. These figures reflect a particularly poor reliability between the competent cluster and the integrity cluster—all three pairs of items between these two clusters were nonsignificant ($p < .05$, Median Test). It was decided to improve the instrument reliability by dropping the least reliable cluster, namely competent, from the main analysis. The final instrument for analysis utilized eighteen forced choice items over the four qualities of integrity, commanding, responsibility, and understanding, and maintained a 96% reliability between each pair of items measuring the same two dimensions.

RESULTS

Importance of Leadership Qualities. The first question of the study is the relative importance of the four leadership qualities. The qualities integrity and responsible are the most highly valued qualities with average ranks of 5.5 and 5.4, respectively (maximum score = 9; minimum score = 0). Understanding is the third most highly valued quality with an average rank of 4.6, and commanding with a rank of 2.5 is the least preferred quality. The distance between average rankings becomes greater as one

proceeds down the ranking. The modal responses were: integrity, 6; responsible, 6; understanding, 5; and commanding, 0.

Relationships of Leadership Preference to Background Factors. A second question of the study is whether the four leadership qualities showed differences with respect to the respondent background variables. Table 1 presents the relationship between the quality of integrity and socio-economic status of the respondent. The middle and lower middle classes preferred the items of the integrity dimension significantly more than either the high or low extremes of socio-economic position. Nearly 60% of the persons in the middle and lower middle classes fell above the median for the whole population on this quality, while the upper and lower classes had only 44% and 33%, respectively. The integrity dimension showed no significant differences across the other demographic factors.

Previous work experience related significantly to preferences for responsible and commanding qualities of leadership. In this analysis only 46.7% of persons with work experience scored above the median for the responsible quality while 53.8% of the

Table 1
importance of the Integrity and Understanding
Qualities Seen by Socio-Economic Group

Group	Integrity		Understanding	
	<i>n</i>	% above median*	<i>n</i>	% above median**
A	50	44.0	50	48.0
B	109	47.4	109	47.7
C ₁	157	50.3	159	44.7
C ₂	199	58.3	200	49.0
C ₃	124	58.1	126	48.0
D	414	51.2	414	56.8
E	132	33.3	132	68.9

* $X^2 = 24.5$, $df = p < .001$

** $X^2 = 25.5$, $df = 6$, $p < .001$

persons without work experience rated above the median ($X^2 = 5.08$ $df = 1$, $p < .03$). This role of work experience changes with the commanding quality: 50.1% of the persons with work experience and 39.8% of the people without work experience were above the median ($X^2 = 10.59$, $df = 1$, $p < .002$). Having work experience appears to predict differences in these two qualities and to show different effects between them.

Finally, the understanding quality was related to two background factors. Table 1 shows a relatively stable pattern of 45 to 50% persons above the median score across high and middle socio-economic groups with a strong rise to nearly 70% above the median for persons in the lowest economic group. Another significant trend appeared in relation to the understanding quality of leadership—56.1% of the women in this sample are above the median score for the understanding quality compared to 45.5% above the median for men ($X^2 = 11.98$, $df = 1$, $p < .001$). The variable "level of education" also showed a near-significant relationship to this quality, but was also highly related to socio-economic group and sex and therefore was not seen as an independent factor.

DISCUSSION

This paper has presented the methodological development and relative importance of four aspects of ideal leadership in a cross section of a regional Chilean population. The dimensions of the concept of leadership were developed inductively from responses to open-ended questions and then systematically reduced into a formal leadership style instrument.

The integrity quality of leadership stands out both for its overall strength relative to the other three leadership qualities and for its significantly higher preferences in the middle classes of this sample. It appears that this dimension, anchored in the country's unique social history, is a central element of leadership expectations.

The findings of the responsibility and commanding qualities relating to the respondent's work experience show an unexpected pattern. The lower preference for responsible leadership and

higher preference for commanding leadership for those with work experience may suggest the impact of organizational realities upon participating in the labor market. One is tempted to label these results a "loss of idealism" about work and work life resulting from direct work experience.

Two background factors, low socio-economic group and female respondents, showed significant relationships to preferences for understanding leadership. These two factors appear to be related to each other as they both imply subordinate social roles. In a society of relatively low upward mobility, persons in less advantaged positions may have a greater appreciation for social and human qualities of solidarity, friendliness, and consideration.

While it is extremely difficult to compare the leadership qualities of this study with traditional North American concepts of task and consideration, one might speculate that the understanding dimension is parallel to consideration, and some combination of commanding and responsible leadership bears resemblance to a task orientation. The clearest point of difference from earlier studies appears to be the integrity concept which is unprecedented in traditional leadership theory. The strength of the integrity concept in this study points to the potential utility of inductive studies in differing contexts.

This paper constitutes an initial attempt to study leadership preferences in a Latin American country. The study seeks to understand Chilean leadership ideals, and it raises questions about cultural differences and similarities in leadership preferences. The study demonstrates the need to evaluate indigenous concepts of leadership more thoroughly and systematically. Such efforts should, in time, permit the development of concepts of administration appropriate to the developing areas.

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FACTORES CONSIDERADOS POR CIVILES Y MILITARES PERUANOS AL “OFRECÉRSELES” UN PUESTO PÚBLICO

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Se usó entrecruzamiento de factores de trabajo intrínsecos positivos y negativos con factores extrínsecos positivos y negativos para generar cuatro descripciones simuladas de un puesto ejecutivo en la burocracia Peruana. Estas descripciones fueron dadas a 64 profesionales civiles y 64 oficiales de las Fuerzas Armadas que participaban en cursos de post-grado de administración en Lima, a razón de uno por sujeto. Se pidió a los sujetos que evaluarán el grado de satisfacción que esperarían tener en el puesto simulado e indicaran su probabilidad de aceptarlo. En ambas muestras (civiles y militares) tanto la variación en factores intrínsecos como en extrínsecos causó efectos significativos en satisfacción anticipada y aceptación del puesto, y esto ocurrió en la dirección esperada, pero los efectos de los factores intrínsecos fueron considerablemente mayores que los de los extrínsecos en cada grupo y en cada variable dependiente.

A complete crossing of positive and negative intrinsic job factors with positive and negative extrinsic job factors was used to generate four simulated descriptions of an executive job in the Peruvian bureaucracy. These descriptions were given to 64 civilian professionals and 64 military officers participating in elite post-graduate training in Administration in Lima. Each subject received one job description and was asked to rate the degree of satisfaction he would expect to have in the simulated job and the subjective probability of accepting it. In both samples (civilian and military), variation in intrinsic factors as well as variation in extrinsic factors caused significant effects upon anticipated satisfaction and acceptance of the job, and this occurred in the expected

directions, but the effects of intrinsic factors were markedly greater than those of extrinsic factors in each group and on each dependent variable.

En su reciente análisis de la burocracia Peruana, Cleaves y Scurrah (1976) observaron un predominio creciente del personal técnico en la cúpula del aparato estatal. Los ingenieros, economistas, militares, etc., que en 1963 ocupaban el 56% de altos puestos en los ministerios, en 1974 cubrían el 75% de éstos. Tal crecimiento se explica casi enteramente por el ingreso masivo de oficiales de las Fuerzas Armadas en la Administración Pública con el advenimiento del Gobierno Revolucionario en 1968. Entre 1963 y 1974 el porcentaje de militares en esos puestos pasa del 1.4% al 33.6%, mientras que el de técnicos civiles se reduce del 54% al 41%. En empresas públicas, Sorj (1976) afirma que hacia 1975 la presidencia del 50% de éstas era ocupada por militares. Algo similar parece ocurrir en otros países latinoamericanos donde las Fuerzas Armadas han tomado a su cargo el poder político.

Interesa saber qué efectos estará teniendo esta incursión de técnicos no civiles en puestos del sector público. En el Perú hay una creencia de que técnicos civiles y militares difieren entre sí no sólo por la naturaleza de los contenidos de sus respectivas especialidades, sino también por sus motivaciones, valores y actitudes profesionales. Sin embargo, no se dispone de publicaciones basadas en exploraciones empíricas sistemáticas que apoyen, refuten, o refinan tal creencia. Recientemente han aparecido varios estudios sobre el comportamiento de los militares peruanos (por ejemplo, Astiz & García, 1972; Einaudi, 1969) pero éstos son análisis políticos o sociológicos que no permiten arribar a conclusiones.

El presente artículo ofrece los resultados de una investigación donde se comparó la actitud de técnicos civiles y militares peruanos frente a dos clases de características de los puestos de trabajo: propiedades intrínsecas y propiedades extrínsecas de esos puestos. En la clasificación de Herzberg (1966), los factores intrínsecos de un puesto comprenden las características de la actividad laboral en sí (variedad de tareas, grado de autonomía, responsabilidad

delegada en el puesto, etc.) y sus consecuencias para el crecimiento psicológico del trabajador (oportunidad de probar la propia competencia, reconocimiento a la calidad del trabajo producido, posibilidades de desarrollo personal, etc.). Los factores extrínsecos, por otra parte, son los elementos contextuales del trabajo (clima social, calidad de la supervisión, salario, ambiente físico, seguridad, etc.). La teoría de Herzberg sobre el rol de estos factores en la satisfacción/insatisfacción con el puesto es cuestionable, y la clasificación misma de los factores intrínsecos y extrínsecos no es muy sistemática (véase Dyer & Parker, 1975; Locke, 1976). La teoría, sin embargo, parece ser perfecta (León & Sepúlveda, 1979). De otro lado la clasificación intrínseco-extrínseco ha generado ya un juego apreciable de datos que permiten hacer comparaciones transculturales y/o transnacionales interesantes. La literatura empírica estadounidense sugiere consistentemente que los factores intrínsecos son determinantes más poderosos de la satisfacción con el trabajo que los factores extrínsecos, excepto para ciertos grupos de trabajadores, generalmente en los niveles ocupacionales más bajos (véase, por ejemplo, Hulin & Waters, 1971; Locke, 1976; Locke & Whiting, 1974; Waters & Waters, 1972). Algo semejante parece ocurrir en otros países. Por ejemplo, en una investigación reciente llevada a cabo en la India entre estudiantes de ingeniería se halló que los factores intrínsecos determinaban la satisfacción anticipada en un puesto simulado con mayor fuerza que los factores extrínsecos (Singh, 1975). Será instructivo determinar si en el Perú también se encuentra este tipo de relaciones, además de averiguar cuáles son las diferencias que existen al respecto entre civiles y militares.

MÉTODO

Sujetos

A fin de analizar las actitudes relevantes de los técnicos civiles y militares que suelen lograr acceso a los más altos niveles de la administración pública Peruana, se obtuvo datos de los participantes en dos programas de post-grado en Lima. La muestra de

militares (N = 64) está integrada por los participantes en el Curso de Comando y Administración 1975-1976 de la Escuela Superior de Guerra del Ejército (ESGE), que fue atendido por Comandantes y Mayores—y algunos Capitanes—del Ejército Peruano (72%), así como por oficiales de otras armas nacionales (14%) y algunos oficiales de otros países Ibero-americanos (14%). El tamaño original de la muestra fue 68 pero cuatro casos fueron descartados al azar por consideraciones metodológicas. Un porcentaje muy alto de los militares que ocupan actualmente cargos importantes en la administración pública peruana tiene un entrenamiento ESGE.

El grupo de técnicos civiles de este estudio (N = 64) es una muestra aleatoria de la Décimotercera Promoción del Programa Magister en Administración de la Escuela de Administración de Negocios para Graduados ESAN, la única institución peruana que ofrece programas de administración a nivel de post-grado. Este grupo está integrado por ingenieros (70%) y profesionales de otras especialidades (30%), casi todos hombres (95%). Incluye también una minoría de ciudadanos de otros países latinoamericanos (14%) y es significativamente más joven que el de ESGE, pues el 80% de la promoción de ESAN está entre los 23 y 34 años de edad, contrastando así con los 37-40 años de la muestra militar. El número de casos disponible era mayor pero se redujo al azar para igualarlo al de la muestra militar. Cerca del 50% de los graduados de ESAN trabajan en la administración pública peruana y tienden a ocupar altos puestos en ella.

Los datos de ambas muestras fueron obtenidos por el autor durante el desarrollo del curso de Comportamiento Organizacional de ESGE (Marzo 1976) y ESAN (Abril 1976). Al responder al cuestionario usado los sujetos no sabían que estaban participando en un estudio comparativo ni habían sido expuestos todavía al tema de los factores intrínsecos y extrínsecos.

Procedimiento

El estudio consistió en una simulación donde cada participante recibió una descripción de un puesto ejecutivo en "una empresa pública u organismo del gobierno central" e indicó el grado de

satisfacción que anticiparía tener en él, así como la probabilidad de aceptarlo. Hubo en total cuatro descripciones del puesto público, generados por la combinación de factores intrínsecos positivos (I^+) y negativos (I^-) con factores extrínsecos positivos (E^+) y negativos (E^-). En cada institución, a una cuarta parte de los participantes se les describió un puesto público $I^+ E^+$; a otra cuarta parte, uno $I^+ E^-$; a un tercer cuarto, uno $I^- E^+$; y al restante, uno $I^- E^-$. La asignación de descripciones a los participantes se hizo al azar. Los factores intrínsecos incluidos en las descripciones fueron los siguientes: Gran (Sin grandes) responsabilidad(es). Rápido (Ningún) reconocimiento al buen trabajo. Posibilidad (Escasa probabilidad) de avance, progreso. Tareas que (no) son las favoritas de Ud.; Ud. (no) goza con ellas. Los factores extrínsecos fueron: Alta (Baja) paga. (Des)Agradables condiciones físicas de trabajo. (Sin) Seguridad, estabilidad. Atmósfera interpersonal (des)agradable. Los dos grupos de factores fueron adaptados de la lista usada por Singh (1975), balanceándose su secuencia con el fin de controlar el orden de presentación.

Medidas

En las instrucciones dadas a cada participante se le pedía estudiar las características del puesto descrito, imaginar que éste le hubiera sido ofrecido, e indicar (a) el grado de satisfacción que anticiparía tener en él y (b) la probabilidad de aceptarlo, en el supuesto de que esta decisión por sí misma no afectaría su carrera profesional. El último detalle fue incluido con el fin de facilitar un amplio rango de respuestas del grupo militar en la escala de Aceptación del Puesto. Siendo probable que el oficial imaginara que el puesto le sería ofrecido por un superior jerárquico, sus reacciones podrían quedar limitadas al extremo positivo de la escala en razón del concepto castrense de cumplimiento de órdenes si no se incluyera esta observación. Los juicios de satisfacción anticipada fueron recogidos en una escala Likert de cinco puntos, desde Muy Insatisfecho (1) hasta Muy Satisfecho (5); los de Aceptación del Puesto, en una que iba desde Imposible que lo Acepte (1) hasta Seguro que lo Acepto (5).

RESULTADOS

Satisfacción Anticipada

Los datos de cada variable dependiente fueron sujetos a un análisis factorial de la varianza. El factor Instituciones se asocia con una diferencia estadísticamente significativa en Satisfacción Anticipada (SA) ($X_{ESGE} = 2.79$, $X_{ESAN} = 2.44$; $F(1,120) = 7.3$, $p < .01$), pero Omega Cuadrado (Kirk, 1968, pp. 198-199) indica que esta diferencia es nimia pues explica sólo el 2% de la varianza en esta variable. Por otra parte, aunque tantos Factores Intrínsecos ($X_{I+} = 3.48$, $X_{I-} = 1.75$; $F(1,120) = 170.0$, $p < .01$) como Factores Extrínsecos ($X_{E+} = 3.05$, $X_{E-} = 2.19$; $F(1,120) = 41.7$, $p < .01$) causan diferencias significativas, el impacto de estos dos factores difiere en magnitud. La variación en FI ($I+ vs. I-$) explica el 49% de la varianza en SA mientras que la variación en FE ($E+ vs. E-$) explica sólo el 12%. Esto indica que FI es considerablemente más poderoso que FE en la determinación de SA. Ninguna de las interacciones entre las variables independientes alcanzó significación estadística ($I \times FI$, $I \times FE$, $FI \times FE$, $I \times FI \times FE$), lo cual sugiere que FI y FE actúan aditivamente y sus efectos son idénticos en ESGE y ESAN.

Aceptación del Puesto

La estructura de los resultados respecto a Aceptación del Puesto (AP) es similar a la de los resultados correspondientes a Satisfacción Anticipada, aunque en este caso las diferencias institucionales son tan pequeñas que no alcanzan significación estadística ($X_{ESGE} = 3.06$, $X_{ESAN} = 2.88$; $F(1,120) = 3.6$, n. s.). Factores Intrínsecos ($X_{I+} = 3.70$, $X_{I-} = 2.25$; $F(1,120) = 261.1$, $p < .01$) y Factores Extrínsecos ($X_{E+} = 3.34$, $X_{E-} = 2.60$; $F(1,120) = 66.7$, $p < .01$) causan efectos significativos y, de nuevo, los efectos de FI ($\Omega^2 = .57$) son mayores que los de FE ($\Omega^2 = .14$). Ninguna de las interacciones es significativa.

La Tabla 1 permite comparar los resultados para las dos variables dependientes en las dos instituciones. SA y AP correlacionaron positiva y significativamente entre sí tanto en ESGE ($r = .87$, $p < .01$) como en ESAN ($r = .78$, $p < .01$).

Tabla 1
Promedio de Satisfacción Anticipada y Aceptación del Puesto
para los Niveles Positivo (+) y Negativo (-) de Factores
Intrínsecos (I) y Extrínsecos (E) en cada Institución

Escuela		ESCALAS			
		Satisfacción Anticipada		Aceptación del Puesto	
		I+	I-	I+	I-
Guerra del Ejército	E+	4.06	2.37	4.13	2.69
	E-	3.06	1.69	3.56	1.87
Administración de Negocios para Graduados	E+	3.94	1.81	3.87	2.69
	E-	2.87	1.12	3.25	1.75

Nota. Cada promedio está basado en 16 puntajes.

DISCUSIÓN

Hay dos rasgos remarcables en los resultados obtenidos en este estudio. Tanto entre civiles como entre militares, los factores intrínsecos exhibieron mayor poder que los factores extrínsecos en la determinación de la satisfacción anticipada en el puesto simulado y la probabilidad subjetiva de aceptarlo. Como es típico de los diseños experimentales propiamente dichos, las conclusiones relativas a la parte experimental de este estudio son muy fuertes en lo que toca a *validez interna* (Campbell & Stanley, 1963). Cabe muy poca duda que fue la manipulación experimental de la descripción del puesto público lo que causó las diferencias que fueron observadas y atribuidas a FI y FE. El carácter de experimento de laboratorio del estudio, sin embargo, plantea también una limitación: ¿Ocurrirán ante FI y FE auténticos las reacciones que se observaron aquí ante FI y FE simulados? La artificialidad amenaza su *validez externa*. Quizás las condiciones en las que se realizó el experimento no son las de las circunstancias normales de trabajo. Dada la artificialidad de la situación experimental y el clima de interrogación acerca de las reacciones de los participantes, ellos podrían haberse preocupado por la

imagen que proyectarían. Esto induciría mecanismos de afirmación de la autoestima mediante el uso de clichés socialmente aceptables o ciertos valores de la cultura hispanoamericana que se refieren a la superioridad ética de los valores "espirituales" y a la inferioridad de los más "materiales" (véase Gillin, 1965). Es decir, la variación en las propiedades del puesto simulado podría haber influido en los participantes, pero poniendo en marcha respuestas defensivas que no guardarían relación con las respuestas que exhibirían ante sus puestos regulares de trabajo o ante puestos ofrecidos en ambientes naturales.

Esta interpretación es razonable pero rebatible. En primer lugar, dado que no se obligó a los participantes a identificarse, es improbable que la situación de recolección de datos haya exacerbado preocupaciones referidas a la proyección de una imagen personal. Y aunque las reacciones en la simulación hubieran sido defensivas, esto no tendría que verse como una limitación a la validez externa del experimento. Los mismos mecanismos defensivos determinantes de las respuestas ante el puesto simulado podrían regular el estado de satisfacción laboral o las reacciones ante el puesto real. Pero estos no son los argumentos de mayor fuerza en defensa de la validez externa de los resultados. El mayor argumento consiste en la ley de parsimonia: "De varias explicaciones al mismo fenómeno, escoge la más simple." En este caso, ella sería la que reconcilia estos hallazgos con otros de la literatura empírica con economía de conceptos. Hay una amplia documentación estadounidense sobre el rol predominante de los factores intrínsecos del puesto en el control de la satisfacción con el trabajo, particularmente en lo que respecta al personal de niveles organizacionales altos y medios. Los resultados experimentales sobre satisfacción anticipada que fueron obtenidos aquí y en la India (Singh, 1975) son semejantes a los que se han encontrado en Estados Unidos en estudios de campo, a los que no parece aplicable una interpretación defensiva. Esto sugiere que la explicación más simple de los datos podría reducirse a la idea de que los técnicos civiles y militares Peruanos responden a las propiedades de un puesto de la misma manera como los profesionales de otros países. Cualquier otra interpretación obligaría a manejar mayor número de conceptos explicativos.

El segundo aspecto de los resultados merecedor de discusión está dado por la similitud de reacción de civiles y militares en el

área investigada. Para ambos, los factores intrínsecos constituyeron elementos estimulantes de mayor poder que los extrínsecos en cuanto a influencia sobre satisfacción anticipada y probabilidad de aceptar el puesto. La única diferencia consistente hallada entre civiles y militares fue aquella que concierne al nivel general de satisfacción anticipada en el puesto, mayor en ESGE que en ESAN.

Esta diferencia puede explicarse de varias maneras. Mientras que los alumnos de ESAN parecen tener poco interés en trabajar para la administración pública, los militares tal vez consideraron la oportunidad de hacerlo como una experiencia nueva o un desafío interesante, o quizás pesaron las ventajas de tener un puesto civil sin perder las ventajas del status militar. O, siendo menos jóvenes que los de ESAN, probablemente encontraron más fácil de satisfacer su nivel de aspiraciones. También es posible que por "puesto ejecutivo en una empresa pública u organismo del gobierno central" los dos grupos hayan entendido cosas diferentes en función de su respectivo estadio de maduración profesional. Todos estos factores pueden haberse combinado para producir la diferencia observada. Nótese, sin embargo, que ésta se refirió sólo a satisfacción anticipada (no a probabilidad de aceptar el puesto) y aún así fue tan pequeña que se le puede ignorar por carecer de valor práctico. Las *semejanzas* entre civiles y militares reveladas en este estudio son más significativas y levantan serias dudas sobre la validez de los estereotipos existentes acerca de supuestas diferencias psicológicas de relevancia laboral entre ambos grupos.

De otro lado, la semejanza de reacción entre estos dos grupos profesionales Peruanos y los trabajadores del mismo nivel ocupacional en Estados Unidos e India sugieren ciertos límites a la extensión de las diferencias transnacionales remarcadas por antropólogos, sociólogos, y psicólogos transculturales.

NOTAS

1. El autor agradece la ayuda de Elsa Ames en la elaboración de materiales y análisis de los datos, los comentarios de Martin J. Scurrah a un borrador de este artículo, y las sugerencias del Editor y los consultores de la RIP que opinaron sobre él. Dirigir la correspondencia a Federico R. León. Escuela de Administración de Negocios para Graduados ESAN. Casilla Postal 1846. Lima (100), Perú.

2. El lector interesado puede solicitar del autor una copia de las escalas.

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THE NEUROPHYSIOLOGY OF LEARNING: MODEL SYSTEM APPROACHES^{1, 2}

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In a recent article, Dr. Donald O. Hebb (1974) found it necessary to remind psychological researchers that their basic problem lies in analyzing and understanding the mind and thought processes of the human being. Obviously, this is an extremely complex task which has engendered numerous approaches to a solution. Most early theoretical explanations of learning sought to account for human learning and thought processes by one or another notion, such as Pavlovian classical conditioning theory or the global Hullian association theory. Such views of the mind led to the concept of learning as a unitary process, a view still evident in both learning theory and neuropsychology. The concept of learning as a unified construct holds that one process, quite often defined by the experimenter's operations, can be used to account for all that happens in subject's learning processes. Instead it would seem more likely true that learning, and hence the nervous processes which underlie the behavioral changes seen during learning, can be manifest in many different types of alterations, each with varying levels of complexity. These various levels of complexity may be outlined starting with the simplest neural pathway, a monosynaptic pathway between a sensory input and a motoneuron. In such a pathway relatively little alteration with experience is possible. Only relatively short-term alterations, measured in seconds or milliseconds, are generally seen in such pathways in mammalian systems. Polysynaptic pathways which include several synapses and several interneurons have been shown to undergo longer term alterations, such as habituation and sensitization processes, which may last minutes

or hours as well as what now appears to be simple types of learning or learning-like alterations which have many of the characteristics associated with classical and instrumental conditioning. If higher levels of complexity are added to the nervous system, such as the lower brain stem, more complex types of behavioral alterations can be shown to occur. Certainly at this level of complexity, classical conditioning and some forms of instrumental learning are readily demonstrated. With the total brain stem to provide more levels of neural complexity, such as found in birds, many other types of higher forms of learning can be shown, and if the cortex is added, all of the various types of behavioral alterations seen in man, including problem solving and verbal processes are available. It would thus appear that various levels of the nervous system are specialized to process information in different ways.

In dealing with the problem of understanding the neurophysiological processes underlying behavioral alterations, it is also becoming evident that not only must different levels of the nervous system be taken into account but that the animal's response to the environment must be very carefully considered. Too often psychologists are used to analyzing a given situation in terms of a simple response of the organism to the stimuli which the experimenter is presenting. It is becoming more and more obvious that such is not always the case, but that the capabilities which the subject brings to the situation and the neural activity present at the time of the learning trial must be taken into account. A classic example of such a situation is the well known place versus response conflict which was analyzed recently by Dr. Frank Restle (1957). In this controversy, it had been found that in some T-maze learning situations, rats would learn to make a right turn in the maze, while in other situations they seemed to learn to go to a particular arm of the maze independent of the starting point. Restle pointed out that if the animals could utilize cues in the environment outside the maze while learning the task, they would orient toward those external cues and hence learn to go to a particular place. Given the situation in which external cues could not be utilized, such as an enclosed maze, the rats would learn to make a certain response, such as always turning right. Thus when the organism's use of the available stimuli was analyzed it was found that cues other than those

thought to be presented by the experimenter were being utilized. Dr. James Jenkins (1974) in a recent article in the *American Psychologist*, talked about this type of problem in human verbal learning. In this situation, Dr. Jenkins indicated that it is not necessarily the associations between words which are important but rather the events or qualities of an entire situation which make up the learning set for a subject which determine what the subject will perceive. This concept, termed contextualism by Jenkins, implies that the experimenter must look not only at the stimulus, but at what the subject brings to and sees in the situation in terms of the subject's prior history, to determine how the information will be processed and utilized. This indicates that in the analysis of brain functions in learning, we must stop treating subjects simply as masses of neurons waiting for stimuli, which will be interpreted as we think they should be interpreted, but that we must view the subject as an active participant in this interaction, and be very careful that we understand what the subject is actually undergoing. These facts would suggest that we cannot speak of "the neurophysiology of learning" but rather of the neurophysiology of a particular behavioral change in some environmental context with a certain type of subject, for these will determine the level of learning occurring and hence the neural activity and neural alterations being activated. It remains to be seen whether the molecular processes underlying any particular set of behavioral and associated neural changes are the same as those underlying other changes which utilize different or more complex portions of the nervous system. A very important implication of this concept for neurophysiology is that the experimental paradigms and situations must be very carefully controlled and that slight differences between studies be recognized as potentially producing grossly different neurophysiological activity.

This concept has tremendous implications for the study of brain mechanisms. In a recent article (Thompson, Patterson and Teyler, 1972), we made a plea for certain standardized preparations and increased behavioral control in the study of the neurophysiology of learning. It was clear at that time that there had been much work on the basic processes and neurophysiological events occurring during the learning processes which had produced little understanding of the events. The reasons mentioned

above seem to explain much of this situation. Many experiments in fact ignore the different levels of behavioral change and the fact that the subject is an active participant in this process. Under such circumstances when attempts are made to generalize between studies, each of which utilize different stimulus situations and paradigms, little commonality can be found between the brain activities and neurophysiological processes operating in the different experiments. In this situation, which implies an extremely complex and difficult task in the understanding of brain processes underlying learning changes, the experimenter can do one of two things: He can attempt to decipher the multitudinous processes occurring in the usual learning situation with the adult human. At the basic neurophysiological level, such an approach is extraordinarily difficult. Many reasons for this difficulty are implicit in the inability of the experimenter to directly measure many areas of the human brain, but even when the experimenter utilizes infra-human organisms, such an approach to understanding the neural mechanisms of learning is at best extremely complex, although much information about brain function has been gained from this type of experiment, as evidenced in Dr. Karl Pribram's superb talk at this conference. However, these types of experiments are unlikely to yield information about the basic molecular mechanisms of the learning process. The other alternative which can be utilized is to make use of what is popularly known as the model systems approach. This approach is based upon the assumption that small portions of the nervous system can be understood and that by studying these smaller subdivisions, the function of the whole system can be more readily comprehended. The model systems method may be likened to the successive approximations often used in the physical sciences to determine various aspects of a process and to then fit them together in some approximation of the total process being studied.

MODEL SYSTEM ANALYSIS

Model Preparations

There are two distinct aspects to be considered in the model systems approach. The first involves the organism or the nervous

system which is being studied. In a recent paper, Glanzman, Teyler and Thompson (1975) outlined three non-exclusive types of model preparations. The first may be termed the partial preparation. Such a preparation is in fact an intact organism, such as a rabbit, rat, cat, or possibly even a human, but in which only a small portion of the response repertoire and brain mechanisms of the organism are utilized. Hence, a partial preparation might be a simple flexion reflex in a restrained, otherwise normal subject. The partial preparation is obviously the most normal of any model in terms of physiological and psychological activity. It does present problems in terms of possible interactions between observed portions of the nervous system and other areas which might modify the behavioral and neural outcomes without the control or knowledge of the experimenter.

The second type of model preparation is the simple preparation, which is usually an invertebrate or other organism in which the nervous system is relatively more simple than that of a human. Such simple preparations are evidenced in the lobster, crayfish, *Aplysia*, or squid. Simple preparations run the risk of not functioning as does the mammalian system at the molecular level. Such problems may lead to a lack of generalization between simple and mammalian preparations. In addition, such preparations are often found to have a neuropile type of central nervous system which is essentially undecipherable in terms of the interactions between the various components. However, the analysis of the simple preparation has provided and will continue to provide a very powerful tool for gathering useful information on the neural bases for various types of behavioral alterations.

The third type of a model preparation is the reduced system in which inputs and/or outputs of the system have been surgically altered or simplified. Reduced systems include mammalian spinal cord and decerebrate or decorticate animals of various types. Obviously, in all three model preparations it must be demonstrated that the model has some of the characteristics of the intact organism's behavior in order that the model preparation be useful as an experimental tool.

As the model preparations are non-exclusive, the three types can be intermixed to produce various combinations. Thus, simple-reduced systems are possible, such as an *Aplysia* ganglion isolated from the animal, or a reduced-partial system, such as

spinal cat in which only simple reflex activity is studied. With such models it is possible to provide systems which will severely limit the complexity of possible behavioral changes and to reduce the degrees of freedom available to the subject in perceiving and learning about his environment. For example, in the spinal cat, utilizing the reflex arc, most of the special senses have been eliminated and the organism's response to the environment has been drastically reduced. In any such model preparation, it is obvious that one of the problems facing the investigator is to determine the extent of behavioral alterations possible in the preparation and how these alterations parallel those seen during behavioral change or learning in the intact organism.

Model Paradigms

Careful consideration of the second aspect of the model system, the model paradigm, is vital in assessing the behavioral capabilities of the model preparation. The paradigm includes the stimulus situation being used. Most commonly used model paradigms include sensitization-habituation situations and for learning models, classical and instrumental conditioning paradigms. Such paradigms must be viewed as a part or model of the total learning process with the expectation that understanding the model situation will lead to a greater ability to understand the complex interactions that occur in organisms exposed to uncontrolled or more complex stimulus situations. Despite the seeming simplicity of the operational aspects of many model paradigms, there are often many aspects of even the simplest paradigms which must be carefully evaluated, especially in light of the interactions between subject and situation implicit in the considerations outlined above. A brief examination of the classical conditioning paradigm will indicate some of the difficulties and problems facing the neurophysiological analysis of learning which uses even a simple learning paradigm in its analysis.

Classical Conditioning. Classical conditioning operations are thought to produce an association between two stimuli through the contiguity of the stimuli in time. The basic operations and

concepts of classical conditioning were formulated by I. P. Pavlov (e.g., Pavlov, 1927) around the turn of the century. In this paradigm, a conditioned stimulus (CS) and an unconditioned stimulus (UCS) are presented in some consistent manner. It has generally been found that under this paradigm, no excitatory associations are formed between the two stimuli if the CS does not precede the UCS by some interval (forward pairings) which is optimal at between 250 and 500 msec. in most situations. If the CS begins within about 100 msec. before, simultaneously with or after the UCS onset, little or no conditioned associations result. If the CS and UCS are presented in random temporal orders or are consistently presented with a long period between stimuli, the resulting unpaired trials also produce no excitatory association, although some debate exists as to whether such unpaired presentations may in some cases cause inhibitory associations, (see e.g., Gormezano, 1966; Gormezano and Kehoe, 1975; Rescorla, 1967 for discussions). Forward pairings take the form of either trace (CS onset and offset before UCS onset) or delay (CS onset before and offset at, or after UCS onset) conditions.

The UCS is generally defined as any stimulus giving rise to effector organ activity when appropriate receptors are excited. The unconditioned response or UCR is defined as a purely reflex activity to the UCS. Thus the UCR is an inborn reflex present at or shortly after birth which is common within a species and dependent chiefly upon subcortical neural processes. The CS is loosely defined as a signal to the subject of some change in the environment which causes little or no behavioral activity. The conditioned response (CR) is defined as a response learned during the animal's lifetime, hence is an individual response and may resemble or be adaptive to the UCS (see Gantt, 1968; Patterson, 1975b).

In the original conceptualizations, the CS was viewed as a neutral stimulus which would become connected with the UCS neural centers through appropriate stimulus sequencing, to produce a CR. The concept of CS neutrality is usually interpreted as a CS which produces no response, at least in the modality and at the sensitivity with which the behavior is being measured. However, it is becoming increasingly apparent that in

most, if not all preparations, the CS is in reality not a behaviorally neutral stimulus. In most organisms any stimulus from the environment will initially produce some form of response. Such responses are usually termed nonassociative or alpha responses. In other cases the CS may begin to produce responses when the UCS has been presented but not paired with the conditioned stimulus. Such responses are known as pseudo-conditioned responses, which are also nonassociative in nature. Such nonassociative responses can usually be adapted out or differentiated from associative responses through latency, amplitude or spatial characteristics. The use of generally accepted unpaired and CS-alone control groups can often provide the necessary measurements for differentiating between the two types of responses (see Gormezano, 1966; Teyler, Baum and Patterson, 1975). Such considerations acknowledge the nonneutrality of the CS if behavior is sufficiently well monitored and hence shifts the emphasis in classical conditioning from the formation of a *new* connection between the CS and UCS to the unique effects of CS—UCS pairings upon preexisting response tendencies. This shifting of emphasis regarding underlying processes in classical conditioning necessitates extremely careful behavioral delineation of the initial effects of the CS and of the effects of both paired stimulus presentations and of CS and UCS presentations alone.

While adequate in most behavioral studies, such control procedures may not be sufficient when one is delineating the neural activity underlying conditioned behavior. In some cases the simple overlap of CS and UCS regardless of the stimulus order may cause alterations in the neural response to the CS due to a simple summation of stimulus intensities. Such a summation would never be present in the unpaired control. In this case, a backward conditioning control group with the CS and UCS overlapping but with the UCS presented first would control for any summation effect. In addition, a differential control group may be used in which a CS is paired with the UCS and a second CS(CS₂) differing in some dimension is never paired with the UCS. Responses to the paired CS when compared with the responses to the unpaired CS should give a measure of learning. Unfortunately, when dealing with the neural basis of behavior

such a differential control presents difficulties due to generalization between the two CSs. In addition, the fact that the two stimuli differ in some dimension also indicates that they necessarily activate different neural populations and hence cannot be considered initially equal control stimuli. The issue of control groups and comparisons in the classical conditioning paradigm becomes especially acute in model preparations in which there is demonstrably no behaviorally "neutral" CS or in which activity to the CS is seen in the motor pathways of the response system being monitored. In such cases it is not sufficient to simply decrease CS intensity to the point at which the nonassociative response is no longer present and assume the creation of a "neutral" CS; the CS is capable, with slight sensitization in the organism, of producing a response. Thus the unique effect of stimulus pairing in the forward condition must be demonstrated with requisite control comparisons before associations due to pairing can be assumed. The problem of neural nonassociative responses in model preparations displaying no such behavioral responses highlights the difficulties of the control problem in brain-behavior studies. Recent work by Woody and Brozek (1969) indicated that in the cat, a click CS will produce alterations in the facial motor nucleus controlling the eye blink being measured, although no behavioral manifestation of the eyelid is evident. In addition, recent work by R. F. Thompson (personal communication, 1974) indicates that the generally utilized tone CS for nictitating membrane conditioning in the rabbit produces excitatory alterations in the abducent nucleus which controls the nictitating membrane movement, although here again no behavioral manifestation of this alteration is observed. Such data emphasize the possibility that when brain responses are being monitored, the measured brain activity may often be different from peripheral responses. Simply because no nonassociative responses appear in peripheral behavior does not mean that they will not occur in the brain.

It should also be noted that within the original Pavlovian conceptual framework of classical conditioning, it made little difference whether the UCS was delivered directly to the subject irrespective of his activities on a given trial or whether the UCS

was presented to the environment of the subject and actual receipt was dependent upon the subject's subsequent actions. The difference is illustrated by comparing a shock UCS delivered through skin electrodes which remain constant despite motor activity with a food UCS dropped into a cup which the subject must move toward and eat to actually receive. It should be obvious that the former stimulus will occasion different neural activity than the latter which necessitates locomotor and active consummatory behavior for effective receipt. While both UCS situations may be classified as Pavlovian conditioning the stimulus requiring active responses for receipt can be refused, or the CS-UCS interval can vary considerably with the speed of the subject's consummatory response. In both cases, the paradigm is altered to become an instrumental conditioning paradigm in which the subject's response is instrumental in UCS receipt. Thus it is necessary that the type of UCS and its mode of delivery be understood and differences taken into account in determining generalizability between classical or Pavlovian studies. It is quite likely that paradigms in which the UCS is delivered to the subject's environment and require active movements for its actual receipt also require somewhat more complex brain activity for the learning process than situations in which the UCS is presented to the organism directly and independent of his behavior.

This brief analysis of the classical conditioning model paradigm outlines a few of the complexities which must be faced in any analysis of brain-behavior relationships in even the most simple learning situation. The characteristics of model preparations and model paradigms, when combined to form a model system for analysis are such as to necessitate both excellent neurophysiology and behavioral techniques to produce understandable results. In summary, it appears that in order to be optimal for neurophysiological analysis, a model system should have the following features (Thompson, Patterson and Teyler, 1972): 1) Single session acquisition and extinction to allow analysis of single neuron behavior; 2) clearly and precisely quantifiable overt behavior; 3) knowledge of the parametric features of the behavioral paradigm being used; 4) knowledge of the neural elements involved in the response being measured; 5) adequate

behavioral control procedures must be possible. While it is rare that all of these features will be met in all model systems, it is probable that the more adequately each is possible in a given system, the more molecular information will be possible on the neural underpinnings given behavior from that system.

MODEL SYSTEMS REVIEW

The foregoing analysis of the components of a model system gives the background necessary to understand the work currently being pursued with models in the analysis of neural bases of learning and behavioral plasticity. In this section a few model systems which are presently being utilized will be reviewed in order of increasing complexity. The models reviewed are by no means exhaustive of those being studied, but serve to illustrate the types of work and results being produced with various complexities of both model preparations and model paradigms.

Aplysia: Sensitization-Habituation

One of the simplest of the well-known model systems is the sea slug *Aplysia* used to study sensitization-habituation behavioral changes. The *Aplysia* is an opisthobranch mollusk and as such can be classed as a simple preparation. The animal's nervous system is composed of a series of discrete interconnected ganglia located in various sections of the body. The ganglia can be removed from the animal and under certain conditions will remain functional for long periods of time. Thus the organism can be studied as a whole (the simple preparation) or isolated ganglia can be utilized (a simple-reduced preparation). The individual ganglia are particularly useful in the study of neural interactions and cellular function as they contain what are known as giant cells whose cell bodies are large enough to be discernible with the naked eye. These cells are easily located and are similar from one animal to the next. Such large cells are excellent subjects for intracellular microelectrode studies and have been so utilized for many years (see Tauc, 1967 for a review). Despite its excellence as a substrate for cellular neurophysiological studies, it

is only relatively recent that *Aplysia* behavior and the neural circuits controlling some of the animal's behavior have been studied (e.g., Kupfermann & Kandel, 1969; Kupfermann et al, 1974; Koester et al, 1974). It has been found that the defensive withdrawal reflex of the respiratory complex composed of gill, siphon and mantle shelf can undergo habituation and sensitization changes, and the neural pathways involved have been described (Castellucci, Pinsker, Kupfermann and Kandel, 1970; Kupfermann, Castellucci, Pinsker & Kandel, 1970).

Habituation has been well defined as a decrease in a response due to repeated stimulus presentations and its parameters listed (Thompson & Spencer 1966). While habituation is a ubiquitous process produced by experience, it is not generally classified as a learned response in that it is not due to an association between stimuli but requires only the repetition of a single stimulus and decays spontaneously over time. Sensitization has also been parametrically studied and is defined as an increase in response magnitude over repeated presentations of a single stimulus, which also decays over time and is nonassociative. It is apparent from recent data that the two processes are mediated by different processes and are generally independent; sensitization being a superimposed process on habituation, rather than a disruption or alteration of habituation (see Groves & Thompson, 1970 for a review). Thus habituation and sensitization are well defined model paradigms for the study of simple, unlearned behavioral changes which can be reversed (except under some specific conditions, see below) and studied several times in the same preparation.

Kandel and his associates have developed several elegant *Aplysia* preparations ranging from the intact organism to individual excised ganglia for the study of the molecular basis of habituation processes (see Carew & Kandel, 1974 for a review). Habituation has been shown to occur in the neural elements of the organism rather than being a peripheral effect such as receptor adaptation or effector fatigue. In their studies of the *Aplysia* model, Kandel and his associates have differentiated two types of habituation (Carew & Kandel, 1974). The first has been termed short-term habituation which appears to dissipate completely over a short time, leaving the response system of the respiratory

withdrawal reflex unchanged. The second has been called long-term habituation due to its characteristic retention over hours or days and its summation over experimental sessions. An analysis of long-term habituation in *Aplysia* (Carew & Kandel, 1974) has shown the effect to last for up to three weeks.

The finding of a long-term component of habituation in *Aplysia* has produced a behavioral alteration with many of the hallmarks of a learned response, as the effect is retained over time, rather than showing spontaneous decay. Thus in the *Aplysia* preparation, the differences between the simple behavioral plasticity of habituation and the behavioral alterations included under learning are becoming blurred.

In their studies of habituation and sensitization, Kandel and his group have generally utilized the abdominal ganglia which mediates the respiratory apparatus withdrawal reflex and contains the giant motor cell L-7 which produces the behavior. The studies of cellular concomitants of habituation have indicated that the electrical properties of the motoneuron remain the same during behavioral decreases, with the alterations occurring as changes of certain synaptic connections between sensory neurons and connecting or interneurons in the reflex pathways. Their data have indicated that the changes underlying the habituation seem to be a homosynaptic depression of the synapses, not a decrease in synaptic effectiveness due to reverbratory circuits which would produce presynaptic inhibition. Sensitization, on the other hand, may well be a heterosynaptic facilitation of the synapse involved, produced by impinging collaterals on the synapses directly concerned with the reflex movements.

Recently, Castellucci and Kandel (1974) have completed an elegant study on the quantal mechanisms underlying the synaptic alterations observed during short-term habituation in the *Aplysia*. With the analysis of habituation as a homosynaptic effect, two possible processes could account for the observed decrement in excitatory transmission across the synapses involved. The presynaptic terminal could be simply releasing less transmitter substance with each impulse, or the postsynaptic membrane could become decreasingly sensitive to the same amount of transmitter. Castellucci and Kandel's (1975) quantal analysis of the amount of transmitter released by habituating

presynaptic terminals revealed that while the postsynaptic membrane retained its sensitivity to transmitters, the amount released decreased. It is thus apparent that in *Aplysia*, habituation is an homosynaptic, presynaptic event. These data and findings are among the most powerful and elemental factors about the molecular basis of a behavioral change which are presently known. The fact that only a few years ago, the parameters of behavioral alteration in *Aplysia* were unknown attest to the tremendous power of the simple model system in the neural analysis of behavioral alterations. The Kandel studies open the way for an investigation of the morphological characteristics of the presynaptic membrane underlying transmitter release decrement during habituation and for a similar analysis of the events underlying sensitization.

Mammalian Spinal Cord: Habituation-Sensitization

As a model preparation, the mammalian spinal cord is most generally studied as an isolated segment in a spinalized animal and is thus a reduced preparation, although it may be considered a partial-reduced model if only small behavioral capabilities of the isolated segment are studied. The mammalian cord has the advantage over *Aplysia* of being more directly comparable to the mammalian brain in terms of neural and physiological process. While it can be analyzed at the electrophysiological level, it is not as easily studied as the *Aplysia* ganglia, but does remain the most thoroughly understood piece of mammalian central nervous tissue. Despite the seeming simplicity of the spinal cord, it must be remembered that it is a very complex piece of neural tissue, the illusion of simplicity often being a creation of laboratory imagination rather than of fact. As will be shown below, the spinal cord most probably contains the necessary neural machinery to sustain simple learning changes. There is, however, no doubt that the mammalian cord can mediate habituation and sensitization changes in a simple flexion reflex system.

The elegant studies by R. F. Thompson and his associates (see Groves and Thompson, 1970 for a review) have shown the power of the spinal model preparation in analyzing the neural substrates of habituation and sensitization behaviors in the mammalian system. The analysis utilized the simple polysynaptic flexion

reflex pathways controlling leg withdrawal response in the cat. During this analysis, the contributions of peripheral receptors and effectors to the behavioral alterations were found to be unimportant (e.g., Spencer, Thompson & Neilson, 1966a; 1966b; 1966c) by simply stimulating the sensory nerve or dorsal root and recording from motor nerves or from motor neuron cell bodies within the spinal cord. Response decreases and increases comparable to the behavioral responses recorded from muscle were observed in the motor neurons under conditions of neural stimulation. The alterations responsible for the behavioral changes were thus limited to one or more of three general areas of the spinal pathways; the afferent terminals, the interneuron pools, or the motoneurons. Utilizing the methods developed by Wall (1970), the excitability of the afferent terminals during both sensitization and habituation was tested. These methods, which involve stimulation via microelectrodes in the region of the afferent synapses in the cord, indicated that the tonic level of excitability remained unchanged during both behavioral sensitization and habituation (Groves, Glanzman, Patterson and Thompson, 1970). These data suggested that neither presynaptic inhibition nor presynaptic excitation of the afferent terminals was involved in the production of habituation or sensitization. In another series of studies, the tonic excitability of the motoneuron cell bodies was measured both indirectly and intracellularly and found to change little during sensitization and essentially none during habituation, thus limiting the alterations to some change within the interneuron pathways (Spencer, Thompson & Neilson, 1966c). Investigations of the interneuron pathways connecting the afferent terminals with the motoneurons revealed two essentially separate interneuron populations. Those cells in the reflex pathway located in Rexed layers 1-4 (see Rexed, 1964) of the gray matter of the cord responded in a characteristic manner to the habituating or sensitizing stimulus. Independent of the behavioral alteration, these cells either retained a constant firing rate to the eliciting stimulus or showed a decrement in the number of spikes to each stimulus, thus paralleling the behavioral habituation. Such interneurons were termed H-cells. Cells in Rexed layers 4-8 (thus overlapping one layer with the H-cells) showed decrements in firing rate to repeated stimuli if marked behavioral habituation was underway, but often showed marked

increases in firing to stimuli which were sufficiently strong to cause behavioral sensitization or only weak habituation. Such cells were termed S- or S-H-cells.

From these data indicating two functionally and anatomically distinct populations of interneurons and the fact that sensitization and habituation seemed to be two separate processes, Groves and Thompson (1970) formulated the two process theory of the neural basis for sensitization and habituation. Very briefly, the behavior was conceptualized as the sum of the two interneuron populations. With weak stimuli, both H- and S- neurons were postulated to habituate, summing to a decrease in behavior. With stimulus intensity increases, the S-neurons were postulated to begin increasing their firing rates with successive stimuli, summing with the habituating H-neurons, and with sufficient increases, producing an increased behavior. This model was very successful in predicting and explaining a great deal of data from studies of habituation and sensitization in other species and preparations and is the most viable explanation of the process at present. It should be noted that at present, no long-term habituation effects have been noted in the mammalian cord to parallel those in *Aplysia*, although it would not be surprising to find such behavior if the correct experimental procedures in chronic preparations were utilized. The analysis of the molecular mechanisms or morphological differences between S- and H-cells in the mammalian cord is the next obvious step in this system, but is a difficult task.

Mammalian Spinal Cord: Classical Conditioning

While the mammalian spinal cord has been shown to have reflex arcs capable of mediating behavioral habituation and sensitization, the use of that preparation in an analysis of simple learning or associative changes has been more difficult. The problems in this analysis have centered around the difficulty of determining whether the mammalian spinal reflexes are capable of undergoing associative changes. The possibility that a behavior analogous to learning could occur in the mammalian spinal cord has been debated since the late 1930s (see Patterson 1975b for a full review) when Shurrager and Culler (1938, 1940) produced evidence that a classical conditioning paradigm could

affect the flexion reflexes of the spinal animal. Though the Shurrager and Culler data were replicated in several experiments, Kellogg and his associates (e.g., Kellogg, 1946; Kellogg, Deese, Pronko & Feinberg, 1947) produced evidence that the Shurrager and Culler data were simply sensitization effects and not associative changes due to the pairing of two stimuli. These early studies, however, lacked the control groups and procedures necessary to differentiate between sensitization and associative effects, and lacked the understanding of the behavioral paradigms which are present today. The first study of the effects of a classical conditioning paradigm on spinal flexion reflex responses to utilize even partially adequate control procedures was that of Fitzgerald and Thompson (1967). In this preliminary, pilot study, it was found that the pairing of a weak electrical shock with a strong electrical shock to the same leg in a spinalized cat would produce an increase in the response to the CS-shock, whereas presenting the two stimuli in an unpaired fashion produced no such comparable response increase, as seen in Figure 1. More recently our own studies have developed this preparation and paradigm further. In these studies a paralyzed, respirated, acute spinal cat is given a CS-shock to the dissected superficial peroneal sensory nerve of the left hind leg. The UCS is delivered to the ankle skin of the same leg. Responses are recorded from the deep peroneal motor nerve. In the first study of the series (Patterson, Cegavske & Thompson, 1973) the CS intensity was adjusted to initially produce a small response in the motor nerve. This stimulus was then paired in the experimental group with the supermaximal UCS. With pairing, response increases (shown in Figure 2) were seen after a few trials, increasing to a reasonably stable level and decreasing during extinction. Unpaired stimulus preparations to the control group produced no such comparable response increases to the CS. In the second study, shown in Figure 3, the stimulus pairing again produced response increases, with no such increases in unpaired stimuli, while a CS-alone group given only CS trials over the entire stimulus period, showed no significant change in responsiveness, thus indicating that the response increases in the paired group were not due to alterations in the organism's physiological condition. In another study in this series, the CS was presented at various times after

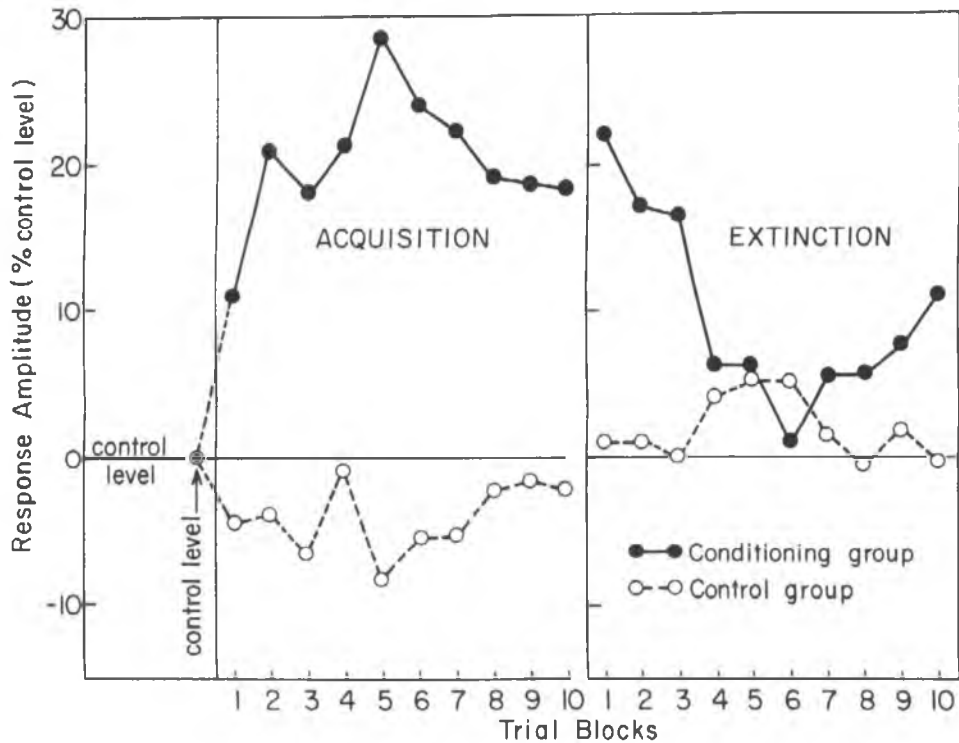


Figure 1. Performance of the conditioning and control groups during classical conditioning acquisition and extinction plotted as a percent change from initial control level. (Redrawn from Fitzgerald and Thompson, 1967. Copyright 1967 by the Psychonomic Society. Reprinted by permission.)

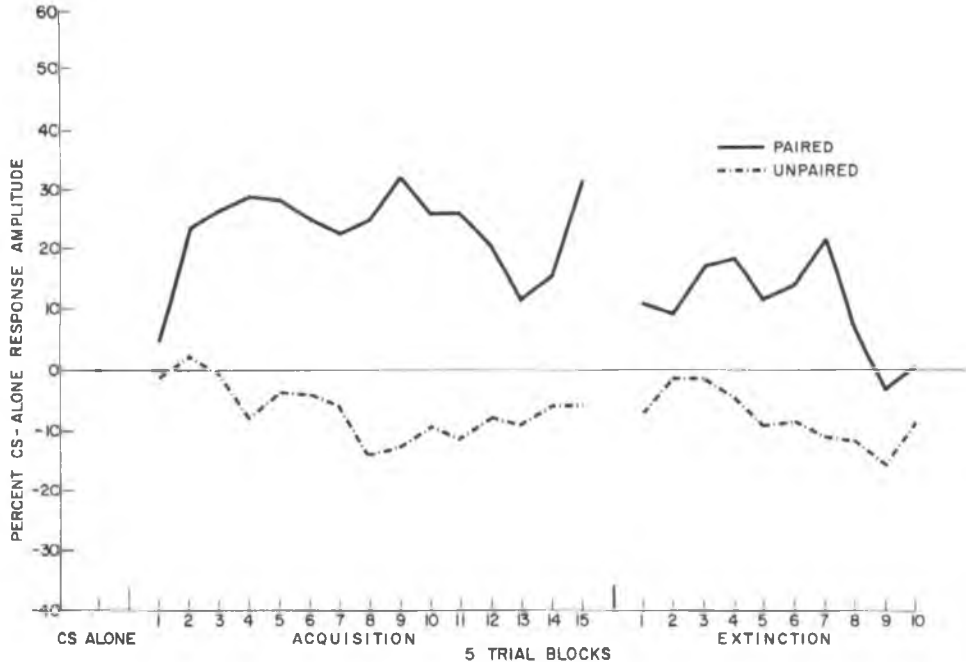


Figure 2. Mean response amplitudes in acquisition and extinction over five trial blocks as a percentage of CS-alone response amplitude for paired and unpaired groups. (From Patterson, M. M., Cegavske, C. F., & Thompson, R. F. Effects of a classical conditioning paradigm on hind-limb flexor nerve response in immobilized spinal cats. *Journal of Comparative and Physiological Psychology*, 1973, 84, 88-97. Copyright 1973 by the American Psychological Association. Reprinted by permission.)

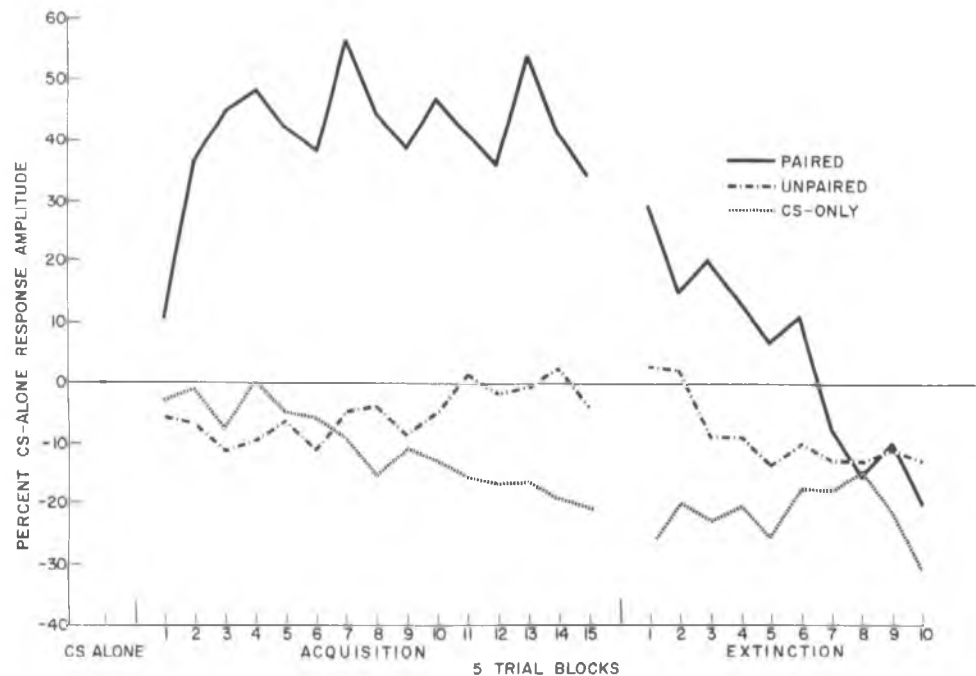


Figure 3. Mean response amplitudes in acquisition and extinction over five trial blocks as a percent of CS-alone responses amplitude for paired, unpaired and CS-only groups. (From Patterson, M. M., Cegavske, C. F., & Thompson, R. F. Effects of a classical conditioning paradigm on hind-limb flexor nerve response in immobilized spinal cats. *Journal of Comparative and Physiological Psychology*, 1973, 84, 88-97. Copyright 1973 by the American Psychological Association. Reprinted by permission.)

the UCS to determine the temporal extent of sensitization produced by simple presentation of the UCS. Figure 4 shows that such UCS presentations produced marked response sensitization but that these increases did not last for 60 seconds, the length of the interval between trials. Thus the response increases demonstrated in the first two studies were not due to the simple summation of sensitization as might be expected if sensitivity had been demonstrated to last for 60 seconds and thus overlap from one trial to the next. These studies indicated that the pairing of two stimuli would differentially affect the response amplitude of the flexion reflex. However, they had not demonstrated a unique effect of the pairing to a forward pairing, with CS onset prior to UCS onset. The possibility remained that the increases observed in the paired group could be due to a simple summation of the stimuli not present in the unpaired control in which the stimuli did not overlap. This possibility was investigated in another study (Patterson, 1975a). In this study, the CS was presented 250 msec. prior to the UCS in the forward paired group. In the two other groups, CS onset followed UCS onset by 100 or 250 milliseconds, thus equating for total stimulus overlap and stimulus asynchrony respectively with the forward group. Figure 5 shows that these backward stimulus pairings also produced no response increments comparable to the forward stimulus pairings, thus indicating that the response increases in the classical conditioning paradigm of the cat flexion reflex is due to the simple forward pairing of two stimuli, not to sensitization or stimulus summation effects.

In another study (Patterson, 1974), the interstimulus interval effect seen in classical conditioning has been examined. It has been repeatedly found within the classical conditioning paradigm, that the temporal separation of CS and UCS in the forward presentation has a powerful effect in determining the degree of association formed between the two stimuli. With a temporal separation of CS and UCS in the forward presentation has a powerful effect in determining the degree of association formed between the two stimuli. With a temporal separation of approximately 200 to 500 milliseconds, the association appears to be maximal, whereas with either longer or shorter intervals, the associative mechanisms are decreased. In this study, it was

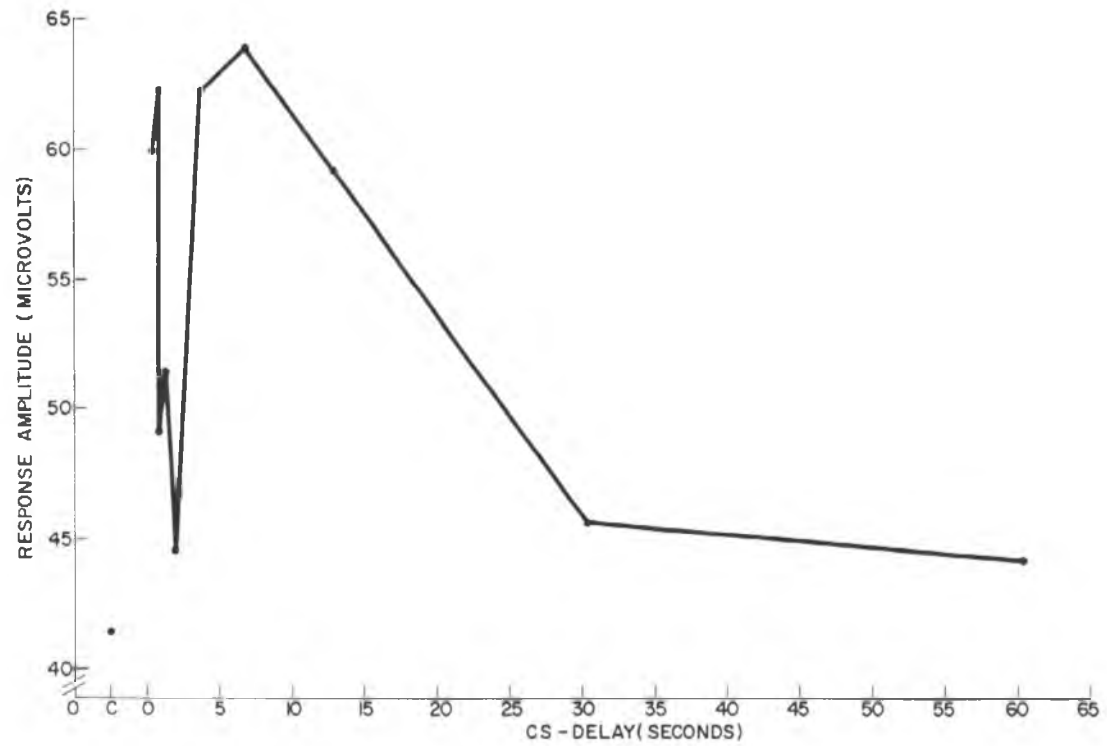


Figure 4. Mean response amplitude in microvolts at each UCS-CS interval and for the mean CS-alone presentations. (From Patterson, M. M., Cegavske, C. F., & Thompson, R. F. Effects of a classical conditioning paradigm on hind-limb flexor nerve response in immobilized spinal cats. *Journal of Comparative and Physiological Psychology*, 1973, 84, 88-97. Copyright 1973 by the American Psychological Association. Reprinted by permission.)

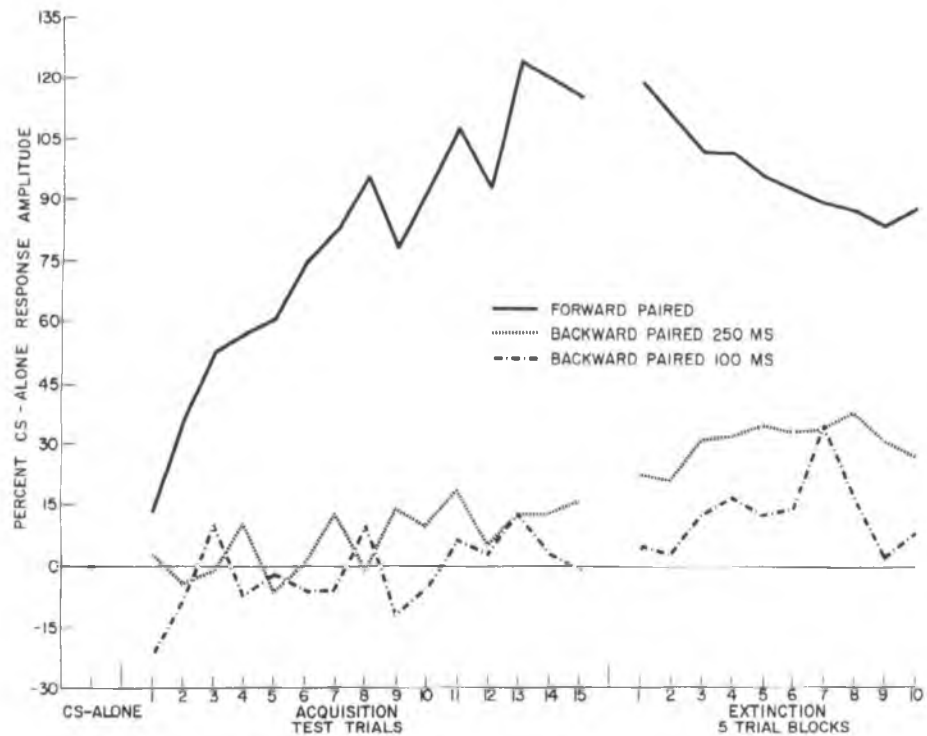


Figure 5. Mean response amplitude as a percentage of CS-alone amplitude for test trials in acquisition and over five trial blocks in extinction for the forward 250, backward 100, and backward 250 groups. (From Patterson, 1975. Copyright 1975 by the Psychonomic Society. Reprinted by permission.)

shown that in the spinal presentation an interstimulus interval of approximately 250 milliseconds appears optimal while either longer or shorter intervals produce smaller response increases. It is not yet known whether the response increases are retained for long periods, but a retention study is now underway in our laboratory, as are studies to determine the spread of the effects of the conditioning paradigm to other reflex paths. This series of studies has indicated that the mammalian cord is capable of mediating behavioral alterations which parallel many of those seen in classical conditioning paradigms in the intact animal and human. This suggests that behavioral alteration through pure stimulus contiguity is a basic property of neural tissue, a process not requiring feedback, reinforcement or reward, and that the involvement of brain centers is not necessary for associative changes to occur.

In a recent study, Durkovic (1975) has essentially replicated our initial studies with remarkably similar results, showing rapid response increases over trials with forward pairing and none with unpaired or CS-alone control groups. In a second study, Light and Durkovic (1974) have shown that response increases are directly proportional to UCS intensity. This result also parallels UCS intensity findings in intact organisms.

In addition to the behavioral analysis of the spinal model system, we (Patterson, Cegavske & Thompson, unpublished data) have preliminary data on a neural analysis of the system. From this analysis we have indications, using Walls's (1970) methods of analyzing afferent terminal excitability, that the afferent terminals are not involved in the response changes and from other studies using indirect, monosynaptic measures of motoneuron excitability, that the tonic motoneuron excitability is not greatly altered during the classical conditioning process. Thus, in line with the habituation and sensitization studies, it would appear that the classical conditioning effects are most probably mediated within the interneuron pools of the spinal cord. The analysis of the behavior and neurophysiology of the classical conditioning process in the mammalian spinal cord is continuing and promises to be a productive model for analysis of neural populations mediating simple learning processes and which should lead to a greater understanding of the molecular bases of associative mechanisms in the nervous system.

The Rabbit Nictitating Membrane Response: Classical Conditioning

Classical conditioning of the rabbit nictitating membrane (NM) is a model system of somewhat greater complexity than the spinal systems previously discussed. The nictitating membrane response (NMR) is a partial preparation, utilizing a discreet response system within an intact organism. The advantages of utilizing the rabbit NM preparation are numerous, including the ready availability of the subject, the animal's docility, and the adequate size of the brain for neurophysiological studies. In addition, since it was first developed by Gormezano and his associates in the early 1960s, this preparation has been intensively studied in the classical conditioning situation. Thus the parametric features of classical conditioning processes in the rabbit NM preparation are perhaps the best studied and most completely understood of all classical conditioning preparations. The system also has certain disadvantages, the greatest of which lies in the fact that until very recently, little was known about the motor pathways controlling movement of the rabbit NM. While the neuroanatomy of the motor pathway controlling the cat NM has been known for some time, data on the motor systems of the rabbit NM were sketchy and incomplete. These systems have recently been delineated (Cegavske, Thompson, Patterson and Gormezano, 1975). The abducent nucleus has been identified as the motor nucleus controlling NM extension, which is performed passively secondary to eyeball retraction. There is no apparent active membrane movement. Unlike the cat NMR, there is apparently very little active membrane retraction, and any retraction which does occur is due to activity in the oculomotor nucleus in the rabbit. With the rabbit nictitating membrane-classical conditioning model system, there is the additional advantage that the model paradigm can easily be made more complex by utilizing differential classical or instrumental conditioning. Thus, in the same preparation, several levels of complexity are possible and have been utilized for the model paradigm. The ready availability of various levels of model paradigm complexity in a well understood model preparation will facilitate the direct comparison of brain activity mediating several learning situations. Such comparisons will be invaluable in determining

alterations in brain processes as various learning tasks are undertaken.

At present, data on the neurophysiological underpinnings of the rabbit nictitating membrane-classical conditioning system are quite limited. However, preliminary studies (Cegavske, Thompson and Patterson, 1975; Thompson, Patterson and Cegavske, 1973) indicate that in the abduceus nucleus, paired classical conditioning trials produce increases in unit activity prior to any evidence of activity in the NM, while no such increases are evident in the unpaired control condition. This evidence of brain conditioning prior to behavioral conditioning is a prime example of a noncorrelation of brain behavior with peripheral behavior occurring at a very low level in the motor system. Additional recent studies have also suggested that the tone-CS initially produces some alteration in the excitability of the motor units in the abduceus nucleus prior to pairing with the UCS. These data indicate that the CS is not neutral as far out in the neural pathways as the common final pathway and underscores the absolute necessity for sensitization studies to be run at every level during brain-behavior correlations. In other work, Enser, Gormezano and Phillips (1974) have recently shown that neodecorticate rabbits can successfully undergo classical conditioning of the nictitating membrane response, strongly suggesting that the cortex is not necessary for the association to occur. Thus, the neural analysis in this model system should be focused primarily on subcortical structures.

Cat Eyeblink Response: Classical Conditioning

The use of the cat eyeblink response in classical conditioning paradigms represents a model system with a preparation of somewhat greater phylogenetic development than the rabbit preparation. The model system was recently developed by Charles Woody and his associates (e.g., Woody & Brozek, 1969a, 1969b) and has been the subject of an intensive series of studies (e.g., Woody, Yarowsky, Owens, Black-Cleworth & Crow, 1974; Woody, Harris and Brozek, 1971). The basic model includes a cat given a click-CS followed by a tap to the eyebrow (glabella) region as a UCS while eyelid movements serve as the response

measure (glabella) region as a 1969b). In subsequent studies, electrical stimuli to brain areas have also served as the CS (e.g., Woody & Yarowsky, 1972). As in the rabbit preparation, these studies have indicated that the click-CS may initially produce alterations in the excitability of the motor units in the neurons of the facial nucleus controlling eyelid movement, indicating again the importance of the proper control studies to delineate nonassociative from associative effects within the brain.

The studies performed by Woody and his colleagues have shown neural excitability changes in several areas of the motor pathways as well as alterations of cortical activity during classical conditioning of the eyelid movement. These studies have indicated that evoked potentials appear in the facial nucleus approximately 2 to 2½ milliseconds before onset of the eye blink, thus indicating that these potentials are associated with the final common pathway of the blink response. In addition, the amplitude of evoked potentials in the facial nucleus were considerably increased during CS-UCS pairings. Studies of cortical activity (e.g., Woody, 1974; Woody, et al, 1974) indicated that the coronal-precruciate cortex may be involved in the conditioning, since removal of the cortex arrested the development of behavioral increases due to pairing and some alterations have been seen in single cell excitability levels in the cortex during pairing (Engel & Woody, 1972). In addition, cortical spreading depression also appeared to stop the effects of pairing. In another study (Woody & Yarowsky, 1972), stimulation of coronal-precruciate cortical areas was found to be effective as a CS and this cortical area was suggested as a possible site of the association between the CS and UCS.

Woody's findings indicating that the cortex is necessary for classical conditioning are in contrast to recent studies by Norman *et al.* (1973) of classical conditioning of the eyeblink response in the decorticate cat. In the Norman studies, as in the rabbit studies of Enser, Gormezano and Phillips (1974), a shock UCS was utilized to produce pairing increases in completely decorticate animals. Norman *et al.* also utilized a differential conditioning paradigm with no simple unpaired control group. The possible problems with such a paradigm were discussed earlier. It appears likely that the differences between the results of the

Norman *et al.* (1973), Enser, Gormezano and Phillips (1974), and the Woody studies regarding the role of the cortex in classical conditioning may be due to one of the points discussed above. Both studies finding successful conditioning in their decorticate preparations utilized a shock UCS, while Woody employed a tap to the eyebrow. While both stimuli reliably produced a UCR, they activate different neural centers in the brain, the painful shock being a more noxious, dangerous stimuli than the tap. Thus, the tap may necessarily be mediated by cortical events to achieve associations, while the more immediate shock activates associative mechanisms in subcortical structures. These studies indicate the necessity of realizing the potential alterations in neural mechanisms which can occur with seemingly insignificant changes in model paradigms.

Rat Appetitive Response: Pavlovian Conditioning

An example of a complex model system which is yielding very interesting and important data is seen in the system utilized by James Olds. The model preparation is a partial preparation, as it utilizes the eating response of the rat as the behavior to be conditioned. The paradigm consists of a CS which signals the delivery of a food pellet UCS which must then be retrieved from a delivery cup and eaten by the rat. The model system is a complex one in that the animal is not restrained and that the paradigm, as noted above, while being a Pavlovian association paradigm, involves the active response of the organism in receipt of the UCS. Such differences in the paradigm from classical conditioning paradigms in which the organism's behavior is independent of UCS receipt must be recognized in interpretation of the data. In the more complex situation, more complex variables should be involved in the neural activity, such as motivational states and temporal variables between CS and UCS receipt. The Olds preparation and methodology seem well suited to analyze the complex model.

In a recent article, Olds (1975) has summarized the results of his work thus far in which the topographies of multiple unit responses in certain areas of the brain have been mapped during

the CS-UCS pairings. The purpose of Olds' studies is to detect certain "switch points" in the brain by means of latency differences and alterations in activity to the tone-CS during pairing and to thus establish those areas of the brain participating in the crucial associative mechanisms. Initial alterations were seen in the auditory sensory systems for very short latency responses to the CS. Changes in 3-6 msec. latency responses were seen in the inferior colliculus while in the medial geniculate, 9 to 12 milliseconds latency responses were first seen with stimulus pairing. Similar responses in the reticular formation and trapazoid body were also found. In other studies, the cortex was also shown to be involved, where general background firing rates decreased during training. In more recent and yet unpublished studies, Dr. Olds has found that during training, inferior colliculus activity appears to begin alterations within the first thirty to forty conditioning trials of conditioning while medial geniculate alterations occur within the first 10 pairing trials. As noted above, in this preparation, complex organismic states and movement patterns are integrally involved in the learning situation: The subject must not only learn the significance of the CS, but must be under certain motivational states to respond to the UCS. Significantly, certain motivational systems in the brain were seen to be involved in the conditioning activity. The hypothalamus showed activity during the subject's orienting responses to the CS, while movements toward the goal began shortly after alteration of reticular activating system activity. When the food getting behavior was instituted, responses in the extrapyramidal motor systems became evident as was expected. Following learning of the food getting behavior, when conditioning was essentially complete, responses in the auditory cortex and association cortices appeared and underwent some alteration. After behavioral alterations had stopped, with movement latencies minimal, etc., frontal cortex changes occurred which suggested a consolidation process within association centers.

While this brief descriptive account of the Olds findings does little to present the richness of the data being gathered from the model system, it indicates the utilization of a reasonably complex paradigm in a preparation amenable to neural activity measures.

As noted by Olds, the paradigm is intermediate between the simplicity of the classical conditioning paradigm and the behavioral freedom of the instrumental situation in which subject controls all stimulus presentations with response patterns. It seems probable that advantages of both paradigms are gained. The model system should continue to provide very exciting data on the neural activity underlying learning in the future.

Other Model Systems

This brief review of model systems is not exhaustive. Many additional systems are currently being utilized which are providing data on one or another aspect of the neural mechanisms of behavior. Some of these models have quite unique features.

One of these systems is the frog spinal cord, a simple-reduced preparation, in that the cord can be removed from the animal and studied *in vivo* for several hours. Farel, Glanzman and Thompson (1973) are currently utilizing this model preparation in the study of habituation-sensitization paradigms and have found the alterations to be present at a monosynaptic pathway level. The system is amenable to detailed electrophysiological and morphological analyses which are proving to be quite powerful.

Another interesting model system, the instrumental conditioning of spinal responses in vertebrates, has recently been summarized by Buerger and Chopin (1975). In this model system, spinalized rats have shown apparent alterations in hind limb activity to an instrumental conditioning contingency. Although as Church (1975) has recently pointed out, the behavioral analysis of the effect may be complicated, the model may be useful in analyzing the neural substrates of the instrumental paradigm in the spinal cord.

A simpler spinal model system which has recently been reviewed (Patterson, 1975b) is the fixation process in the spinal cord, studied in this country by Chamberlain, Halick and Gerard (1963), Chamberlain, Rothschild and Gerard (1963) and Palmer, Davenport and Ward (1970). DiGiorgia (1929) originally found that a cerebellar lesion in a decerebrate animal could produce asymmetries of hind-limb posture which would remain

following spinal cord section at the mid-back level, provided that sufficient time (approximately 45 minutes) had elapsed between the cerebellar lesion and spinal section. Such a preparation indicates that some alteration had occurred at the level of the spinal reflex arc and was retained following separation of the provoking cerebellar lesion from the lumbar reflex pathway. This model system provides a memory analogue complete with a consolidation process as opposed to more structured learning models in many of the above preparations.

A more exotic model system which is receiving some attention and has recently been reviewed by Teyler (1975) is the hippocampal slab preparation. Here, a slab of hippocampal tissue is removed from the mammalian brain and kept alive in appropriate bathing solutions, thus becoming amenable to microelectrode studies. Such a preparation provides a portion of an extremely complex neural tissue which can be mapped and utilized in some neural analyses, although such a preparation is obviously limited to relatively simple behavioral events.

Finally, a model system utilizing human subjects has been utilized by Dimitrijevic and his colleagues (e.g., Dimitrijevic and Nathan, 1973) and by Fuhrer (1973 and personal communication). Chronic spinal humans were used to assess the features of sensitization and habituation in the Dimitrijevic studies, while Fuhrer attempted to alter human spinal reflexes through classical conditioning procedures. At present, Fuhrer's work has shown an overriding tendency to produce only habituation in all classical conditioning paradigms with the chronic human preparation.

NOTES

1. The author wishes to express his deep gratitude to the organizers of the XV Interamerican Congress of Psychology for providing a both enjoyable and rewarding experience. Special thanks to Doctors Antonio Sanchez, Ruben Ardila and Gerardo Marin without whose tremendous personal efforts, the Congress could not have been held and who were extremely gracious to the participants. The preparation of the present presentation and some of the participation expenses were generously supported by American Osteopathic Association Grants 74-74 and 75-74 and by NINDS grant I-ROI-NS10647.

2. This article was accepted for publication by the former editor of the journal.

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Brief Reports

**ESTUDIO TRANSCULTURAL DEL
DESARROLLO COGNOSCITIVO:
UN RESUMEN**

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Este estudio fue diseñado para examinar los efectos del medio ambiente cultural en el desarrollo cognoscitivo de los niños. El estudio se centró en la relación entre el grado de modernismo y las habilidades cognoscitivas de memoria y conservación. Se utilizaron tres muestras: 59 niños de la ciudad de Cambridge, Massachusetts, EEUU, una ciudad moderna y de área urbana; estos niños tenían edades que variaban de 6 a 13 años; 126 niños de la villa indígena de San Pedro en el Lago Atitlán, Guatemala que está algo aislada aunque en el proceso de modernización. Finalmente, se estudiaron 152 niños y adultos jóvenes de la villa indígena de San Marcos en el Lago Atitlán, Guatemala la cual está muy aislada y continúa con sus características tradicionales. Los sujetos de ésta villa tenían entre 6 y 21 años de edad mientras que los de la villa de San Pedro tenían entre 6 y 13 años de edad. Los datos fueron obtenidos a través de etnografías de las dos villas indígenas, un censo de las familias de los niños guatemaltecos que se estudiaron, y una extensa batería de tests cognoscitivos que se administró en los tres sitios de la investigación en 6 a 12 sesiones de aproximadamente 30 minutos cada una. En Guatemala, la batería de tests fue administrada en el dialecto indígena por un asistente indígena de cada villa bajo la supervisión de uno de los autores.

La batería de tests consistió en una tarea de calentamiento que incluía clasificaciones, three tareas que medían memoria (palabras, orientación de muñecos, y orden de gráficas), dos tareas sobre la operación de la memoria (muñecos y gráficas) en las cuales se le pedía al niño que simultáneamente guardara información en

la memoria y funcionara con la información guardada en la memoria, y dos tareas de conservación (masa y líquido).

Los resultados para las dos tareas de memoria fueron similares. Para todas las edades, los niños de Cambridge recibieron las calificaciones más altas, los niños de San Pedro recibieron las calificaciones intermedias, y los niños de San Marcos recibieron las calificaciones más bajas. Las calificaciones relacionadas con la memoria entonces, fueron paralelas a los niveles de modernismo de las muestras. Las edades en las cuales se encuentran las tasas más rápidas de mejoramiento en las tareas de memoria también variaron en función del modernismo: 6 a 8 años para los niños de Cambridge, 8 a 10 años para los niños de San Pedro, y 10 a 12 años para los niños de San Marcos. En cuanto a las tareas de conservación, los resultados fueron similares aunque los niños de San Pedro y de San Marcos tuvieron niveles similares de ejecución. Todos los niños de Cambridge habían logrado llegar al nivel de los dos tipos de conservación a la edad de 10 años aunque solo unas tres cuartas partes de los niños de San Pedro y San Marcos habían logrado conservar a los 12, 13 o aún los 21 años.

En Guatemala, se obtuvieron una serie de índices de riqueza familiar, educación de los padres, y modernismo de los padres para correlacionarlos con la ejecución de los niños en la batería de tests. Aunque los resultados fueron inconclusos, algunos de estos índices correlacionaron con los niveles de ejecución de los niños.

Los resultados indican que existen relaciones sistemáticas entre un alto índice de modernismo y tasas rápidas de desarrollo cognoscitivo así como el logro de las etapas finales de desarrollo. Se debe notar desde luego que lo que se ha llamado modernismo representa una serie de factores que co-varían entre sí, tales como nivel de industrialización, estatus socio-económico, nivel educacional, servicios de salud y nutrición que se pueden obtener, etc. Finalmente, y como es común en datos de países industrializados, algunos índices de riqueza familiar y educación de los padres se correlacionaron positivamente con la ejecución de los niños en tareas cognoscitivas dentro de cada una de las dos villas indígenas que se encuentran relativamente aisladas.

El informe completo de ésta investigación se encuentra en Inglés en: Kagan, J., Klein, R. E., Finley, G. E., Rogoff, B., & Nolan, E. A cross-cultural study of cognitive development. Monographs of the Society for Research in Child Development, 1979, 44 (serial No. 180, No. 5).

EDUCACIÓN Y DESARROLLO COGNOSCITIVO: LA EVIDENCIA A PARTIR DE LA INVESTIGACIÓN EXPERIMENTAL

DONALD SHARP, MICHAEL COLE & CHARLES LAVE

La investigación fue conducida en las áreas rurales de Yucatán, México con sujetos primordialmente indígenas (Maya) y mestizos que variaban en edad de los 10 a los 56 años. Las tareas experimentales incluían: (a) la categorización de objetos y palabras utilizando una variedad de procedimientos; (b) tareas de memorizar objetos y palabras; y, (c) solución de problemas utilizando materiales verbales y no-verbales. Un cuestionario socio-demográfico que se aplicó a 393 individuos, investigó una serie de factores demográficos y económicos asociados con la escolaridad de los individuos que se incluyeron en los estudios experimentales. Dentro del cuestionario también se incluyó una escala que medía el CI.

Los resultados de los estudios experimentales indican que la edad y las experiencias académicas contribuyen diferencialmente a la ejecución de diferentes tareas. Para muchas de las tareas experimentales que se estudiaron, la ejecución mejoraba en función de la escolaridad y no de la edad. Para otras tareas tanto la edad como la escolaridad estuvieron asociadas con una mejor ejecución, mientras que para unas pocas tareas la ejecución mejoró en función de la edad pero no fue afectada por las diferencias en la escolaridad. La escolaridad ejerce sus efectos más fuertes en tareas donde los principios taxonómicos son el criterio correcto de clasificación, en tareas donde la ejecución correcta le exige al sujeto a que provea estructura a un set de estímulos nominales, donde los problemas deben tratarse a nivel hipotético sin poder utilizar conocimientos de la vida real, o donde los contenidos del problema están claramente relacionados con tareas escolares (por ejemplo, cálculos aritméticos). Los efectos

relacionados con la escolaridad se reducen cuando criterios funcionales y el conocimiento derivado de la vida real pueden producir una respuesta correcta a la tarea experimental. Estas últimas variables también producen efectos de importancia relacionados con la edad.

Análisis de regresión múltiple del cuestionarios socio-demográfico mostró que la existencia de facilidades educacionales en el área en la cual el entrevistado vivía era el factor más importante en relación con la cantidad de escolaridad que este recibía. Las variaciones residuales que se obtuvieron en la escolaridad fueron explicadas por factores económicos. El CI predijo una pequeña pero significativa cantidad de la variación residual de la escolaridad la cual estuvo de acuerdo en magnitud con los resultados de otros estudios. La importancia de estos resultados derivados del cuestionario fue el eliminar la posibilidad de que la selección de los sujetos pudiera presentarse como una explicación alternativa a las diferencias encontradas en función de la escolaridad.

Los resultados de éste estudio enfatizan la necesidad de reexaminar las conclusiones sobre diferencias basadas en edad de diferentes tareas cognoscitivas derivadas de estudios conducidos en los Estados Unidos y en otros países desarrollados dado que estos últimos resultados pueden deberse a diferencias en experiencia educacional correlacionadas con la edad. Las dificultades en el especificar la validez de cambios cognoscitivos está relacionada con la dificultad de encontrar técnicas experimentales que retienen su poder analítico y su validez ecológica.

El informe completo de ésta investigación se encuentra en: Sharp, L., Cole, M., & Lave, C. Education and cognitive development: The Evidence from experimental research. Monographs of the Society for Research in Child Development, 1979, 44 (Serial No. 178, Nos. 1-2).

ESCOLARIDAD, MEDIO AMBIENTE Y DESARROLLO COGNOSCITIVO: UN ESTUDIO TRANS-CULTURAL

HAROLD W. STEVENSON, TIMOTHY PARKER, ALEX
WILKINSON, BEATRICE BONNEVAUX & MAX GONZÁLEZ

El propósito de éste estudio fue el investigar la influencia de la escolaridad y las condiciones ambientales generales en el desarrollo de la memoria y de las habilidad cognoscitivas en niños pequeños. Los sujetos fueron 824 niños entre los 5 y 6 años de edad que vivían en villas selváticas y en una barriada de Lima, Perú. La mitad de los niños eran mestizos y la otra mitad eran indios Quechua. Algunos de los niños asistían a la escuela mientras que los otros no lo hacían. Las tareas de memorización fueron presentadas de diferentes maneras (verbal, gráfica y conductual) y las tareas cognoscitivas se presentaron en versiones abstractas y concretas. Una muestra de los padres en cada grupo fue entrevistado sobre las condiciones ambientales. Además se estudiaron muestras de niños de la clase media alta de Lima y niños pobres de Detroit, EEUU para analizar la validez de los datos.

La asistencia a la escuela estuvo relacionada con un mejoramiento en la ejecución de todas las tareas. Las mejoras en las ejecuciones fueron similares para ambos lugares, ambos grupos culturales y cada una de las clases sociales. La escolaridad también produjo una reducida variabilidad entre los grupos en algunas de las tareas y una mayor diferenciación en los procesos cognoscitivos en los niños. La localidad y el grupo cultural interacturaron diferencialmente según la tarea produciendo un patrón complejo de interrelaciones. No hubo indicaciones de que la organización de los procesos cognoscitivos y de memoria diferían en función de la clase social, la edad, la localidad o el grupo cultural. Los resultados se interpretaron en función de las

oportunidades que los niños tenían de adquirir habilidades específicas de memoria y desarrollo cognoscitivo a través de la asistencia a la escuela y de la experiencia general con un medio ambiente particular.

El informe completo de ésta investigación se encuentra en: Stevenson, H. W., Parker, T., Wilkinson, A., Bonnevaux, B., & González, M. Schooling, environment, and cognitive development: A cross-cultural study. Monographs of the Society for Research in Child Development, 1978, 43 (serial No. 175, No. 3).

Book Review

Emmy Elisabeth Werner, *Cross-cultural child development: A view from the planet earth.*

Monterey: Brooks/Cole, 1979, 355 pages, \$10.95

Emmy Elisabeth Werner has written a powerful, comprehensive, and challenging text in which she deals forthrightly with the realities of life for the vast majority of the world's children. It is an excellent book and clearly the best text on cross-cultural child development currently available. By taking a world-wide view, the author provides a keen sense of perspective on the truly important issues in human development. The focus is on the fundamentals of development and survival rather than on the more esoteric material usually covered in texts by and for North Americans.

Using an eclectic approach, Werner covers a wide range of material and does a fine job of extracting the essence of frequently complex research topics. Additionally, she presents the material in an extraordinarily clear, coherent, concise, well-integrated, and well-organized fashion. She has a firm grasp of most of the relevant literatures and provides a good list of references for additional reading at the end of each chapter. The book is well designed for advanced undergraduates, graduate students, and professionals. The author has fulfilled her goal of presenting: ". . . a synthesis of current knowledge about the physical, cognitive, and social development of children who live in the developing countries of Africa, Asia, Latin America, and Oceania and whose world is in transition from a traditional to a modern way of life" (v). I have adopted the book for my seminar on Culture and Childhood.

The first of the sixteen chapters provides a concise overview of the remainder. The second argues for the importance of the cross-cultural perspective and summarizes the major methodological issues in an insightful manner. The third reviews world-wide population changes and gives a clear and detailed account of physical growth and the causes of its variability in different settings. The fourth considers health hazards, alternative health-care systems, and the realities of survival in developing countries.

A frequently overlooked reality is that the survivors of severe health and nutritional hazards are not the same as survivors of more benevolent environments.

Chapters five and six provide an extensive review of the literature on protein-calorie malnutrition and the effects of nutritional supplementation. The latter appears to have its greatest impact during pregnancy and lactation while medical care, socio-economic status, and education also play important roles at later stages. Chapter seven is a thorough, excellent, and data-laced review of cross-cultural studies of sensorimotor development.

Chapter eight on perceptual development, although less conclusive than other chapters, does have an unusually extensive review of three-dimensional perception. Chapter nine is an excellent, thoughtful, and well digested summary of the vast literature on field-dependence-independence. Chapter ten on cognitive processes is weak due mainly to sins of omission rather than commission. It omits any mention of cross-cultural studies of memory development, and the contributions of Cole and his associates (e.g. Cole and Scribner, 1974) are underrepresented. Chapter eleven gives a good, but brief, summary of cross-cultural studies of Piagetian cognitive development. The author's introduction to Piagetian theory, regrettably, essentially assumes that the reader already is familiar with the theory.

Chapter twelve is a refreshing one to find in a cross-cultural volume. It is refreshing because it presents the "other" point of view, the evolutionary and ethological case for species specific biological constraints on the cultural malleability of social development. Chapter thirteen continues on the topic of social development but shifts the focus to ecological and structural constraints and draws heavily on the work of the Whiting's and other researchers using the Human Relations Area Files as a data base. More of this interesting information should be integrated into the larger developmental literature.

Chapter fourteen clearly outlines the special problems of child development under conditions of rapid social change and suggests that the two most important variables here are schooling and industrialization. Chapter fifteen considers the role of peers in the socialization process and emphasizes the critical nature of the decision which determines whether the child is assigned to care for younger siblings or is sent to school. The final chapter

outlines social policies, services, and programs designed to meet the needs of children and parents around the world.

In my view, the book is a "must" for two audiences. The first is students, teachers, professionals, and government officials in developing nations who wish to learn more about child development under conditions relevant to them. The second is the rest of us. As was suggested in an earlier review: "Viewed from the perspective of an isolated village in the Guatemalan Highlands (where the reviewer currently is doing fieldwork) one is struck by the highly academic, affluent, and urban nature of many of developmental psychology's traditionally hottest issues. As one moves outward from the urban university, it becomes increasingly clear that we must face the realities of non-urban and non-western developmental environments if we truly wish to claim knowledge about the development of a majority of the world's children (Finley, 1974, 335-336)."

Finally, we have such a book.

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Finley, G. E. Review of B. R. McCandless and E. D. Evans. *Children and youth: Psychosocial development*. *Revista Interamericana de Psicología*, 1974, 8, 333-336.

Carlos Roberto Martins, *Psicologia do comportamento vocacional*. São Paulo: Editora Pedagógica e Universitária Ltda, 1978.

O livro do Prof. Carlos Roberto Martins, professor da Universidade de São Paulo, traz mais uma contribuição ao estudo do comportamento vocacional.

O livro vale, inicialmente, por sua simplicidade e objetividade ao analisar o quão precário é o estado da arte: teorias, provindas de diferentes áreas do conhecimento, não têm proporcionado conhecimento cumulativos. De resto, vale mais um conhecimento geral das teorias da personalidade como guias ao orientador profissional. O autor, privilegia, em sua ampla revisão bibliográfica, os enfoques ao processo de escolha que enfatizam o processo do desenvolvimento do indivíduo, ao longo do qual vão sendo estabelecidas as coerções que culminarão nas decisões específicas. Embora não elabore no mesmo nível, o livro assinala, com certa freqüência, a influência dos fatores sociológicos e econômicos.

Quanto às teorias revistas, o autor se posiciona mais no momento de escolhê-las para a descrição do que enquanto um crítico das diversas abordagens. Nesse aspecto o livro se apresenta muito mais como um manual bem elaborado do que uma tentativa de esforço crítico ou cumulativo. O que, de resto, reflete a precariedade das teorias, conforme assinalado anteriormente.

Análise particular merece a teoria de J. L. Holland, de caráter mais integrativo, segundo o autor. Essa teoria servirá de base ao estudo empírico sobre comportamento vocacional de alunos universitários, apresentado no quarto capítulo. O estudo, que apresenta uma validação metodológica do uso de diferencial semântico para caracterizar os grupos de variáveis propostos por Holland, é apresentado, no entanto, de maneira extremamente detalhada, o que desmotivar um pouco o leitor mais interessado na substância do problema. Contém, ainda, algumas limitações metodológicas, certamente percebidas pelo próprio pesquisador,

mas que não retiram o mérito e a validade de seu objetivo maior. O que fica a desejar, no entanto, é uma exploração mais detalhada da teoria e suas contribuições práticas, tanto face ao estudo quanto face aos problemas quotidianos do orientador, temas para os quais o autor acena em sua introdução.

Esforço sério, competente e abrangente, *Psicologia do Comportamento Vocacional* contém importantes recados: mostra a necessidade de mais pesquisa e estudos não só para romper com as dificuldades atuais do estado dos conhecimentos na área, como aponta para as profundas modificações do mundo do trabalho e do próprio ambiente, que vêm condicionando novas formas de manifestação do comportamento vocacional.

Joao Batista A.e Oliveira

FINEP

Rio de Janeiro, Brasil

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The Interamerican Society of Psychology is grateful to the following institutions for the help provided in publishing this journal:
College of Arts and Sciences, Florida International University
International Affairs Center, Florida International University
Spanish Speaking Mental Health Research Center (UCLA)
University of California, Los Angeles

AVANCES EN PSICOLOGIA CONTEMPORANEA

Compiladores: GORDON E. FINLEY
GERARDO MARIN

Un libro de importantes contribuciones a la Psicología compilado a partir de las presentaciones al XVI Congreso Interamericano de Psicología.

Contenido

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PAUL F. SECORD. La psicología social en busca de un paradigma.
JEROME KAGAN. Desarrollo infantil y experiencias tempranas.
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ROGELIO DIAZ GUERRERO. Sociocultura, personalidad en acción y la ciencia de la psicología.
CHARLES E. OSGOOD. Del Yang y el Yin al Y o Pero dentro de la perspectiva transcultural.
HERBERT C. KELMAN. Fuentes de apego al estado nación: Una visión psicosocial de las dimensiones del nacionalismo.
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EDITORIAL TRILLAS,
México, 1979

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