# Journal of Psychological Inquiry
# Volume 9, Number 1, Spring 2004

## Contents


Acknowledgement - Reviewers . . . . . . . . . . 3
Acknowledgement - Institutions and Organizations . . . . . . . . . . 4
Acknowledgement - Psychology Students . . . . . . . . . . 5
Instructions for Contributors . . . . . . . . . . 6


## Articles


At the Playground: Cultural Differences in the Play Behavior of Mexican and Euro-American Children
**Kirsten B. Downey** . . . . . . . . . . 7

Personal Space Preferences: The Role of Mortality Salience and Affiliation Motivation
**Ryan D. Mulligan, Cassi Burmood, Shannon O'Hara, and Christie Warren** . . . . . . . . . . 14

Perceptions of People with Depression:The Relationship Between Empathy and Bias
**Julie Stopulos** . . . . . . . . . . 21

Fluoxetine Treatment for Anorexia Nervosa: Is it Effective?
**Rebecca Bizon and Cynthia G. Gilger** . . . . . . . . . . 28

Effects of Stress on Immune Function and Symptom Expression in Systemic Lupus Erythematosus
**Kim A. Boswell** . . . . . . . . . . 34


## Special Features

### Controversial Issues


Sexual Predator Statutes: A Legal Abuse Lacking Firm Psychological Foundation
**Anna K. Carroll** . . . . . . . . . . 41

Sexual Predator Laws Are Legally and Clinically Justified
**Drew R. Powell** . . . . . . . . . . 44

The Nature of Nurture and Gender
**Isabelle D. Cherney, Erika Lawrence, Karin Leak, Anna Carroll, Jeff Kalar, Nicole Neff, Amanda Stein, and Jamie Voss** . . . . . . . . . . 46


(continued on next page)

## Conducting Psychological Analyses – Dramatic

Prot: Dissociative Fugue or Alien In the Movie *K-PAX*
**KristiLynn R. Volkenant** . . . . . 49

Mental Illness or Fundamentalism in *Seven*
**Tiffany Mousel** . . . . . 51

Acute Stress Disorder in the Film *The English Patient*
**Julie M. Melone** . . . . . 53

A Criminal Psychologist's Struggle: Panic Disorder with Agoraphobia in *Copycat*
**Amy Halbur** . . . . . 55

*A Clockwork Orange*: Symptoms of Groupthink
**Jason Houston** . . . . . 57

## Psychologically Speaking

An Interview with Jane Halonen
**Stephanie Anderson, Sarah Buhr, Ariel Huber, & Richard Miller** . . . . . 59

An Invitation to Contribute to the Special Features Section
I—Evaluating Controversial Issues . . . . . 70
II—Conducting Psychological Analyses – Dramatic . . . . . 71
III—Conducting Psychological Analyses – Current Events . . . . . 72

# Acknowledgement - Reviewers

The following individuals reviewed manuscripts for this volume of the *Journal of Psychological Inquiry*. We gratefully acknowledge their valuable contributions to the journal.

Paul Ackerman - Wichita State University

Julie Allison - Pittsburg State University

Scott A. Bailey - Texas Lutheran University

Amy Barile - University of Central Arkansas

Gina Bates - Southern Arkansas University

Kurt Boniecki - University of Central Arkansas

Susan Burns - Morningside College

Kevn Byrd - University of Nebraska at Kearney

Amy Cataldi - Oklahoma City University

Casey Cole - Missouri Southern State University - Joplin

Ramie Cooney - Creighton University

Teddi Deka - Missouri Western State College

Lise DeShea - University of Kentucky

Shelly Drees - University of Minnesota

Laura Finken - Creighton University

Krista Forrest - University of Nebraska at Kearney

Richard Froman - John Brown University

Betsy Griffin - Missouri Southern State University - Joplin

Andrew Johnson - Park University

Robert Johnson - Arkansas State University

Tony Juve - University of Missouri - Columbia

Kristine Kelly - Western Illinois University

Gloria Lawrence - Wayne State College

Gary Leak - Creighton University

Jennifer Lento - University of San Diego

Jean Mandernach - Park Univeristy/University of Nebraska at Kearney

Donna McEwen - Friends University

Loretta McGregor - Ouachita Baptist University

Amie McKibban - University of Southern Indiana

William McNeil - Nebraska Wesleyan University

Charles Merrifield - Newman University

Dan Moriarty - University of San Diego

Spencer Morrison - Nebraska Wesleyan University

Chris Olson - Nebraska Wesleyan University

Ina Purvanova - University of Minnesota

Amber Fernandes Rebello - Brampton, Ontario, Canada

Bryan Saville - Stephen F. Austin State University

Lauren Scharff - Stephen F. Austin State University

Billy Smith - University of Central Arkansas

Theresa Wadkins - University of Nebraska at Kearney

Ken Weaver - Emporia State University

William Wozniak - University of Nebraska at Kearney

Tracy Zinn - Stephen F. Austin State University

# Acknowledgement - Institutions and Organizations

The following institutions and organizations contributed financially to pay for the operating expenses of the *Journal of Psychological Inquiry*. We gratefully acknowledge their valuable support.

Bellevue University

Benedictine College

Creighton University

Doane College

Emporia State University

Fort Hays State University

Hastings College

Kansas State University

Morningside College

Nebraska Wesleyan University

Rockhurst University

Southern Arkansas University

Southwest Missouri State University

University of Nebraska at Kearney

University of San Diego

Washburn University

Webster University

Wichita State University

Association for Psychological and Educational Research in Kansas

Nebraska Psychological Society

Cover Design

The creation of the graphic for the logo came about by thinking of how ideas are formed and what the process would look like if we could see into our brains. The sphere represents the brain, and the grey matter inside consists of all the thoughts in various stages of development. And finally, the white spotlight is one idea that formed into a reality to voice.

The entire logo is an example of creation in the earliest stages.

Cathy Solarana

Graphic Designer

# Acknowledgement - Psychology Students

The following psychology student organizations contributed financially to an endowment for the *Journal of Psychological Inquiry*. We gratefully acknowledge their valuable support and welcome contributions of $50 or more from other groups of students.

Bellevue University
Psychology Majors

Creighton University
Psi Chi

College of St. Mary
Psychology Club

Emporia State University
Psi Chi

Fort Hays State University
Psi Chi

Fort Hays State University
Psychology Club

Kansas State University
Psi Chi

Nebraska Wesleyan University
Psi Chi

University of Nebraska at Kearney
Psychology Club and Psi Chi

Washington University in St. Louis
Psi Chi

# Instructions for Contributors

The *Journal of Psychological Inquiry* encourages undergraduate students to submit manuscripts for consideration. Manuscripts may include empirical studies, literature reviews, and historical articles; manuscripts may cover any topical area in the psychological sciences. Write the manuscript for a reading audience versus a listening or viewing audience.

1. Manuscripts must have an undergraduate as the primary author. Manuscripts by graduates will be accepted if the work was completed as an undergraduate. Graduate students or faculty may be co-authors if their role was one of teacher or mentor versus full fledged collaborator.

2. Manuscripts must (a) have come from students at institutions sponsoring the Great Plains Students' Psychology Convention and the *Journal of Psychological Inquiry* or (b) have been accepted for or presented at the meeting of the Great Plains Students' Psychology Convention, the Association for Psychological and Educational Research in Kansas, the Nebraska Psychological Society, the Arkansas Symposium for Psychology Students, or the ILLOWA Undergraduate Psychology Conference. The preceding conditions do not apply to manuscripts for the Special Features Sections I, II, or III.

3. Send original manuscripts only. Do not send manuscripts that have been accepted for publication or that have been published elsewhere.

4. All manuscripts should be formatted in accordance with the APA manual (latest edition).

5. Empirical studies should not exceed 15 double-spaced pages; literature reviews or historical papers should not exceed 20 double-spaced pages. The number of pages excludes the title page, abstract, references, figures, and tables. We expect a high level of sophistication for literature reviews and historical papers.

6. The *Journal* requires five (5) copies of the manuscript in near letter quality condition using 12 point font. Faded or poor quality printing may be grounds for returning materials without review.

7. Provide e-mail addresses for the author(s) and faculty sponsor.

8. Include a sponsoring statement from a faculty supervisor. (Supervisor: Read and critique papers on content, method, APA style, grammar, and overall presentation.) The sponsoring letter should indicate that the supervisor has read and critiqued the manuscript. In addition, assert that the research adhered to the APA ethical standards. Finally, confirm that the planning, execution, and writing of the manuscript represents primarily the work of the undergraduate author(s).

9. Include a self-addressed stamped envelope of proper size and with sufficient postage to return all materials.

10. On a separate sheet, type the following information:
    (a) Names, current addresses, and phone numbers of all authors
    (b) Name and address of your school
    (c) Name, phone, and address (if other than your school) of your faculty supervisor
    (d) Permanent address and phone number (if different from current) of primary author.

11. Ordinarily, the review process will be completed in 60 days.

12. If the editor returns a manuscript that requires revisions, the author(s) is (are) responsible for making the necessary changes and resubmitting the manuscript to the *Journal*. Sometimes you may have to revise manuscripts more than once.

5/02

**Send submissions to:**

Mark E. Ware, Managing Editor
*Journal of Psychological Inquiry*
Department of Psychology
Creighton University
Omaha, NE 68178

**Checklist:**

_____ Five copies of the manuscript (#6)
_____ E-mail addresses for author(s) and faculty sponsor (#7)
_____ Sponsoring statement by a faculty supervisor (#8)
_____ Self-addressed, stamped envelope for the return of all materials (#9)
_____ Names and addresses of authors and sponsor (#10)

# At the Playground: Cultural Differences in the Play Behavior of Mexican and Euro-American Children

Kirsten B. Downey
*University of San Diego*

*This study explored the link between child development and the influence of cultural orientations by examining child play behavior. The hypothesis was that collectivistic play behaviors, such as community play, would characterize the Mexican sample, whereas more individualistic play behaviors, such as individual exploration, would characterize the Euro-American sample. Naturalistic observations of two- to six-year-old children in San Diego (n = 40) and Tijuana (n = 40), respectively, revealed cultural differences in playground behaviors. Frequency recordings revealed significant differences in four play categories: Mexican children more frequently engaged in simple social play, a type of community play, and the "other" category, whereas Euro-American children exhibited more aggression and physical sharing behaviors. Although unexpected results occurred, most findings supported predicted outcomes.*

How do people become who they are? How do they acquire their morals, their goals, and their values? The answers to these questions begin with the study of child development. Childhood experience provides important foundations that shape and guide future development. Through observation and interaction with children of all ages, psychologists have developed a multitude of theories concerning child development. These theories approach child development from several routes, and the study of childhood play behavior provides one such route by which psychologists examine the influence of the outside world on the inner world of the child. Play provides an important outlet for expressing social knowledge, which can then lead researchers to a better understanding of a child's cultural background. This article will examine the important link between childhood play behavior and cultural orientation.

Early developmental theorists, such as Piaget, conceptualized play as a measure of cognitive development, where play behaviors of different levels of complexity indicated varying mental capabilities. Other theorists, such as Vygotsky, expanded the meaning of play to include reflections of social and cultural influences as well as cognitive development. Vygotsky viewed play as a reflection of a world dominated by meanings created by cultural experience (Nicolopoulou, 1993).

Super and Harkness (as cited in Gauvain, 1995) expanded this socio-cultural framework into the developmental niche framework. The concept of the developmental niche represents the physical/social environment to which an individual is regularly exposed. This environment provides direction and regulation for human development by means of its cultural systems. Therefore, the thoughts and responses of humans develop as they learn about the social practices, materials, and tools that exist in their culture, and human beings learn to solve problems by accessing their knowledge of cultural and social practices (Gauvain). Many ideas stemming from the developmental niche framework influence current psychological research on childhood play behaviors. For example, the identification of specific connections between human development and culture has generated interesting research, exploring topics such as child-rearing, expression of thoughts and emotions, and social patterns. Observation of play behavior represents one window from which to study, interpret, and understand these stages of development.

Three subsystems connecting human development directly to culture exist in the developmental niche framework. The first subsystem is the physical/social setting of development. A child learns about this setting through parent-child interactions, the role of the family, and the influence of the school and neighborhood (Gauvain, 1995). For example, Roopnarine, Lasker, Sacks, and Stores (1998) asserted that face-to-face play and parent-child games occurred more frequently in North American and European homes than in Polynesian or African homes. Children thus become accustomed to communicating with adult authority in different ways because of different types of interactions with their parents. For example, Farver, Kwak, and Lee (1995) found that Euro-American children engaged in more social interactions with their teachers than Korean-American children. In Korean-American culture, elders expect that children respect adults as authority figures and show deference to them at all times. In contrast, the upbringing of Euro-American children values independent thought and assertiveness. Farver, et al. found that Korean-American

Ken Keith from the University of San Diego was faculty sponsor for this research project.

children accept teacher instruction without question, in contrast to Euro-American children, who converse more often with teachers.

Further, Best, House, Barnard, and Spicker (1994) found that parent-child interactions in French, Italian, and German dyads also revealed cultural differences. For instance, high levels of vocalization accompanied affectionate behaviors for German children but not for Italian or French children. This finding shows that culturally selective differences exist in the way that children express affectionate behaviors toward their parents. Leyendecker and Lamb (1999) reported that different daily experiences for Central American and Euro-American infants influenced later life as well. For example, the degree of flexibility and change in the environment was much greater for Central American children, whereas Euro-American children experienced a more structured environment. This childhood environment propagates the relaxed concept of time often connected to Latino cultures, whereas the Euro-American childhood environment produces adults who tend to live by the clock.

These studies support the first subsystem of the developmental niche, the physical/social setting of development. All these studies support a conclusion that the physical/social setting, whether it involves play, communication of emotions, or childhood environments, of a child influences the way that child grows to behave.

The second subsystem of the developmental niche framework is a culture's collective customs of child rearing. This subsystem assumes that parents wish to raise children in accordance with established social norms pertaining to behavior in society (Gauvain, 1995). Thus, Leyendecker and Lamb (1999) reported that in Latino cultures, socialization goals emphasized the development of qualities that encouraged integration into family and community settings. In a study by Leyendecker, Lamb, and Scholmerich (1997), mothers from Central America indicated that cooperative behavior was the single most important predictor of their child's future success in society. Farver and Shin (1997) found that parental attitudes influenced the choice of play themes of Korean-American children. Their research revealed that Korean culture discourages expression of childhood anxieties and fears. This cultural belief prompts parents to encourage the early development of emotional control. In addition, Korean culture values harmonious interpersonal relationships. Accordingly, parents emphasize cooperation and community consciousness (Farver & Shin). Farver and Shin found that the play behavior of Korean-American children mirrored these cultural themes, as they enacted more realistic, familiar themes in their play, such as family role themes. These play themes support the cultural goal of harmonious personal relationships and emotional control because familiar play themes leave little room for dispute as to how the script of the play should unfold.

Similarly, Roopnarine and Tulananda (2001) found that Thai parents placed a high premium on raising polite children who honor their elders because Thai culture values politeness, gentleness, orderliness, and tranquility in child-rearing. Both studies support the second subsystem of the developmental niche, which indicates that a culture's collective activity goals and values will influence parenting practices and, in turn, influence childhood play behaviors.

The third subsystem of the developmental niche is the psychology of the caregivers, defined as parental belief systems, parenting styles, and guidance (Gauvain, 1995). For example, the value of play in the minds of caregivers varies across cultures. Roopnarine et al. (1998) reported that North American parents believed they should engage their children in play activities to reach certain desired outcomes for the development of their children. In contrast, play behaviors of children in other cultures involved imitation of adult behavior and often times took place in work-related settings.

Child (1983) discovered that the philosophy of some Asian cultures claims all children are born with a predetermined fate and level of achievement. Her research revealed that Asian mothers put little effort into motivating their children to achieve and may adopt more passive styles of child-rearing, a reflection of this philosophy. Child also observed that Asian children exhibited more passive play activities than did English children. She attributed the different modes of passivity to different religious philosophies, reflected in culturally bound parental attitudes. These studies demonstrate how the belief systems adopted by parents influence parenting practices, which consequently guide children to enact play themes that mirror the psychology of their parents. This type of research demonstrates the strength of culture in human development.

According to the developmental niche framework, authorities have conceptualized and demonstrated how culture can accounts for fundamental human differences. How then can we classify culture to help clarify these differences?

One way to classify vast differences in cultural beliefs is the theory of individualistic and collectivistic cultural orientations. Members of individualistic cultures encourage self-autonomy and emphasize their own beliefs and values over those of others (Brislin, 2000; Matsumoto, 2000). For example, Farver and Shin (1997) found Euro-American children spoke directly and did not hesitate to vocalize their ideas and opinions in play situations. Farver and Shin found that in comparison to Euro-American children, Korean-American children acted in a non-confrontational and non-assertive way. Members of collectivistic cultures were more likely to sacrifice their individual needs for the gain of the community, and they often work to integrate their own goals with those of others (Brislin; Matsumoto).

Many psychological studies focus on this individualist/collectivist dichotomy. Investigators frequently use Euro-American children to represent of an individualistic cultural orientation, whereas they use Asian children to represent a collectivistic orientation (Hofstede, 1980). Child (1983) found that European children engaged in more imaginative, physical, and constructive play than did Asian children. Also, the European children exhibited more activity in play situations, whereas Asian children displayed more passivity. Farver and Shin (1997) found that Euro-American children frequently used communication techniques that described their own actions, employed directives, and rejected their play partner's suggestions.

In comparison, Asian children more commonly described their partner's actions and used semantic ties, statements of agreement, and polite requests. In a study comparing Korean-American and Euro-American preschool students, Farver, et al. (1995) found that during play observations, Euro-American children exhibited higher proportions of aggressive responses than Korean-American students, whereas Korean-American students used more object offerings to initiate play and exhibited a higher proportion of cooperative responses. In all studies, Asian children behaved more collectively by paying closer attention to their playmates and acting in such a way as to discourage conflict. In contrast, the Euro-American children emphasized their own beliefs and actions over their playmates' beliefs, as well as engaged in more aggressive behaviors.

Although Asian cultures provide excellent examples of collectivism, they are not the only collectivistic cultures. Past research indicates that Latino cultures hold attitudes emphasizing interdependence and cooperation (Posada et al., 2002). In addition, Leyendecker and Lamb (1999) noted that Latinos value the well-being of their families over personal satisfaction. These results indicate that Latino cultures socialize their children to value the good of the community over the individual, thereby qualifying Latino children as an interesting comparison to children raised in more individualistic societies.

Current high rates of Latino immigration to the United States necessitate more comparative research between Latino and Euro-American cultures (Leyendecker & Lamb, 1999). Specifically, according to the 1993 U.S. Bureau of the Census (as cited in Leyendecker & Lamb), Mexico supplies the highest number of immigrants to the United States, both legal and illegal. In addition, Leyendecker and Lamb pointed out that Latino families maintain sociocentric attitudes long after immigrating to the United States. Previously, Farver (1989) compared play behaviors of Euro-American and Mexican children and found that although Euro-American children displayed a greater social/symbolic complexity in solitary play conditions than Mexican children, many similar developmental patterns occurred in both cultures. However, Farver also observed important cultural differences in the behaviors mothers, siblings, and peers used to structure play, indicating a difference in child-rearing attitudes.

As more and more Mexican children assimilate into American culture, a better understanding of different cultural behaviors becomes important. The development of sensitivity to these differences could make the transition more accommodating for them. This study compared play behaviors of Mexican children and Euro-American children and explored the cultural beliefs and orientations that may account for differences. I hypothesized that because of Mexico's collectivistic orientation, Mexican children would exhibit higher frequencies of those behaviors that pertain to a collectivistic culture, whereas Euro-American children would exhibit higher frequencies of those behaviors that pertain to an individualistic culture.

## Method

### *Participants*

Participants in this study were 40 Euro-American children and 40 Mexican children observed playing informally in playground settings in San Diego (United States) and Tijuana (Mexico). The ages of the participants ranged from approximately two to approximately six years. To ensure observations reflected a representative sample of children's play behaviors, four research

assistants observed the children individually and in random order. Assistants made no contact with the children or their families at any time during the observations.

### *Observational Coding Tool*

Farver and Shin's scale (1997) for measurement and comparison of Euro-American and Korean-American preschoolers provided the backbone for the observational coding tool used in this experiment. The scale listed several categories of play behavior, and each category included a description. The list of categories included: solitary play, defined as when the child played alone; parallel play, defined as when the child engaged him or herself in the same or a similar activity as another child, without attempting to make eye contact or initiate an interaction; simple social play, defined as when the child and a partner engaged in the same activity and participated in minimal levels of interaction (e.g., smiling, offering or receiving an object); complementary and reciprocal play, defined as when the child and a partner engaged in social play with a turn-taking structure and role reversal; and social pretend play, defined as when the child engaged in fantasy play (e. g., acting or using objects in an "as if" manner, engaging in scripted pretend play, or enacting complementary pretend roles, such as mother and baby).

To strengthen the Farver and Shin (1997) scale, there were four additional categories of play behavior. Two play categories originated from a scale developed by Pelligrini (2001) in his review of play assessment. These categories included aggressive play, defined as an encounter in which a child and a partner engage in activity with high levels of physical contact, ending with someone being hurt and at least one partner attempting to leave the interaction; and rough and tumble play, defined as an encounter in which a child and a partner engage in activity with high levels of physical contact, ending with no one being hurt and no one attempting to leave the interaction.

I adapted the third additional play category from Barton and Aschione's (1984) review of direct observation of children. They defined physical sharing behaviors as an experience in which a child (a) handed a material to another child, (b) allowed another child to take his/her material, (c) used a particular material that another had used during the same observation interval, or (d) simultaneously used a material with another to work on a common project. To differentiate this play category from the simple social play category, researchers paid specific attention to the length and content of children' interactions. The physical sharing behaviors consisted of a child's play activity depending on cooperation and interaction with another child, rather than a scenario in which children played independently save a few minimal interactions. Finally, a fourth additional category labeled "other" provided the opportunity to record additional unclassified play behavior. When necessary, research assistants described each of these "other" play behaviors. Examples of "other" play behaviors included group play, play with adults, and high energy activity.

### *Observations*

Observations occurred in two public playgrounds, one located in San Diego (United States) and the other in Tijuana (Mexico). The playground in San Diego consisted of a large sandy area, incorporating cement pathways, numerous benches and picnic tables, and grassy areas. Toys for children included sandboxes, slides, steps, swings, poles, rocking horses, bridges, and playhouses. The playground in Mexico, similar in many ways to the park in San Diego, consisted of swing sets, slides, see saws, and monkey bars interspersed in a large sandy area. Fences surrounded the playground on all sides. Though the size of the Tijuana playground resembled that of San Diego, the area around the playground did not provide seating space for parents or other onlookers.

Observations for the solitary play, parallel play, simple social play, complementary and reciprocal play, social pretend play, aggressive play, rough and tumble play, and physical sharing behavior play categories took place in both San Diego and Tijuana on a Sunday, between the hours of 11:30 A.M. and 12:30 P.M. Warm sunny weather facilitated desirable play conditions in both parks.

Research assistants chose participants at random, alternating between male and female. They watched each child for five min and targeted children who appeared to be two- through six-years of age. Observers dispersed themselves throughout the park and recorded play behaviors with pen and paper, using the observational coding tool.

Instructions for research assistants included a thorough explanation and discussion of the play categories, as well information on how to choose participants, what ages to target, and the amount of time they should watch each child. The research assistants received no information about the hypothesis.

# Results

## *Interobserver Agreement*

To calculate interobserver agreement, research assistants independently observed the same four children for a five-min interval. Researchers selected these four children from the sample at the playground and at random. The research assistants had not observed children that the experimenter selected. The frequency ratio method, in which frequency ratio = smaller total/larger total X 100 (Kazdin, 1982), was used to analyze each of the common observation intervals. Combined totals produced an overall interobserver agreement of 71.4%.

## *Chi-Square Calculations*

The number of observations made in both countries totaled 299 with 163 in Tijuana and 136 in San Diego. The mean scores for the two cultures differed slightly; Mexican sample ($M$ = 18.11) was greater than the Euro-American sample ($M$ = 15.11). Totals differed slightly because of higher levels of activity in Tijuana, and therefore children shifted activities more frequently. Frequency totals for the various categories of play behavior appear in Table 1. Chi-square calculations measured how well the observed frequencies matched the hypothesis. Four play categories differed significantly between the two cultures, including simple social play, $X^2$ (1, $N$ = 87) = 25.39, $p < .001$; aggression, $X^2$ (1, $N$ = 6) = 6, p < .02; physical sharing behaviors, $X^2$ (1, $N$ = 9) = 9, $p < .02$; and the "other" category, $X^2$ (1, N = 9) = 5.44, $p < .02$. Thus, different patterns of play behaviors emerged with respect to culture. The frequencies were greater for aggression and sharing behavior for the Euro-American children, whereas simple social play and the "other" category frequencies were greater for the Mexican children.

Table 1
Frequency Totals of Categorized Play Behaviors by City

| | San Diego | Tijuana |
|---|---|---|
| Solitary Play | 48 | 46 |
| Parallel Play | 26 | 20 |
| Simple Social Play | 23 | 64* |
| Complementary/Reciprocal Play | 18 | 21 |
| Social Pretend Play | 1 | 0 |
| Aggression | 6 | 0 *** |
| Rough and Tumble Play | 4 | 4 |
| Physical Sharing Behaviors | 9 | 0 ** |
| Other | 1 | 8 *** |

*$p < .001$. **$p < .01$. ***$p < .02$.

# Discussion

Results from these observations were mixed with respect to the original hypothesis. Consistent with previous research, Mexican children more frequently engaged in simple social play behaviors, such as smiling and giving/receiving an object (Farver & Shin, 1997). Mexican children were nearly three times more likely than Euro-American children to engage in this communal play activity. Simple social play requires consciousness of another's activity, and in some cases, a response to that activity. It also involves different levels of cooperation. This result supports the notion of collectivism in the Mexican sample because it reflects the collectivistic cultural goal of group harmony and cooperation (Farver et al., 1995). Further, as expected, Euro-American children engaged in significantly more aggressive behaviors than Mexican children. Aggression reflects a more individualistic activity, because it occurs when a child takes the initiative to get what he or she wants, despite a possible inconvenience to another (Farver et al.). This result directly supports the notion of individualism in the Euro-American sample, because aggressive behavior involves competition and initiation, two activities that generally lead to the Euro-American cultural goal of achievement (Eisenberg & Mussen, 1989). Although children in the Euro-American sample engaged in relatively few aggressive acts, children in the Mexican sample engaged in none. This finding indicates the Euro-American children were more likely to use aggression as a means to an end. These two results are consistent with the hypothesis.

Conversely, results for the physical sharing behavior play category contradicted the hypothesis. Euro-American children exhibited more sharing behaviors, such as borrowing or giving away materials during play or using a material with another to work on a common project, such as building sand castles or riding a bike. These behaviors would traditionally characterize a collectivistic society. The implications of this result are not clear. Differences in settings could have facilitated shared play behaviors in one playground and not the other. For example, the Mexican playground was significantly more crowded and more active; higher activity levels may have reduced the likelihood that a child would take time to share, which would explain why scores in this category contradicted the hypothesis. However, this play category had not been tested previously in the coding tool used for

this study, and therefore, other variables could have contributed to this result. For example, a physical sharing behavior could have been selected when a child shared an object with another on his way to another activity.

Finally, Mexican children engaged in more "other" types of behaviors than children in the Euro-American sample. Research assistants described any unspecified behaviors when they occurred, and several common themes emerged in their descriptions. These included more group play and higher rates of interaction with adults in the Mexican sample. Higher levels of group play illustrate the collectivistic tendency toward community orientation. More frequent contact with adults may also reflect cultural values because in collectivistic cultures, children often express higher levels of love, honor, and obedience toward their parents (Roopnarine & Tulananda, 2001). Because research assistants interpreted the "other" play behaviors in their own words, readers should use caution in drawing firm conclusions from these findings.

Although the study revealed interesting differences in children's play behaviors between these two cultures, the study had limitations. All research assistants came from similar Euro-American backgrounds and may have understood the actions of the Mexican children differently than the children themselves. In other words, the expression of "sharing" or "aggression" may be conceptualized differently in Mexican culture. Further, the possibility exists that research assistants selected Mexican children with light skin or Euro-American children from bi-racial parents. Because observers had no contact with the children's parents, the samples may have consisted of children who were not representative of the individualistic and collectivistic cultures.

There was also a confounding between culture and socioeconomic background. The playground in San Diego is located in a middle-class suburb, whereas the playground in Tijuana lies in the downtown area of the city. The different locations may attract people from different walks of life. There may have been another confounding between culture and the number of children in the park. Larger numbers of children in the Tijuana playground may have contributed to higher levels of activity, possibly encouraging certain play behaviors more than others.

Despite these limitations, this study reveals that Mexican children engaged in more community play, as evidenced by the simple social play category and behavior coded in the "other" category. The study also found that Euro-American children displayed higher levels of aggression. The results support existing beliefs concerning individualism and collectivism.

This study may contribute better methods of observation, which will lead eventually to more knowledge about distinctions and similarities between Mexican and American cultures with respect to play behaviors of young children. This discovery could benefit many aspects of American society, including helping school systems and teachers understand cultural backgrounds in order to support healthier child development. It would also help with the process of Mexican immigration and assimilation to American culture. Understanding various differences in beliefs and values between the two cultures could spark creative solutions to a variety of problems.

## References

Barton, E. J., & Aschione, F. R. (1984). Direct observation. In T. H. Ollendick & M. Hersen, (Eds.), *Child behavioral assessment.* (pp. 166-194). New York: Pergamon Press.

Best, A., House, A., Barnard, A., & Spicker, B. (1994). Parent-child interactions in France, Germany, and Italy. *Journal of Cross-Cultural Psychology, 25,* 181-193.

Brislin, R. (2000). Understanding culture's influence on behavior. Fort Worth: Harcourt College Publishers.

Child, E. (1983). Play and culture: A study of English and Asian children. *Leisure Studies, 2,* 169-186.

Eisenberg, N., & Mussen, P. H. (1989). T*he book of prosocial behavior in children.* Cambridge: Cambridge University Press.

Farver, J. M. (1989). The development of symbolic play: A comparison of Mexican and American children [Abstract]. *Dissertation Abstracts International, 50* (8-A), 2449-2450).

Farver, J. M., Kwak, Y. K., & Lee, Y. (1995). Cultural differences in Korean- and Anglo-American preschoolers' social interaction and play behaviors. *Child Development, 66,* 1088-1099.

Farver, J. M., & Shin, Y. L. (1997). Social pretend play in Korean- and Anglo-American preschoolers. *Child Development, 68,* 544-556.

Gauvain, M. (1995). Thinking in niches: Sociocultural influences on cognitive development. *Human Development, 38,* 25-45.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values.* Beverly Hills, CA: Sage.

Kazdin, A. (1982). *Single-case research designs.* New York: Oxford University Press.

Leyendecker, B., & Lamb, M.E. (1999). Latino families. In E. Lamb (Ed.), Pare*nting and child development in "nontraditional" families.* (pp.247-262). New Jersey: Lawrence Erlbaum Associates, Publishers.

Leyendecker, B., Lamb, M. E., & Scholmerich, A. (1997). Studying mother-infant interaction: The effects of context and length of observation in two subcultural groups. *Infant Behavior and Development, 20,* 325-338.

Matsumoto, D. (2000). *Culture and psychology: People around the world.* Belmont, CA: Wadsworth.

Nicolopoulou, A. (1993). Play, cognitive development, and the social world: Piaget, Vygotsky, and beyond. *Human Development, 36,* 1-23.

Pelligrini, A. D. (2001). Practitioner review: The role of direct observation in the assessment of young children. *Journal of Child Psychology and Psychiatry, 42,* 861-869.

Posada, G., Jacobs, A., Richmond, M. K., Carbonell, O. A., Alzate, G., Bustamante, R., Quiceno, J. (2002). Maternal caregiving and infant security in two cultures. *Developmental Psychology,* 38, 67-78.

Roopnarine, J. L., Lasker, J., Sacks, M., & Stores, M. (1998). The cultural contexts of children's play. In O. N. Saracho & B. Spodeck (Eds.), *Multiple perspectives on play in early childhood education.* (pp.194-219). New York: State University of New York Press.

Roopnarine, J. L., & Tulananda, O. (2001). Mothers' and fathers' interactions with preschoolers in the home in northern Thailand: Relationships to teachers' assessments of children's social skills. *Journal of Family Psychology, 15,* 676-687.

# Personal Space Preferences: The Role of Mortality Salience and Affiliation Motivation

Ryan D. Mulligan, Cassi Burmood, Shannon O'Hara, and Christie Warren
*University of Nebraska at Kearney*

*This study examined the impact of mortality salience and affiliation motivation on personal space preferences. Investigators assessed the affiliation motives of 79 undergraduate students and had them watch a video about near death experiences (mortality salience group) or animal intelligence (control group). After viewing the video, participants changed rooms and researchers measured interpersonal space preferences to the nearest quarter inch. Participants in the mortality salience condition sat closer together than the participants in the control group. Affiliation for the purposes of social comparison and emotional support also decreased the distance between the participants. Affiliation motivation based on the need for cognitive stimulation and attention did not affect the spacing of the participants. There were no sex differences on personal space preferences.*

According to terror management theory (TMT; Pyszczynski, Greenberg, & Solomon, 1997), the most basic of all human motivations is self-preservation and the instinctive desire for continued life. TMT also suggests that individuals rarely spontaneously think about death because of a deeply rooted fear of death inherent in the human condition. Thus, when people confront their own mortality (mortality salience), anxiety and terror produce a response that the individual expects will lead to self-preservation. Individuals may distort information to suggest that they are invulnerable to illness or accident, find ways to suppress thoughts of death, or activate what Greenberg, Arndt, Simon, Pyszczynski, and Solomon (2000) refer to as a two-part cultural anxiety buffer. This cultural anxiety buffer consists of (a) a personalized version of a cultural worldview that provides a sense of meaningfulness, order, and standards, which when met lead to a sense of personal value-symbolic immortality and (b) self-esteem based on the belief that a person is living up to the standards set by the cultural worldview.

According to Rosenblatt, Greenberg, Solomon, Pyszczynski, and Lyon (1989), a cultural worldview is a shared reality that is individualized depending on people's perceptions and thoughts about the world that surrounds him/her. The worldview provides an explanation for our existence and a set of standards for what is valuable. Becker (1973) defined a cultural worldview as an unconscious combination of our parent's beliefs, our social groups, and the symbols of our society and nation. This combination leads to an unconscious internalized structure of a person's cultural beliefs and values. Cultural worldviews function as guidelines by which individuals direct their own behaviors, hoping to reduce anxiety by exerting control over the surrounding environment and their own thoughts (Solomon, Greenberg, & Pyszczynski, 1991).

The second aspect of the cultural anxiety buffer is the bolstering of a person's self-esteem (Harmon-Jones et al., 1997). Pyszczynski, Greenberg, and Solomon (1998) suggest that a person's cultural worldview bestows the illusion of control over death by promising immortality for those persons who live up to the prescribed standards through (a) the sense of belonging to a longer-lasting higher power or (b) the enhancement of self-esteem; the promise of being a valued member within one's worldview. For example, Rosenblatt et al. (1989) found that people who viewed prostitution negatively awarded higher bond rates than people who did not have a negative attitude toward prostitution. Previous research has demonstrated that when individuals think about their own death, they exhibit a variety of behaviors. Individuals confronted with their mortality tend to (a) evaluate those persons who validate their view of the world more favorably than those persons whose worldview differs from theirs (Greenberg et al., 1990), (b) uphold their worldview's values and beliefs (Pyszczynski et al., 1997), (c) maintain a higher level of patriotism for their nation over other nations (Nelson, Moore, Olivetti, & Scott, 1997), (d) show less aggression toward others with similar worldviews and more aggression toward persons with different worldviews (McGregor et al., 1998), and (e) increase the need for affiliation with others (Goldenberg, 1998).

## Affiliation Motivation

People differ in their desire for social contact and in their reasons for that contact. Hill (1987) describes four

Richard Miller from the University of Nebraska at Kearney was the faculty sponsor for this research project.

motivational bases for affiliation: (a) cognitive stimulation resulting from learning about and interacting with others, (b) social comparison by which we gain a more accurate appraisal of our attitudes, beliefs, and abilities, (c) attention or praise that enhances our sense of self-worth, and (d) emotional support that helps us cope with stressful events. To measure these motivational bases, Hill devised the Interpersonal Orientation Scale (IOS). The extent of a person's need for affiliation to cope with death anxiety as a result of mortality salience is likely to vary depending on the motivational basis for affiliation.

Closeness and intimacy with others provide positive cognitive stimulation. A scale item from the IOS that measures this motive is "Just being around others and finding out about them is one of the most interesting things I can think of doing." Rofe (1984) argues that the desire for affiliation is directly related to the perceived ability of the other person or persons to reduce a person's uncertainty in the stressful situation. Kulik, Mahler, and Earnes (1994) found more nonverbal affiliation with a threat-experienced partner than with a threat-inexperienced partner. Death anxiety is not likely to evoke this particular motive for affiliation because death does not allow for threat-experienced sources of information.

Social comparison provides a means for obtaining information about self-relevant issues from others, particularly similar others, when objective criteria are not available or relevant (Festinger, 1954). On the IOS, an example of a scale item measuring social comparison is "I find that I often have the desire to be around other people who are experiencing the same thing I am when I am unsure of what is going on." Because death is a mystery, there is a high likelihood that mortality salience will increase the need for social comparison to help reduce the ambiguity surrounding death. Kulik, Mahler, and Moore (1996) found that patients recovering from major surgery preferred roommates who could serve as similar others for social comparison purposes.

Affiliation for the purposes of attention provides the individual with a sense of self-worth and importance as others focus on one's self. An example of a scale item from the IOS that measures the need for attention is "I often have a strong need to be around people who are impressed with what I am like and what I do." Buss (1986) listed praise and respect as two of the four fundamental social rewards. Will this desire for attention reduce death anxiety? According to Arndt, Greenberg, Simon, Pyszczynski, and Solomon (1998) mortality salience causes people to avoid interaction in which the focus is on oneself. Therefore, a reasonable inference is that death anxiety does not affect affiliation preferences based on the need for attention.

The desire for emotional support and sympathy also influences affiliation preferences. Hill (1991) found that participants with high need for emotional support, expressed more interest in affiliation when their partners were expected to be warm and empathetic. On the IOS, an example of a scale item measuring this emotional support and sympathy is "If I feel unhappy or kind of depressed, I usually try to be around other people to make me feel better." Dhawan and Sripat (1986) found that the fear of death led to affiliation for emotional support. Specifically, they found that emotional support rather than religiosity had a calming effect on individuals experiencing death anxiety.

## Personal Space

Personal space is the preferred distance from others that an individual maintains within a given setting. Sommer (1969) defines personal space as "an area with an invisible boundary surrounding the person's body into which intruders may not come" (p. 26). The functions of personal space are to protect the individual against uncomfortable social encounters and communicate information about the relationship between two people.

Most models of personal space (Argyle & Dean, 1965) suggest that individuals seek an optimum interpersonal distance that provides a sense of comfort in interactions between and among people. This distance varies as a result of several factors. Culture, fear, and anxiety can affect a person's personal space boundaries. Sussman and Rosenfeld (1982) reported personal space preferences were furthest apart for Japanese compared to Venezuelans, with American's personal space requirements somewhere between the other two groups. Cline and Puhl (1984) revealed that personal space promoted togetherness and separation in various social settings. Specifically, Chinese preferred side-by-side seating, where as Americans preferred this arrangement only when involved in the same activity. Schwarzwald, Kavish, Shoham, and Waysman (1977) found that participants anticipating electric shock seated themselves closer to members of the same sex. Similarly, Feschbach and Feschbach (as cited in Brady & Walker, 1978) observed a decrease in the interpersonal distances between children when listening to a ghost story.

Personal space requirements appear to abridge when anticipating a stressful event or when recovering from a stressful event. In contrast, personal space appears to

augment during a stressful event. For example, Dosey and Meisels (1969) found that individuals whose attractiveness was being called into question distanced themselves from the source of that evaluation. Brady and Walker examined the relation between anxiety caused by evaluation apprehension and the preferred interpersonal distance between participants and a confederate. They found that participants in the high anxiety condition increased their personal space requirements versus participants in the low anxiety condition.

The purpose of the current study was to examine the effects of mortality salience and affiliation motivation on personal space preferences. One way individuals might manage the terror invoked by mortality salience would be to decrease the personal space normally required between one individual and another. Theoretically, decreasing personal space can communicate a level of acceptance and intimacy toward similar others–one way that people defend their cultural worldview when their mortality is made salient (e.g., Castano, Yzerbyt, Paladino, & Sacchi, 2002; Greenberg et al., 1990). Furthermore, participants exhibiting a high need for affiliation, depending on the basis for that need, might move closer to one another to seek comfort from participants who have also experienced the stress of thinking about their death. A decrease in personal space requirements is highly likely for participants whose motivation for affiliation is based on the need for emotional support and sympathy (Dhawan & Sripat, 1986) as well as for social comparison purposes (Kulik et al., 1996). Those participants motivated by an interest in positive cognitive stimulation (Kulik et al., 1994) or attention (Arndt et al., 1998) are less likely to decrease their personal space requirements.

## Method

### *Participants*

Participants consisted of 79 undergraduate students (17 men and 62 women) with a mean age of 19.8 years enrolled in introductory psychology classes at a mid-sized, Midwestern university. The students received extra credit points for participating in the experiment. Participants chose what times they could participate in this experiment by voluntarily selecting an experimental block.

### *Design*

The design was a 2 (mortality salience: presence vs. absence) x 2 (need for affiliation: high vs. low) between subjects factorial. Hill's (1987) Interpersonal Orientation Scale was used to determine whether an individual had a high or low need for affiliation. We performed a median split to determine those participants exhibiting a high need for affiliation versus those participants exhibiting a low need for affiliation. The dependent variable was the distance between participants as measured in inches.

### *Materials*

*Mortality salience manipulation.* To induce mortality salience, participants watched a 10-min video clip that reviewed medical cases of people who should have died but for a reason outside medical explanation, were able to recover from their injuries. Participants in the control condition watched a 10-min video clip about animal intelligence. The purpose of this video was to facilitate thoughts about something other than death.

*Affiliation motivation assessment.* Hill's (1987) 26-item Interpersonal Orientation Scale (IOS) assesses four motives for affiliation. The response format of the IOS uses a five-point Likert scale (5 = *completely true,* 4 = *mostly true,* 3 = *somewhat true,* 2 = *slightly true,* 1 = *not at all true*). Each participant rated the 26 statements on how true or descriptive each item was of him or her. The scale measures four possible motives for affiliation, (a) positive cognitive stimulation, (b) attention, (c) social comparison, and (d) emotional support. Internal consistency coefficients for the sub-scales ranged from .70 to .86 (Hill).

*Group discussion questions.* Participants were provided with a list of questions to discuss after viewing one of the two video clips. The questions guided the conversation of some of the more salient aspects of the material contained on the video clips. In the mortality salience condition, questions included: "Do you have the necessary skills to survive tragic situations?" and "Do you know of anyone who should have died in a tragic ordeal but beat the odds?" In the control condition, participants discussed such questions as "To what extent do you believe animals can reason without language?" and "Do you think rewards are necessary for helping animals develop an abstract language?"

### *Procedure*

Participants were randomly assigned to either a mortality salience or control group. The groups ranged in size from 5 to 8 members. Participants reported to a classroom and were told that they were to participate in a group discussion based on a video clip that they would

view. The participants received a list of discussion topics. The topics related to death (mortality salience condition) or animal intelligence (control condition). Participants in the mortality salience condition watched a 10-min video on a near death experience that portrayed a medical case of a young man who had an infection that spread to his heart. Throughout the video, the young man received surgery to repair his heart and several electrical shocks to restart his heart. Participants in the control group watched a 10-min video about animal intelligence, which showed an experiment about an animal's ability to recognize certain letters or numbers in a string of letters or numbers.

After each video, participants completed the IOS scale and were moved to a 13 x 20 foot conference room without furniture and asked to obtain a folding chair from the stack in the corner and to sit in a circle. The last person to enter the room and join the circle was a confederate. The confederate was a traditional, college aged woman dressed in a manner typical of most students participating in the study. During the discussion, the confederate wrote down the participants' seating arrangements and noted any movement during the session that altered the measurement of the distance between the participants. To further insure the accuracy of the measurement of interpersonal distance, we videotaped the session using two video cameras that were set up behind a two-way mirror. At the request of an experimenter, one of the participants led 5-min group discussion using the topics provided to the participants to guide the conversation. The experimenter was in a different room while the group arranged their chairs. After the participants arranged their chairs, the experimenter stood next to the conference room door. The participants were asked to leave the folding chairs in place with the surveys on top of the chairs when the group discussion was completed.

### Measurement of Interpersonal Distance

Personal space preferences were based on the placement of the participant's chair in comparison with his or her neighbor's chair. We measured the actual distance in inches between the participant's chair and the chair of participants on either side. The videotapes and confederate observations verified that when the participants were dismissed from the experiment, the chairs were not moved. Measurements between the confederate and the participants seated next to her were excluded from the data.

The analysis was conducted using the data derived from measuring the actual distances in inches, rounded to the nearest quarter inch, between each participant. Because participants had two other participants seated next to them, each participant was assigned two measurements for interpersonal distance. The two measurements were averaged to calculate a mean interpersonal distance score for each participant.

## Results

### Mortality Salienc

An analysis of variance revealed a significant effect of mortality salience on the mean distance between the participants, $F$ (1, 78) = 3.87, $p < .05$, power = .49, $h$ = .19. Rejecting the null hypothesis with a power = .49 indicates that the finding is relatively robust. The effect size of .19 suggests a moderate effect of the independent variable. Participants in the mortality salience condition placed their chairs closer to one another ($M$ = 13.62) than participants in the control condition ($M$ = 16.18).

### Affiliation Motivation

Pearson product moment correlation coefficients computed between each of the four possible motives underlying affiliation motivation and the participants' personal space preferences indicated that the distance between participants was significantly correlated with affiliation for social comparison purposes, $r$ (78) = -.32, $p < .05$, and affiliation for emotional support, $r$ (78) = -.34, $p < .05$. Affiliation motivations for positive cognitive stimulation and for attention were not significantly related to the mean distance between participants.

ANOVAs were performed to compare participants who scored above the median with participants who scored below the median on each of the measures of affiliation. Because research has shown that women are more likely than men to think, act, and define themselves in ways that support their emotional connectedness to others (Cross & Madson, 1997), sex of the participants was included as a second independent variable. The effect of sex was not significant, $F$ (1,78) = 1.22, $p > .05$.

For participants who scored above the median in social comparison motivation ($M$ = 13.46), the average distance between participants was significantly less for participants who scored below the median ($M$ = 16.39), $F$ (1,78) = 5.18, $p < .05$. Similarly, for participants who scored above the median in the need for emotional support ($M$ = 13.78), the average distance between participants was significantly less than those participants who scored below the median ($M$ = 16.39), $F$ (1,78) = 4.35, $p$

< .05. There were no significant effects of cognitive stimulation or attention on personal space preferences.

### *Mortality Salience and Affiliation Motivation*

To examine the interaction between mortality salience and affiliation motivation, 2 (mortality salience: presence or absence) x 2 (affiliation motivation: high vs. low) ANOVAs were performed. For each of the four bases for affiliation, a median split divided participants into those participants whose need for affiliation was high versus low. For cognitive stimulation, low affiliation ranged from 1.33 to 3.33; high affiliation ranged from 3.44 to 4.78. For attention, low affiliation ranged from 1.17 to 2.50; high affiliation ranged from 2.67 to 4.0. For social comparison, low affiliation ranged from 2.0 to 3.2; high affiliation ranged from 3.4 to 5.0. For emotional support, low affiliation ranged from 1.83 to 3.5; high affiliation ranged from 3.67 to 5.0. In the mortality salience condition, each of the high affiliation groups contained 17 participants, and the low affiliation groups contained 19 participants. In the control condition, each of the high affiliation groups contained 21 participants, and the low affiliation groups contained 22 participants. Analyses of variance did not indicate a significant interaction between mortality salience and affiliation motivation based on cognitive stimulation, attention, social comparison, and emotional support.

## Discussion

TMT (Pyszczynski et al., 1997) suggests that cultural worldviews function to provide protection against the anxiety that comes from feelings of vulnerability and mortality. The results of the present study indicate that individuals who were experiencing death anxiety sat more closely to one another. Personal space is a way of communicating intimacy with another person (Hall, 1966). To the extent that both persons assume they share a cultural worldview, this interpersonal spacing can act as a buffer against death anxiety. In the present study, students were likely to assume a shared cultural worldview with others in their group because of common experiences and the relatively high homogeneity of students who attend the University of Nebraska at Kearney (UNK). Miller and Benz (2000) reported evidence for the relatively high homogeneity of UNK students.

Previous research has often used personal space as a measure of affiliative behavior (Aiello, 1987). In the present study, affiliative need was treated as an independent variable, and the affects of affiliative need on personal space requirements were tested. The hypothesis that a high need for affiliation would produce smaller interpersonal distances between people was supported. Participants with a high need for affiliation sat closer to one another than participants with a low need for affiliation. However, only the need to affiliate for emotional support or social comparison had a significant affect on personal space requirements. Mortality salience and the anxiety it produces may be ameliorated by emotional support. Participants exhibiting a high need for emotional support required less space than participants exhibiting a low need for emotional support.

Social comparison provides a person with the opportunity to evaluate his or her attitudes and beliefs in the face of uncertainty. TMT suggests that death is the ultimate human uncertainty (Pyszczynski et al., 1997); therefore, social comparison can provide a mechanism for coping with death anxiety. In the present study, participants exhibiting a high need for social comparison preferred less interpersonal space than participants exhibiting a low need for social comparison. Affiliative need based on the need for positive cognitive stimulation or attention did not effect personal space requirements.

There was no support for the hypothesis that there would be an interaction between mortality salience and the need for affiliation. Although both mortality salience and the need for affiliation contributed to a reduction in interpersonal space, participants exhibiting a high need for affiliation, who were also made aware of their mortality, did not require more personal space. This result probably occurred because too little space between persons can be just as uncomfortable as too much space between persons. There is a likelihood that both persons in the mortality salience condition and persons exhibiting a high need for affiliation sat as close to one another as was comfortable. Thus, the two independent variables could not act in conjunction to create a preference for even less interpersonal space.

Studies of personal space most often measure the distance between a participant and one other person (e.g., an experimenter or confederate). The present study measured the distance between several sets of participants. In the mortality salience versus control conditions, this factor posed no methodological problem as each group of participants was in one or the other condition. However, the measures of affiliation motivation were not used in assigning participants to groups. Therefore, in any given group, participants' affiliative needs varied. There is a likelihood that in some cases participants who scored

low in affiliative need would be seated next to participants who scored high in affiliative need. The measurement of interpersonal space was the distance between the confederate and two participants, and also between the other participants in the circle. To show differences in interpersonal spacing between participants indicated that the effect was fairly robust, because some of the difference was likely diminished by the random seating pattern of the participants. Thus, there is a possibility that a Type II Error existed with regard to affiliative need based on attention and on positive cognitive stimulation.

In the present study, there were no significant differences in personal space requirements as a function of the need for positive cognitive stimulation or attention. Possibly, such differences may exist, and research could discern such differences using a technique comparing the interpersonal spacing between a single confederate and individual participants who were high or low in those needs. One possibility for future research would be to examine interpersonal spacing between a single confederate and individual participants who are high or low in affiliative needs.

From a terror management perspective, optimum interpersonal distance functions to comfort those reminded of their mortality. Interpersonal spacing acts as a distal defense from the fear of death. Terror management theorists define distal defense as a subconscious process that only works when participants are distracted from death-related thoughts (Greenberg et al., 2000). Distal defenses include a variety of indirect mechanisms to bolster worldview defense or self-esteem. Personal space preferences would fit into the category of an indirect mechanism for coping with death anxiety and therefore would be a kind of distal defense. Thus, persons should, without their awareness, prefer less space between themselves and others if those others are perceived to share their cultural worldview. Can attending the same college, being of a similar age, and enrollment in the same class be a basis for thinking that another person shares your worldview? Such an interpretation seems unlikely unless the experience of becoming anxious about death along with others blurs the distinctions we usually make between others and ourselves. The experience of September 11 suggests that this view may be true. The media widely reported that many people experienced a stronger bond to other Americans regardless of the differences that previously seemed important. Further research should examine the effects of mortality salience on affiliation behaviors exhibited by persons who are similar or dissimilar to one another in ways relevant to the person's cultural worldview.

## References


Aiello, J. R. (1987). Human spatial behavior. In D. Stokols & I. Altman (Eds.), H*andbook of environmental psychology* (Vol. 1, pp. 389-504). New York: Wiley.

Argyle, M., & Dean, J. (1965). Eye-contact, distance, and affiliation. *Sociometry, 28,* 289-304.

Arndt, J., Greenberg, J., Simon, L., Pyszczynski, T., & Solomon, S. (1998). Terror management and self-awareness: Evidence that mortality salience provokes avoidance of the self-focused state. *Personality and Social Psychological Bulletin, 24,* 1216-1227.

Becker, E. (1973). *The denial of death.* New York: Free Press.

Brady, A. T., & Walker, M. B. (1978). Interpersonal distance as a function of situationally induced anxiety. *British Journal of Social and Clinical Psychology, 17,* 127-133.

Buss, A. H. (1986). *Social behavior and personality.* Hillsdale, NJ: Erlbaum.

Castano, E., Yzerbyt, V., Paladino, M. P., & Sacchi, S. (2002). I belong, therefore, I exist: Ingroup identification, ingroup entitativity, and ingroup bias. *Personality and Social Psychology Bulletin, 28,* 135-143.

Cline, R. J., & Puhl, C. A. (1984) Gender, culture, and geography: A comparison of seating arrangements in the United States and Taiwan. *International Journal of Intercultural Relations, 8,* 199-219.

Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin, 122,* 5-37.

Dhawan, N., & Sripat, K. (1986). Fear of death and religiosity as related to need for affiliation. *Psychological Studies, 31,* 35-38.

Dosey, M. A., & Meisels, M. (1969). Personal space and self-protection. *Journal of Personality and Social Psychology, 11,* 93-97.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7,* 117-140.

Goldenberg, J. L. (1998). Affiliation revisited: Others help manage terror. *Dissertation Abstracts International, 58,* (8-B) 4522.

Greenberg, J., Arndt, J., Simon, L., Pyszczynski, T., & Solomon, S. (2000). Proximal and distal defenses in response to reminders of one's mortality: Evidence of temporal sequence. *Personality and Social Psychology Bulletin, 26,* 91-99.

Greenberg J., Pyszczynski, T., Solomon, S., Rosenblatt, A., Mitchel-Veeder, M., & Lyon, D. (1990). Evidence for terror management theory II: The

effects of mortality salience on reactions of those who threaten or bolster the cultural worldview. *Journal of Personality and Social Psychology, 58,* 308-318.

Hall, E. T. (1966). *The hidden dimension.* New York: Doubleday.

Harmon-Jones, E., Simon, L., Greenberg, J., Pyszczynski, T., Solomon, S., & McGregor, H. A. (1997). Terror management theory and self-esteem: Evidence that increased self-esteem reduces mortality salience effects. *Journal of Personality and Social Psychology, 72,* 24-36.

Hill, C. A. (1987). Affiliation motivation: People who need people…but in different ways. *Journal of Personality and Social Psychology, 52,* 1008-1018.

Hill, C. A. (1991). Seeking emotional support: The influence of affiliative need and partner warmth. *Journal of Personality and Social Psychology, 60,* 112-121.

Kulik, J. A., Mahler, H. I. M., & Earnest, A. (1994). Social comparison and affiliation under threat: Going beyond the affiliates-choice paradigm. *Journal of Personality and Social Psychology, 66,* 301-309.

Kulik, J. A., Mahler, H. I. M., & Moore, P. J. (1996). Social comparison and affiliation under threat: Effects on recovery from major surgery. *Journal of Personality and Social Psychology, 71,* 967-979.

McGregor, H., Lieberman, J., Greenberg, J., Solomon, S., Arndt, E., Simon, L., & Pyszczynski, T. (1998). Terror management and aggression: Evidence that mortality salience motivates aggression against worldview threatening individuals. *Journal of Personality and Social Psychology, 74,* 590-605.

Miller, R. L., & Benz, J. J. (2000). Concepts of human nature: The value orientation of students from central Nebraska. In S. Rothenberger & S. George-Bloomfield (Eds.), *A prairie mosaic: An atlas of central Nebraska's land, culture, and nature.* (pp. 226-231). Kearney, NE: University of Nebraska at Kearney.

Nelson, L. J., Moore, D. L., Olivetti, J., & Scott, T. (1997). General and personal mortality salience and nationalistic bias. *Personality and Social Psychology Bulletin, 23,* 884-892.

Pyszczynski, T., Greenberg, J., & Solomon, S. (1997). Why do we need what we need: A terror management perspective on the roots of human social motivation. *Psychological Inquiry, 8,* 1-20.

Pyszczynski, T., Greenberg, J., & Solomon, S. (1998). A terror management perspective on the psychology of control, In M. Kofta, G. Weary, & G. Sedeck (Eds.), *Personal control in action: Cognitive and motivational mechanisms* (pp. 85-108). New York and London: Plenum.

Rofe, Y. (1984). Stress and affiliation: A utility theory. *Psychological Review, 91,* 235-250.

Rosenblatt, A., Greenberg, J., Solomon, S., Pyszczynski, T., & Lyon, D. (1989). Evidence for terror management theory I: The effects of mortality salience on reactions to those who violate or uphold cultural values. *Journal of Personality and Social Psychology, 57,* 681-690.

Schwarzwald, J., Kavish, N., Shoham, M., & Waysman, M. (1977). Fear and sex-similarity as determinants of personal space. *Journal of Psychology, 96,* 55-61.

Solomon, S., Greeenberg, J., & Pyszczynski, T. (1991). Terror management theory of social behavior: The psychological functions of self-esteem and cultural worldviews. *Advances in Experimental Social Psychology, 24,* 93-157.

Sommer, R. (1969). *Personal space: The behavior basis of design.* Englewood Cliffs, NJ: Prentice-Hall.

Sussman, N. M., & Rosenfeld, H. M. (1982). Influence of culture, language, and sex on conversational distance. *Journal of Personality and Social Psychology, 42,* 66-74.

# Perceptions of People with Depression: The Relationship Between Empathy and Bias

Julie Stopulos
*St. Ambrose University*

*This study investigated the relationship between empathy and bias towards individuals with depression. One hypothesis was that participants would show increased empathy and less bias toward individuals with depressive symptoms from a shared event (September 11th). Sixty-six participants were told they might be working with a partner and were randomly assigned to read an account of a fictitious person described with no depressive symptoms or described with depressive symptoms resulting from either a personal event, shared event, or no stated cause. Participants indicated their perceptions of the person as a potential work partner. Results showed no significant differences among the four conditions (all p's > .14). Consistent with another hypothesis correlational analyses found an inverse relationship between empathy and bias toward depression.*

The purpose of the present study was to examine whether prior knowledge of the cause of a person's depression would affect one's willingness to work with that person. The aftermath of the September 11th, 2001 terrorist attacks and their reported effect on mental illness was the motivation to investigate biases associated with depression. A survey conducted shortly after the terrorist attacks (Schuster et al., 2001) revealed that 44% of adults reported depressive symptoms such as sleep disturbances, trouble concentrating, anger, irritability, and anxiety. A survey conducted by the American Psychological Association ("Many Americans," n.d.) found that 40% of Americans reported being seriously affected by the attacks on a personal level. This survey also showed that nearly 1 in 4 Americans reported feeling more depressed during the time surrounding September 11th than at any other time in their life. In fact, 7% of Americans reported going to mental health professionals as a direct result of the terrorist attacks (APA).

These findings suggest that the terrorist attacks affected the mental health of many Americans, which may also indicate the potential for an increase in the number of people with depression. Schuster et al. (2001) suggested that the psychological effects of September 11th are likely to continue to affect many Americans. Currently, depression affects 9.5% of the population (roughly 18.8 million Americans) a year ("National Institute," 2003). Depression has become a major societal issue, in part, from the negative stereotypes that are associated with mental illness (Link, Phelan, & Bresnahan, 1999). Those who suffer from depression suffer not only from the mental illness itself but also from the negative reactions of others based on their stereotypes of the mentally ill (Corrigan & Penn, 1999).

Research has shown that people have a tendency to stereotype individuals with mental illness; these stereotypes are often manifested in the expression of biases. For example, stereotypes of mental illness are revealed in peoples' apprehensiveness in having to work with mentally ill individuals (Sibicky & Dovidio, 1986). Link, Phelan and Bresnahan (1999) reported that even in today's society, the public still holds the belief that the mentally ill are dangerous and are generally unwilling to interact socially with these individuals. In a review of the literature, Cormack and Furnham (1998) discussed the general lack of social support in communities for those with mental illness and how society has deemed the term "mentally ill" in itself to imply a negative connotation.

Furthermore, other research reveals that it is not just a naive general public that expresses bias towards the mentally ill. Ford and Elliot (1999) found that even well trained professionals within mental health disciplines expressed biases towards these individuals. Ford and Elliot noted that in cases of depression specifically, the negative reactions from others, particularly a person's therapist, reinforce feelings of worthlessness, pessimism, and isolation, all of which serve to maintain depressive behaviors and affect willingness to seek treatment.

In sum, many people have a tendency to hold stereotypes and express bias towards individuals with mental illness. Empathy, the ability to put oneself in another's place and relate to his or her situation, is one factor that research has shown to be effective in reducing stereotypes and bias generally (Stephan & Finlay, 1999).

Robin Anderson from St. Ambrose University was the faculty sponsor for this research project.

The author thanks Kerry Abraham, Casey Feeney, Katrina Hird, Amanda Marthaler, Justin Nelson, Jennifer Smith, and Jennifer York, who contributed equally to the conceptualization of this project and the data collection.

Batson et al. (1997) found that inducing empathy reduced negative attitudes toward stigmatized groups. In a literature review, Stephan and Finlay emphasized the importance of empathy and the benefits it can have for improving attitudes and behavior. Recent experiments by Galinsky and Moskowitz (2000) focused on the role of perspective-taking in reducing biases. They found that inducing empathy was an effective strategy for reducing out-group hostility and stereotypes.

Because the events of September 11th, 2001 were something nearly all Americans experienced together, the underlying premise of this study was that people would be better able to relate to, or empathize with, an individual who was depressed as a result of the terrorist attacks of September 11th. Feelings of empathy are the result of a person taking on the perspective of someone else in need, and being able to imagine how that person is affected by his or her situation (Batson et al., 1997). In the present study, empathy was defined as the ability to relate to another person and/or his or her situation. Because investigators have shown that empathy is a factor in reducing bias, a hypothesis was that a person would be less likely to stereotype and express bias towards an individual who was depressed as a result of September 11th because he or she could relate more readily to the depressed person's feelings.

Hoffman's research findings (1977) revealed that empathy is more prevalent in women than in men. According to the Research Agenda for Psychosocial and Behavioral Factors in Women's Health ("Public Policy," n.d.), women are twice as likely as men to suffer from depression. Based on these gender differences in empathy and depression, the present study included gender as a participant variable.

Studies on biases towards mental illness, specifically depression, led to the hypothesis that participants would show more bias toward a person who presented evidence of depression, compared to a person who did not show any evidence of depression. However, studies on empathy led to the hypothesis that participants would show less bias towards a person who was depressed after a "shared event" (September 11th) because of increased empathy, compared to a person who was depressed with no stated cause or to a person who was depressed after a "personal event" (witnessing a major car accident). This personal event condition was introduced in the design to test for the possibility that participants might show less bias towards a person with depression merely because he or she stated a cause for the depression. Another prediction was for less bias because of the effects of empathy, and not because of the effects of a perceived cause.

People have a tendency to hide stereotypes (Manstead & Hewstone, 1996), in part because of social desirability or trying to look good in the presence of others. People are generally motivated to avoid appearing biased. Although research indicates that people may hide stereotypes, there are, however, certain conditions under which people are likely to express stereotypes. Sinclair and Kunda (2000) found that people were more likely to express stereotypes when they felt their well-being was threatened.

Based on the research suggesting that circumstances may influence the expression of stereotypes, the present study experimentally established conditions under which participants would be more likely to express stereotypes. Rather than simply measuring attitudes towards a hypothetical person with depression, researchers set up a situation in which participants believed they might be interacting with a work partner. We used this cover story to heighten experimental realism by interjecting the element of threatened well-being. Specifically, we told participants they might be working with someone who presented evidence of depression. We designed this manipulation to create a situation in which stereotypes would be more likely to surface.

## Method

### *Participants*

The study employed 70 students from a small Midwestern Catholic university approximately six months after the terrorist attacks of September 11th, 2001. Recruitment was from four introductory psychology classes and one introductory sociology class. The exclusion of four participants occurred because of procedural error. Of the remaining 66 participants, 30 were men and 36 were women, between the ages of 18 and 36 years ($M$ = 19.44, $SD$ = 2.60). Instructors offered participants class credit as part of the research requirement in their course The review of a research article was available as an alternative activity. Management of the study was consistent with the ethical standards of the American Psychological Association (APA, 1992).

### *Procedure*

Researchers visited introductory psychology and sociology classes to recruit participants and introduced

the cover story entitled, "An Investigation of Group Performance versus Individual Performance." The cover story informed participants that the experimenter would examine differences between how an individual works alone to perform a task compared to how groups work together to perform a task, and whether shared personal information between group partners would affect the performance on the group task. Volunteer students signed up for a 45-min block of time to participate in the experiment.

Multiple researchers conducted the experiment, however, participants interacted with only one researcher. When a participant arrived, he or she was greeted by a female researcher and escorted to a seat in a hallway outside three rooms with "Experiment in Progress" signs posted on each door. The female researcher asked the participant to wait in the chair until one of the rooms was available. This procedure was consistent with the cover story and was designed to give the participant the impression that there were other participants in the rooms, however each of the three rooms was empty.

After a few minutes, the female experimenter led the participant into a small room at the end of the hallway and invited him or her to take a seat at a small table with two chairs. Only the experimenter and participant were present in the room. The experimenter shut the door and sat down in the other chair. The experimenter thanked the participant for coming and gave a brief overview of the cover story. The experimenter informed the participant that he or she might be working alone or with a partner on a task. The experimenter also informed the participant that the study would take approximately 45 min, that participation was voluntary, and that the participant could withdraw from the study at any time without question or penalty.

After the participant signed an informed consent form, the experimenter gave him or her a one-page questionnaire. She told the participant that the information he or she provided on the questionnaire would help researchers study the effect of sharing personal information with a potential partner and whether sharing personal information influenced performance on a group task. The participant was asked to fill out the questionnaire to the best of his or her ability, only providing information that he or she was willing to share with the research team and other participants. This instruction prepared the participant for the possibility of working with a partner. The participant was then left alone for two minutes to complete the questionnaire. The questionnaire requested demographic information including hometown, interests/hobbies, year in school, and major in school. Additionally, the questionnaire also asked the participant to rate his or her personality in social settings (introverted, extroverted, or depends on the situation), study habits (voice opinions, hold back, or depends), and the conditions under which he or she works more effectively (under pressure, over longer periods of time, or depends). The final item was an open-ended question that asked the participant to describe his or her work ethic in school.

After two minutes, the experimenter returned to the room and collected the participant's completed information sheet. The experimenter gave the participant a completed copy of the same questionnaire and told him or her that a potential partner, waiting in the room next door, had completed the questionnaire. The experimenter informed the participant that she would likewise be giving his or her sheet to the potential partner in the other room. The experimenter explained that the exchange would enable the potential partners to learn more about each other. The experimenter asked the participant to read through the information carefully after she left the room, and when she returned, she would have him or her fill out a questionnaire about perceptions about this person as a potential work partner.

The participant had two minutes to read the completed questionnaire of the fictitious partner. All of the information on this sheet (demographic, interests/hobbies, major in school, etc.) was consistent across the four conditions except for the response to the last item, "Tell us more about your work ethic in school."

Investigators randomly assigned participants to read one of four responses to the final item. In the control condition, the potential partner gave no evidence of depressive symptoms. In the three experimental conditions, the potential partner expressed depressive symptoms that varied in the circumstances responsible for the depression (no stated cause, a personal cause—witnessing a major car accident—or a shared cause—September 11th attacks. Table 1 contains complete descriptions of these manipulations.

The experimenter returned to the room after two minutes, collected the fictitious questionnaire, and handed the participant an evaluation form. She asked the participant to evaluate his or her potential partner by completing a series of seven-point rating scales, which were the dependent variables in the study. Items on these scales measured how involved the participant predicted his or her potential partner would be on a group task, how comfortable the participant felt working with this person,

the quality and percentage of work the participant estimated this person would contribute, how well the participant felt he or she could relate to this person, and whether the participant preferred to work alone, with this partner, or with a different partner. Researchers used these scales to measure empathy and bias towards the potential partner.

Table 1.
Experimental conditions.

No depressive symptoms (control group):
"I try to do my best. Lately I feel tired. I've had a lot of work to do for classes."
Depressive symptoms with no cause:
"I try to do my best. Sometimes I feel tired or sad. Over the past six months, I've felt depressed. I don't know why. Sometimes I just can't get motivated, or I feel anxious."
Depressive symptoms from a personal event (witnessing a major car accident):
"I try to do my best. Sometimes I feel tired or sad. Over the past six months, I've felt depressed ever since I witnessed a major car pile-up where a lot of people died. Sometimes I just can't get motivated, or I feel anxious."
Depressive symptoms from a shared event (September 11th terrorist attacks):
"I try to do my best. Sometimes I feel tired or sad. Ever since September 11th, I've felt depressed. Sometimes I just can't get motivated, or I feel anxious."

After the participant completed the evaluation, the investigator asked him or her to indicate what he or she thought the experiment was about. Investigators used this procedure to determine if participants could correctly identify the hypothesis. No one was accurate in identifying the hypothesis. The researcher debriefed the participant, destroyed the participant's information sheet with a paper shredder, explaining that it would have no further use in the study), and thanked him or her for his or her participation.

## Results

Data were analyzed using a 4 (condition) x 2 (participant gender) between-subjects analysis of variance with an alpha level of .05. Researchers tested two hypotheses. The first hypothesis was that participants would show more bias toward depressed individuals than toward non-depressed individuals. The second hypothesis was that participants would show less bias towards individuals with depression from a shared event (September 11th) compared to other individuals with depression, because of increased empathy. Contrary to predictions, there were no significant main effects for experimental conditions or for gender, nor were there any interactions between condition and gender (all p's > .14. Table 2 contains means and standard deviations for each of the four conditions.

Table 2
Rating of Partner for Each Condition

| | Experimental Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Control | | Depressed (No Cause) | | Depressed (Personal Event) | | Depressed (Shared Event) | |
| Dependent Variables | M | (SD) | M | (SD) | M | (SD) | M | (SD) |
| Involvement of partner | 4.61 | (1.04) | 4.47 | (1.13) | 4.18 | (0.81) | 4.25 | (1.06) |
| Percentage of work by partne | 50.00 | (12.60) | 49.33 | (16.46) | 46.88 | (13.28) | 45.31 | (15.00) |
| Comfort in working with partne | 4.78 | (1.22) | 4.67 | (1.29) | 4.53 | (1.07) | 4.75 | (1.18) |
| Quality of work partner will produce | 4.78 | (0.88) | 4.67 | (1.18) | 4.29 | (0.99) | 4.50 | (1.03) |
| Preference to work alone or with this partner | 4.28 | (0.57) | 4.07 | (1.16) | 3.71 | (1.16) | 4.13 | (0.62) |
| Willingness to work with a different partner | 5.06 | (1.11) | 5.13 | (1.19) | 4.71 | (0.99) | 5.13 | (1.41) |
| Ability to relate to partner | 5.06 | (1.21) | 4.80 | (1.21) | 4.47 | (1.18) | 4.56 | (1.39) |

*Note.* All numbers (excluding percentages) indicate participants' ratings of their potential partner on 7-point bipolar scale. Higher numbers indicate a more favorable ratings.

After results revealed that the experimental manipulations had not produced significant main effects, further analyses were conducted to test for a relationship between empathy and bias. All experimental groups were pooled for these correlational analyses. Statistically significant correlations were found between participants' ratings of how well he or she could relate to the potential work partner (the measure for empathy) and dependent measures assessing bias, including the participants' perceived involvement of the partner on a group task, percentage of work contributed by the partner, comfort in working with the partner, quality of work the partner will produce, and preference to work alone or with the partner Table 3 contains correlations coefficients and $p$-values. These results indicated a negative relationship between empathy and bias.

Based on prior research indicating gender differences in empathy, exploratory analyses were conducted to examine the relationship between empathy and bias separately among men and women. Separate two-tailed Pearson's correlational analyses were performed for men and for women between empathy and bias using an alpha level of .01.

Table 4 contains correlation coefficients. Increased empathy in men was significantly correlated with greater comfort in working with the potential partner. Increased empathy in women was significantly correlated with perceptions of greater involvement by the potential partner, perceptions of a greater contribution of work by the potential partner, greater comfort in working with the potential partner, and perceptions of higher quality work contributed by the potential partner. As empathy in women increased, the preference to work alone decreased.

Table 3
Pearson Correlations Between Empathy and Bias

| Measures of Bias | Participants' ability to relate to partner (Empathy) |
|---|---|
| Involvement of partner on group task | .556** |
| Percentage of work contributed by partner | .470** |
| Comfort in working with partner | .666** |
| Quality of work partner will produce | .556** |
| Preference to work alone or with this partner | -.287* |

*Note.* For the first four measures, higher scores indicate less bias. For the last measure, a higher score indicates greater desire to work alone.
*$p < .05$. **$p < .001$.

Table 4
Pearson Correlations Between Empathy and Bias by Participant Gender

| | Participants' ability to relate to partner (Empathy) | |
|---|---|---|
| Measures of Bias | Men | Women |
| Involvement of partner on group task | .236 | .699** |
| Percentage of work contributed by partner | .355 | .528** |
| Comfort working with partner | .476** | .767** |
| Quality of work partner will produce | .391 | .686** |
| Preference to work alone or with this partner | .078 | -.512** |

*Note.* For the first four measures, higher scores indicate less bias. For the last measure, a higher score indicates greater desire to work alone.
**$p < .01$.

## Discussion

The purpose of this study was to investigate the relationship between empathy and bias towards individuals with depression. One hypothesis was that participants would rate depressed individuals more negatively than non-depressed individuals. However, another prediction was that increased empathy would reduce this bias. Specifically, we hypothesized that participants would express less bias toward individuals with depressive symptoms because of the shared event of the terrorist attacks of September 11th, 2001. Although no statistically significant differences were found between the four experimental conditions on measures assessing empathy and bias, significant correlations were found between empathy and bias. Consistent with predictions, participants who indicated that they could relate to their potential partner rated their potential partner more positively than participants who were less able to relate to their potential partner. These correlations showed an inverse relationship between empathy and bias (i.e., as measures of empathy in participants increased, measures assessing bias decreased). These findings are consistent with prior research that has revealed empathy as factor in reducing bias and stereotypes (Batson et al., 1997; Stephan & Finlay, 1999; and Galinsky & Moskowitz, 2000).

Furthermore, although there was no significant main effect of gender on empathy, the inverse relationship found between empathy and bias was particularly strong for women, which is consistent with previous research

that has revealed gender differences in empathy. Hoffman (1977) noted that empathy is more prevalent in women than men, and in a literature review, suggested that women have a better ability to imagine themselves in the place of another person.

This study did not find evidence for bias towards individuals with depression. This finding is contrary to research indicating that people express more bias toward depressed individuals than non-depressed individuals (e.g., Ford & Elliot, 1999; Link & Phelan, 1999; Sibicky & Dovidio, 1986). The lack of significant main effects in the present study may be because of low statistical power resulting from a small number of participants or perhaps from experimental manipulations of empathy were not strong enough to bring out biases from the participants. Additionally, participants might have been motivated to appear unbiased because of self-presentational concerns. Baumeister (1982) discussed how individuals attempt to present themselves in a way that coincides with how they would ideally like to be seen. Participants might have been motivated to please the researchers or to act in a socially acceptable way because they wanted to present themselves as unbiased.

Although the present study failed to find a causal relationship between empathy and bias, results provided further indication that empathy and bias are inversely related. Increased empathy was associated with decreased bias. This relationship may be important for society to examine more closely. The motivation to conduct this investigation was the mental health effects of the September 11th attacks. Because of the current state of national and foreign relations, we need research that addresses factors that influence perceptions and stereotypes toward others and increases understanding and tolerance.

Furthermore, in regard to mental illness, the media, teachers, politicians, and others should take steps to educate people about mental illnesses and the effects of biases toward individuals with mental illness (Corrigan & Penn, 1999). One way to do this might be to induce and increase empathy. Individuals who live with a mental illness may be more comfortable seeking treatment in a society with reduced stereotypes and biases about mental illness.

## References


American Psychological Association. (1992). *Ethical principles of psychologists and code of conduct.* Retrieved from http://www.apa.org/ethics/code1992.html.

Batson, C. D., Polycarpou, M. P., Harmon-Jones, E., Imhoff, H. J., Mitchener, E. C., Bednar, L. L., Klein, T. R., & Highberger, L. (1997). Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group? Jo*urnal of Personality and Social Psychology, 72,* 105-118.

Baumeister, R. F. (1982). A self-presentational view of social phenomena. *Psychological Bulletin, 91,* 3-26.

Cormack, S., & Furnham, A. (1998). Psychiatric labeling, sex role stereotypes, and beliefs about the mentally ill. *International Journal of Social Psychiatry, 44,* 235-248.

Corrigan, P. W., & Penn, D. L. (1999). Lessons from social psychology on discrediting psychiatric stigma. *American Psychologist, 54,* 765-776.

Ford, G. R., & Elliott, T. R. (1999). Clinicians' reactions to depressive behavior and ill health. *Professional Psychology: Research and Practice, 30,* 269-274.

Galinsky, A. D., & Moskowitz, G. B. (2000). Perspective-taking: Decreasing stereotype expression, stereotype accessibility, and in-group favoritism. *Journal of Personality and Social Psychology, 78,* 708-724.

Hoffman, M. L. (1977). Sex differences in empathy and related behaviors. *Psychological Bulletin, 84,* 712-722.

Link, B. G., Phelan, J. C., & Bresnahan, M. (1999). Public conceptions of mental illness: Labels, causes, dangerousness, and social distance. *American Journal of Public Health, 89,* 1328-1339.

Manstead, A. S. R., & Hewstone, M. (1996). *Stereotyping. The Blackwell encyclopedia of social psychology* (pp. 628-632). Cambridge, MA: Blackwell.

*Many Americans still feelings effects of September 11th are reexamining their priorities in life.* (n.d.). Retrieved February 11, 2002 from http://www.apa.org/-practice/poll911.html.

*National Institute of Mental Health informational publication on depression, publication #02-3561.* (2002) Retrieved April 9, 2003 from http://www.nimh.gov/-publicat/depression.cfm#intro.

*Public policy office briefing sheet: Women and depression.* (n.d.). Retrieved April 15, 2003 from http://-www.apa.org/ppo/issues/pwomenanddepress.html.

Schuster, M. A., Stein, B. D., Jaycox, L. H., Collins, R. L., Marshall, G. N., Elliott, M. N., Zhou, A. J., Kanouse, D. E., Morrison, J. L., & Berry, S. H. (2001). *A national survey of stress reactions after the September 11, 2001, terrorist attacks. New England Journal of Medicine, 345,* 1507-1512.

Sibicky, M., & Dovidio, J. F. (1986). Stigma of psychological therapy: Stereotypes, interpersonal reactions, and the self-fulfilling prophecy. *Journal of Counseling Psychology, 33,* 148-154.

Sinclair, L., & Kunda, Z. (2000). Motivated stereotyping of women: She's fine if she praised me but incompetent if she criticized me. *Personality and Social Psychology Bulletin, 26,* 1329-1342.

Stephan, W. G., & Finlay, K. (1999). The role of empathy in improving intergroup relations. *Journal of Social Issues, 55,* 729-743.

# Fluoxetine Treatment for Anorexia Nervosa: Is it Effective?

Rebecca Bizon and Cynthia G. Gilger
*Madonna University* *Emporia State University*

*Authorities characterize anorexia nervosa as a refusal to maintain an appropriate weight for age and height, intense fear of gaining weight, and a distorted body image. Practitioners use psychological, behavioral, and nutritional approaches in treatment, but they cannot guarantee the effectiveness of any of them. Physicians have introduced pharmacological treatments because medications are helpful in treating mood, anxiety, and obsessive-compulsive disorders from which these patients often suffer. This article reviewed studies in which the use of fluoxetine has and has not been effective in treating anorexia nervosa. There is discussion about reasons for the discrepancies and benefits of biological treatment combined with other approaches.*

The American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (2000a) characterizes anorexia nervosa by a refusal to maintain a body weight at a level normal for age and height; weight loss often leads to a body weight below 85% of that expected. Patients also have an intense fear of gaining weight and suffer from a distorted body image; this faulty perception makes recognizing the severity of their low weight difficult and causes them to deny the seriousness of their condition. Postmenarchal females also experience amenorrhea, or the absence of at least three consecutive menstrual cycles (APA, 2000b). Anorexia nervosa has a higher mortality levelthan any other psychiatric disorder; practitioners describe it as one of the most difficult to cure and have no reliable treatment (Ferguson, LaVia, Crossan, & Kaye, 1999).

Practitioners use psychological, behavioral, and nutritional approaches to treat this disorder, but none of them is guaranteed to be effective. Biological approaches have recently been introduced to the treatment protocol with the hope that pharmacological intervention can be helpful to patients. One reason for the use of medication is because those with anorexia often have symptoms of a mood disorder, anxiety disorder, or obsessive-compulsive disorder (Attia, Haiman, Walsh, & Flater, 1998). Because medications have been helpful in treating these disorders, some clinicians believe they may also be helpful in treating anorexia nervosa. This article reviews (a) studies in which a pharmacological treatment—specifically, the use of fluoxetine—has added no benefit to patient recovery and (b) studies in which medication has shown to be effective in the treatment of anorexia nervosa. We also examine reasons for the discrepancies among these studies and discuss use of biological treatment in conjunction with other approaches.

## Studies Opposing Fluoxetine Effectiveness

Many studies have concluded medication is not helpful in the treatment of patients with anorexia (e.g., Attia et al., 1998; Ferguson et al., 1999; Johnson, Tsoh, & Varnado, 1996; Mayer & Walsh, 1998; Strober, Freeman, DeAntonio, Lampert, & Diamond, 1997; Strober, Pataki, Freeman, & DeAntonio, 1999). These researchers have examined the effectiveness of fluoxetine, a selective serotonin reuptake inhibitor (SSRI), in treating patients with anorexia nervosa and returned disappointing results. In a review of earlier research on the effectiveness of pharmacological interventions with patients with eating disorders, Johnson et al. (1996) claimed that, to date, no medication had been helpful in changing eating behavior, modifying the fear associated with food, or eliminating the body image disturbance characteristic of the disorder.

Strober et al. (1997) studied whether fluoxetine would be helpful in the long-term treatment of patients with anorexia nervosa. Participants in this study were 66 consecutive, severely malnourished patients in a program specializing in treating eating disorders. Investigators did not start fluoxetine treatment any sooner than one month after admission to allow for initial nutritional stabilization before beginning medication with 33 of the patients. The 33 control patients did not receive any pharmacotherapy up to the time of discharge. While in the hospital, practitioners provided all patients with the same non-pharmacological treatment consisting of individual, group, and family therapy, and supervised meals and dietary counseling. Those in the fluoxetine group received a recommendation to continue the drug during

Cathy Gover from Emporia State University was the faculty sponsor for this research project.

the follow-up phase, and investigators advised all participants to continue therapy on a regular basis.

Patients were interviewed 6, 12, 18, and 24 months after discharge. In addition to face-to-face interviews, researchers collected information from knowledgeable informants if the patients consented. Clinicians treating the patients also obtained weekly weights and information on an outpatient basis. Patients were assessed using the Eating Disorder Examination (EDE), measuring psychopathological features of anorexia nervosa and a 7-point Clinical Global Impressions (CGI) rating, measuring the severity of anxiety and depression. Investigators also recorded patients' ability to remain at target weight, time before dropping below target weight, and presence of binge eating, vomiting, or laxatives abuse.

The researchers found both groups improved during the 24 months of follow up treatment, and there did not appear to be a difference between those patients treated with fluoxetine and the patients who were not treated with fluoxetine. At the final assessment (24 months), 64% of the patients in the fluoxetine group had a "good" outcome; 61% of those not treated with fluoxetine had the same results. Average body weight remained the same across time for the two groups, and at the 24-month assessment, there were nearly equal numbers of patients from both groups remaining at their target weight. Both groups had similar significant reductions in scores on the EDE and the CGI. Strober et al. (1997) concluded that fluoxetine treatment did not improve the outcome of patients with anorexia.

Strober et al. (1999) extended their previous study on the effects of fluoxetine during follow up treatment. Rather than looking at their progress after treatment, researchers examined the effects of pharmacotherapy on the same patients during the initial 6-week open-label trial while the participants were still inpatients in the program. In this study, all patients had significant reductions in ratings of weight phobia and abnormal eating behavior during the initial 6-week trial. In addition, weight increased for both groups, and both groups gained about the same amount of weight. As previously reported (Strober et al., 1997), these researchers found no evidence to indicate that the use of fluoxetine gave patients an advantage over those who were not treated with fluoxetine early in treatment; both groups showed relatively equal improvement.

Attia et al. (1998) found similar results in a 7-week double-blind, placebo-controlled study. Participants were 33 women undergoing inpatient treatment for anorexia nervosa; partipiants were randomly assigned to receive a placebo or fluoxetine. Investigators postponed assignment to the groups until patients were medically stable as determined by physical examinations, laboratory assessments, and ECG (electrocardiogram). Each patient stayed in the study until she reached 90% of her ideal body weight and maintained that weight for as little as one week or for as long as seven weeks. Patients' weights were checked three times a week. Patients were also evaluated using the Anorexic Behavior Scale, the CGI scale, and the Beck Depression Inventory. Periodically, they completed the Body Shape Questionnaire, the Eating Attitudes Test, and the Symptom Checklist-90 (SCL-90). At the beginning and end of the study, researchers interviewed patients using the Yale-Brown-Cornell Eating Disorder Scale.

Attia et al. (1998) also failed to find differences between those in placebo group and the fluoxetine-treated groups. Both groups showed improvements on virtually all assessment measures; patients attained approximately 87% of their ideal body weight, regardless of treatment group. Attia et al. concluded there was no evidence to support the addition of fluoxetine to an inpatient treatment program for patients with anorexia.

Using retrospective chart review to evaluate patients, Ferguson et al. (1999) assessed the effectiveness of SSRI medication in underweight patients with anorexia. Participants in this ex post facto study were 40 sequential admissions to an inpatient treatment program for eating disorders. The medication group ($n$ = 24) consisted of patients whose charts showed they had been taking an SSRI for more than four weeks prior to being admitted to the program. The non-medication group ($n$ = 16) consisted of patients with no experience with SSRIs before being admitted. Participants were assessed at the time of admission using the Eating Disorder Inventory (EDI), Frost Multidimensional Perfectionism Scale (MPS), Spielberger State-Trait Anxiety Inventory, and the Beck Depression Inventory. Researchers found both groups had similar scores on almost all of the EDI subscales. They found the same outcome for measures of depression and anxiety. Ferguson et al. concluded that SSRI medication had not affected weight, eating disorder symptoms, depression or anxiety; the medication was not helpful for the underweight patients with anorexia in this study. Treatment with SSRI had not been successful, hence their need for admission to the inpatient treatment program.

## Studies Supporting Fluoxetine Effectiveness

Other studies have found medication can be helpful in the treatment of anorexia nervosa. Kaye, Weltzin, Hsu, and Bulik (1991) conducted an open trial of fluoxetine with 34 patients suffering from anorexia nervosa. Participants were sequential admissions to either an outpatient or inpatient center specializing in the treatment of eating disorders. Physicians started 27 patients on fluoxetine during inpatient treatment. Fifteen patients began fluoxetine a few weeks after attaining their goal weight; 12 patients started on the medication during the refeeding and weight restoration phase of treatment.

There was no one specific type of therapy given to patients as part of the trial. That is, patients underwent therapy, but not every patient received the same treatment. At the end of the trial, evaluators judged patients as having either a good, partial, or poor response to treatment with fluoxetine. The basis for judgments were on improvements in eating behavior, anxiety, depressive, obsessive, and compulsive symptoms. Patients in the good and partial group had to keep their weight at or above 85% average body weight (ABW) as outpatients. Researchers found 10 patients with a good response, 17 patients with a partial response, and 4 patients with a poor response.

At the time of follow up (i.e., about a year after fluoxetine administration), researchers found 29 of 31 patients maintained an ABW above the anorexic range as outpatients. Not only did many patients appear to have at least a partial reduction in symptoms, but they were also able to keep their weight at a healthy level even though they were no longer inpatients. One problem with this trial was that it was not a double-blind and placebo-controlled study, and critics pointed out that the positive outcomes could not be attributed solely to the use of fluoxetine. However Kaye, Gwirtsman, George, and Ebert (1991) found that result encouraging because the relapse level is high among patients after release from an inpatient weight restoration program.

Kaye et al. (2001) completed a double-blind, placebo-controlled trial of fluoxetine to examine its role in the treatment of patients with anorexia. Participants were 35 “restrictor-type” anorexics (i.e., those who restrict their food intake but have no evidence of purging or laxative abuse). Physicians gave 16 participants fluoxetine and 19 participants a placebo. Most patients were started on either fluoxetine or placebo after their weight was restored at an inpatient treatment center. The study involved following the participants as outpatients for one year; the goal was to see whether fluoxetine enhanced the outcomes of those taking the medication.

Sixty-three percent of the patients taking fluoxetine remained in the study for the entire year. In contrast, only 16% of those receiving placebo completed the trial without suffering from a relapse. Patients taking fluoxetine gained more weight than those not taking the medication. Patients taking fluoxetine also had lower scores on the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), a scale measuring obsessive and compulsive symptoms; in particular, they had reduced scores on the portion of the Y-BOCS dealing with eating disorder symptoms. Patients taking fluoxetine showed a reduction in depression and anxiety compared to those in the placebo group. The researchers concluded that fluoxetine was helpful in preventing relapse and helping those with anorexia keep their weight at healthy levels as outpatients.

Ruggiero et al. (2001) conducted a single blind comparison of three different drug treatments for restrictor-type patients with anorexia. Investigators selected 35 inpatients from the endocrinological department of the University of Milan. Patients met the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders* (1994) criteria for anorexia nervosa restricting type, were severely underweight, were willing to cooperate with the study and did not show comorbidity (i.e., depression, anxiety, obsessive-compulsive disorder) or delusional body image thoughts. Researchers randomly assigned patients to one of three treatment conditions; they received either clomipramine ($n$ = 13), fluoxetine ($n$ = 10), or amisulpride ($n$ = 12). Investigators evaluated patients before and after the three-month weight restoration program according to diagnostic criteria (i.e., weight, weight phobia, body image disturbance, and amenorrhea) using the Eating Disorder Interview. Every patient increased her weight, but there were no significant differences in the amount of weight gained among the three groups. However, fluoxetine-treated patients and amisulpride-treated patients showed significant differences in weight as measured before and after the program; fluoxetine patients’ weight increased by 4.52%, and amisulpride patients increased by 11.04%. Patients also made improvements in weight phobia and body image disturbances, but there were no significant differences from before and after treatment. Researchers concluded that their results supported Kaye’s (1997) conclusion that fluoxetine was beneficial in weight-restored patients but that amisulpride could be effective in underweight patients.

Even though Strober et al. (1997) concluded there was little difference between fluoxetine-treated patients and controls, they found that the medication slowed the rate at which patients dropped below their target weight. After reviewing several studies, Jimerson, Wolfe, Brotman, and Metzger (1996) also suggested that fluoxetine aided in preventing relapse in weight-recovered patients. In their review, which examined the role of fluoxetine in underweight patients, Mayer and Walsh (1998) stated the weight maintenance phase is often difficult and many patients suffer a relapse. Mayer and Walsh pointed to Kaye's (1997) review as evidence that medication might be helpful to patients during this phase of recovery. In addition, Kaye's review did find patients taking fluoxetine were not as likely to fall into a full relapse as those receiving placebo. Kaye also found evidence that anorexic symptoms were greatly reduced in the medication groups compared to the placebo groups.

An interesting note is that many studies showed that fluoxetine was helpful in treating anorexic patients after the patients had their weight restored. In Kaye and colleagues studies (Kaye, 1997; Kaye, Weltizin, et al., 1991), for example, the majority of patients had undergone weight restoration before beginning fluoxetine treatment; the other patients were administered the drug during the refeeding process. There is evidence that the patients' nutritional status (e.g., as determined by weight gain, physical examinations, and laboratory assessments) can account for the differences among the studies because of the process by which fluoxetine works. For example, Jimerson et al. (1996) stated that fluoxetine might be helpful in weight-recovered, not underweight, patients. Peterson and Mitchell (1999) stated that the research conducted to date suggested severely underweight patients with anorexia only respond minimally, if at all, to medication; however, patients who were at least partially weight-restored might receive considerable benefits from the use of medication along with other forms of treatment. Based on their clinical experience, Ferguson et al. (1999) found that very few underweight patients received benefits from SSRI medication; they believed that benefits might only be seen in those patients who were weight-recovered. Treasure, Collier, Arranz, Li, and Mupita (1997) also suggested the success of treatment with fluoxetine might depend on many factors including the severity of weight loss and whether patients had undergone inpatient weight-restoration.

Ferguson et al. (1999) offered an explanation for why SSRI medications such as fluoxetine may not be helpful to underweight anorexic patients . The purpose of those medications is to inhibit the reuptake of serotonin (5-HT), resulting in an effective increase in the amount of 5-HT in the synapse. SSRIs depend on the neuronal release of 5-HT to work properly. If 5-HT release is compromised and there is minimal 5-HT in the synapse, inhibition of reuptake will have little effect. Therefore, SSRIs will not be effective in patients who do not have enough serotonin released.

Ferguson et al. (1999) reviewed evidence suggesting underweight anorexic patients have reduced 5-HT levels. That review was based on studies of levels of 5-HIAA, a breakdown product of 5-HT, in the cerebrospinal fluid. Authorities think that cerebrospinal fluid 5-HIAA levels reflect 5-HT activity levels in the brain (Ferguson et al.). Studies showed cerebrospinal fluid 5-HIAA levels were low in underweight patients but normalized and elevated in short-term and long-term weight-recovered patients (Ferguson et al.). This finding suggested underweight patients have decreased 5-HT activity compared to weight-restored patients.

Ferguson et al. (1999) suggested brain serotonin levels might be affected by food intake. Animal studies have shown reduced food intake can decrease 5-HT activity in the brain (Ferguson et al.). Because the brain makes 5-HT from tryptophan, an amino acid that can only be obtained from the diet, those with anorexia who are malnourished and at a low weight do not receive enough tryptophan in their diets and have little of the amino acid to convert to 5-HT. If there is little 5-HT available, SSRI medications will have an insufficient amount of the neurotransmitter with which to work and will not be as effective. Patients who are weight-restored receive more tryptophan in their diets and have more of the amino acid to convert to 5-HT; therefore, there is more 5-HT in the synapse and more reuptake for an SSRI to inhibit, making the medications more effective. In short, without essential elements derived from the diet, SSRI medications will be unable to work properly. Because underweight patients with anorexia severely limit their food intake, they do not receive the necessary elements required for SSRI effectiveness. As patients increase their food intake and recover their weight, they will receive the important components needed for medication to be effective.

## Contradictory Evidence

Though several studies (Jimerson, et al., 1996; Kaye, 1997; Kaye et al., 2001; Kaye, Weltzin et al., 1991; Ruggiero et al., 2001) have shown that fluoxetine might be effective in treating anorexia nervosa, primarily in those patients whose weight has been restored, other studies have found that fluoxetine has a very opposition-

al effect. Smeraldi (1998) examined the effectiveness of amisulpride and fluoxetine over a three-month period in the treatment of dysthymia or a single episode of major depression partially in remission. The emergence of at least one adverse side effect to the medication was not uncommon for either group (48% of amisulpride group, 41% of fluoxetine group), but the incidence of anorexia as a side effect was more common with fluoxetine (6.6%) than with amisulpride (1.4%). Schatzberg (1995) found similar results in his study examining the use of fluoxetine in the treatment of anxiety and depression. Fluoxetine was beneficial for these disorders, but at 20 mg/day, he found that anorexia was an adverse effect of the medication significantly more often with fluoxetine-treated patients (21%) than with patients receiving placebo (11%). Schatzberg also reported patients treated with fluoxetine experienced acute weight loss. This finding is not surprising because of the findings by Bergh, Eriksson, Lindberg, and Sodersten (1996). They reported the body weight of patients with anorexia dropped when treated with a selective serotonin reuptake inhibitor. The authors did not find this result surprising because serotonin inhibits food intake, and these types of medications are used to reduce weight in obese patients.

## Conclusions and Future Directions

Studies have shown that in some instances medication can be effective in the treatment of anorexia nervosa, and in other instances, medication appears to be ineffective. Pharmacological intervention seems to provide the most benefit to patients who are at least partially weight-restored. Although medication is not a cure for anorexia, it can be beneficial to patients if it is administered at an appropriate time in their recovery. However, because some evidence indicates that fluoxetine can cause the very condition (anorexia) practitioners use for treatment, they should not ignore that side effect. Researchers should pursue further investigation of this side effect.

Medication is most helpful when combined with other treatments. Biological approaches are just one aspect of treatment; the best strategy is to include psychological, nutritional, and behavioral elements in a patient's rehabilitation (Mayer & Walsh, 1998). Pharmacotherapy can assist in treatment of the psychopathology associated with the illness, but medication by itself does not promote weight gain or cause a dramatic increase in a patient's ability to eat (Johnson et al., 1996). These drugs on their own will probably not cure the disorder (Mauri et al., 1996). Although medication may help patients maintain a healthy body weight, healthy body is not the only criterion needed for recovery. According to the DSM-IV-TR, patients also possess an intense fear of weight gain and a distorted body image; relief of these symptoms and restoration eating are also important. Ferguson et al. (1999) suggested that there is no evidence that medication is helpful in alleviating these symptoms. However, Marrazzi, Bacon, Kinzie, and Luby (1995) examined the use of naltrexone in patients with anorexia nervosa and bulimia nervosa. The purpose of that drug is to control addictive eating behaviors (binging, purging, and restricting), with weight gain being a secondary effect. For 18 out of 19 patients, naltrexone reduced symptoms more than a placebo during the six-week trial. The researchers are conducting additional studies to evaluate the long-term effectiveness of the medication, but it shows promise as a additional treatment.

Another medication, tramadol, has also produced some promising results. Mendelson (2001) reported a successful case using tramadol, a selective mu opiate agonist with monoamine-reuptake-inhibiting effects, to treat anorexia nervosa. The patient had been taking fluoxetine for almost six months without any improvement, but after seven weeks of treatment with tramadol, the patient did not schedule her eating, felt free to eat whatever she wanted, and gained 13 pounds without any adverse effects. A placebo-controlled trial is still needed to confirm the usefulness of tramadol with anorexia nervosa, but this study suggests another possible alternative.

Only when patients are free of all diagnostic criteria can they be considered fully recovered from anorexia nervosa; restoring their weight is not enough. Achieving this goal with medication or psychological treatment alone will be very difficult, but the studies we reviewed in this article have not examined the benefit of psycho-educational and behavioral treatment without being accompanied by some sort of medication, whether fluoxetine or placebo. Future studies should compare the benefits of these treatments with various drug treatment approaches to determine the best possible combination of behavioral and medical treatment.

## References

American Psychiatric Association. (2000a). *Diagnostic and statistical manual of mental disorders* (text revision). Washington, DC: Author.

American Psychiatric Association. (2000b). Practice guidelines for eating disorders (revision). *American Journal of Psychiatry, 157* (January 2000 Suppl.), 1-39.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Attia, E., Haiman, C., Walsh, B. T., & Flater, S. R. (1998). Does fluoxetine augment the inpatient treatment of anorexia nervosa? *American Journal of Psychiatry, 155,* 548-551.

Bergh, C., Eriksson, M., Lindberg, G., & Sodersten, P. (1996). Selective serotonin reuptake inhibitors in anorexia. *Lancet, 348,* 1459-1460.

Ferguson, C. P., LaVia, M. C., Crossan, P. J., & Kaye, W. H. (1999). Are serotonin selective reuptake inhibitors effective in underweight anorexia nervosa? *International Journal of Eating Disorders, 25,* 11-17.

Jimerson, D. C., Wolfe B. E., Brotman, A. W., & Metzger, E. D. (1996). Medications in the treatment of eating disorders. *Psychiatric Clinics of North America, 19,* 739-754.

Johnson, W. G., Tsoh, J. Y., & Varnado, P. J. (1996). Eating disorders: Efficacy of pharmacological and psychological interventions. *Clinical Psychology Review, 16,* 457-478.

Kaye, W. H., (1997). Anorexia nervosa, obsessional behavior, and serotonin. *Psychopharmacology Bulletin, 33,* 335-344.

Kaye, W. H. Gwirtsman, H. E., George, D. T., & Ebert, M. H. (1991). Altered serotonin activity in anorexia nervosa after long-term weight restoration: Does elevated cerebrospinal fluid 5-hydroxyindoleacetic acid level correlate with rigid and obsessive behavior? *Archives of General Psychiatry, 48,* 556-562.

Kaye, W. H., Nagata, T., Weltzin, T. E., Hsu, L. K. G., Sokol, M. S., McConaha, C., Plotnicov, K. H., Weise, J., & Deep, D. (2001). Double-blind placebo-controlled administration of fluoxetine in restricting- and restricting-purging-type anorexia nervosa. *Biological Psychiatry, 49,* 644-652.

Kaye, W. H., Weltzin, T. E., Hsu, L G., & Bulik, C. M. (1991). An open trial of fluoxetine in patients with anorexia nervosa. *Journal of Clinical Psychiatry, 52,* 464-471.

Marrazzi, M. A., Bacon, J. P., Kinzie, J., & Luby, E. D. (1995). Naltrexone use in the treatment of anorexia nervosa and bulimia nervosa. *International Clinical Psychopharmacology, 10,* 163-172.

Mauri, M. C., Rudelli, R., Somaschini, E., Roncoroni, L., Papa, R., Mantero, M., Longhini., M., & Penati, G. (1996). Neurobiological and psychopharmacological basis in the therapy of bulimia and anorexia. *Progress in Neuropsychopharmacological and Biological Psychiatry, 20,* 207-240.

Mayer, L. E. S., & Walsh, B. T. (1998). The use of selective serotonin reuptake inhibitors in eating disorders. *Journal of Clinical Psychiatry, 59* (Suppl. 15), 28-34.

Mendelson, S. D. (2001). Treatment of anorexia neverso with tramadol. *American Journal of Psychiatry, 158,* 963-964.

Peterson, C. B., & Mitchell, J. E. (1999). Psychosocial and pharmacological treatment of eating disorders: A review of research findings. *Journal of Clinical Psychology, 55,* 685-697.

Ruggiero, G. M., Laini, V., Mauri, M. C., Ferrari, V. M. S., Clemente, A., Lugo, F., Mantero, M., Redaelli, G., Zappulli, D., & Cavagnini, F. (2001). A single blind comparison of amisulpride, fluoxetine and clomipramine in the treatment of restricting anorectics. *Progress in Neuro-Psychopharmacology and Biological Psychiatry, 25,* 1049-1059.

Schatzberg, A. F. (1995). Fluoxetine in the treatment of comorbid anxiety and depression. *Journal of Clinical Psychiatry Monograph, 13,* 2-12.

Smeraldi, E. (1998). Amisulpride versus fluoxetine in patients with dysthymia or major depression in partial remission: A double-blind, comparative study. *Journal of Affective Disorders, 48,* 47-56.

Strober, M., Freeman, R., DeAntonio, M., Lampert, C., & Diamond, J. (1997). Does adjunctive fluoxetine influence the post-hospital course of restrictor-type anorexia nervosa? A 24-month prospective, longitudinal follow-up and comparison with historical controls. *Psychopharmacology Bulletin, 33,* 425-431.

Strober, M., Pataki, C., Freeman R., & DeAntonio, M. (1999). No effect of adjunctive fluoxetine on eating behavior or weight phobia during the inpatient treatment of anorexia nervosa: An historical case-control study. *Journal of Child and Adolescent Psychopharmacology, 9,* 195-201.

Treasure, J., Collier, D., Arranz, M. J., Li, T., & Mupita, D. (1997). Authors' reply. *Lancet, 350,* 1034.

# Effects of Stress on Immune Function and Symptom Expression in Systemic Lupus Erythematosus

Kim A. Boswell
*University of San Diego*

*Systemic lupus erythematosus (SLE) is an autoimmune disease affecting connective tissues and vital organs of the body. Effects of psychological and physical stressors on SLE disease activity, immune function, and symptom exacerbation have been studied. Despite some inconsistencies, the majority of studies have found evidence supporting the connection between life stress, depression, anxiety, and an increased expression of symptoms in SLE. Immune function has also been shown to vary as well in SLE patients compared to normal populations. Previous research also indicates stress-induced changes are significantly blunted in patients with SLE. The current article examines these studies, their limitations, and possible future research.*

Systemic lupus erythematosus (SLE) is an autoimmune disease of the connective tissue that affects all parts and organs of the body. Researchers do not know the disease's etiology, nor completely understand its process. However, investigators believe that its process is a result of a combination of factors including genetic problems, hormonal levels, and environmental factors such as stress, toxins, light, certain drugs, and so forth. (Ravirajan & Isenberg, 2002).

SLE can affect anyone of any age but most commonly affects young women of childbearing age in addition to afflicting African-Americans more than any other ethnic group. Nearly 40-50 people out of 100,000 suffer from SLE and approximately 90% of this population are women (Systemic Lupus Erythematosus, 2002).

Autoimmune diseases, including SLE, are diseases caused by an anomaly of the immune system. The immune system of a person with SLE produces antibodies (autoantibodies) to their own healthy tissues and cells. These autoantibodies build up in the bloodstream, some of which form immune complexes, leading to inflammation of joints and other various parts of the body, as well as resulting in detrimental effects on the function and overall health of target organs and tissues (Ravirajan & Isenberg, 2002).

## Symptoms of SLE

The symptoms and severity of symptoms in Lupus can vary significantly among individuals and include swelling and pain in joints, rashes covering the face and upper torso, intense fatigue and unexplainable fever (Systemic Lupus Erythematosus, 2002). The variety and individuality of the disease contributes to the difficulty associated with diagnosing SLE. Many other symptoms can impact the central nervous system, kidneys, lungs, and blood including headaches, dizziness, swollen ankles, pleuritis/pneumonia, and anemia (Systemic Lupus Erythematosus, 2002). As stated previously, reaching an accurate diagnosis is difficult and time consuming. There is no current test to detect Lupus, though several tests can assist in a physician's determination of SLE.

Medical intervention can control Lupus, leading to periods of disease dormancy and physical well-being for the patient. However, there are also periods of disease activity, called flares, in which the patient usually experiences some of the previously stated symptoms. Treating physicians seek to promote and exploit those periods of well-being for as long as possible by controlling the disease with a variety of treatment options (Potter et al., 2002).

Treatment of Lupus is a patient dependent aspect of the disease, meaning each patient is treated based on the particular collection and severity of symptoms. An individual can have both a variety of physicians, each managing the particular symptom(s) related to their specialties, and a combination of drug therapies to help minimize the symptoms and control the disease. Drugs commonly used to treat Lupus include anti-inflammatories, corticosteriods, and immunosuppressant drugs. The drugs that aim to suppress the immune system decrease the body's tendency to attack itself but also greatly increase the risk of infection (Systemic Lupus Erythematosus, 2002).

Understanding the differences between healthy people and people with SLE includes looking at baseline levels of different immune system populations. Table 1 briefly explains each of the terms relevant to immune system function in patients with SLE. 'Leukocyte' is the term used to refer to the collection of all types of white blood cells, and lymphocytes are white blood cells

Sandra Sgoutas-Emch from the University of San Diego was the faculty sponsor for this research project.

specifically used by the body during an immune response. Mononuclear cells, or monocytes, are specific leukocytes that develop into macrophages, which are a type of phagocytic cell.

There are two main categories of lymphocytes in the body, namely, B-cells and T-cells. B-cells and T-cells both originate in the bone marrow, but the T-cells migrate to the thymus where they mature and differentiate into

Table 1
Related Terms for Immune System Function with SLE

Leukocytes: The term used to refer to all white blood cells. There are 5 main types of leucocytes including lymphocytes, B-cells, and T-cells.
Lymphocytes: A specific type of white blood cell that is essential to the body's immune system. Lymphocytes are primarily stored in the lymph nodes and are activated during the body's immune response.
Lymphopenia: A deficiency of lymphocytes; common in persons with Lupus and resulting in a suppressed immune system.
Th-1 Immunity: Also known as the cell-mediated response. This type of immunity helps the body to fight against intracellular pathogens, such as cancer cells, fungi, and parasites.
Th-2 Immunity: Also known as humoral immunity. In this response, B-cells are activated to help T-cells and antibodies to the antigen are produced. This type of immunity functions against free toxins, bacteria, or viruses within the body's humors.
B-Cells: A collection of cells that function to secrete antigen specific antibodies and help to stimulate T-cells. B-cells function in Th-2 immunity.
T-Cells: A term used to describe several subtypes of lymphocytes. T-cells are produced in the bone marrow and differentiate in the thymus during an immune response. T-cells are typically functional in Th-1 immunity.
CD-3+: A subtype of T-cells also effective and functional during the immune response.
Helper T-cells (CD-4+): A subtype of T-cells that recognizes the presence of foreign antigens resulting in the release of lymphokines that cause the proliferation of T-cells and B-cells.
Cytotoxic T-cells (CD-8+): Specific cells that function to kill infected cells.
Natural Killer Cells (NK Cells): Part of the body's immune response to cells that are infected with viral mRNA or other abnormal cells that have the potential to develop into cancerous cells. NK cells cause the infected cells membrane to lyse, effectively killing the cell.
T-Suppressor Cytotoxic Lymphocytes (Tsc Cells): These cells are crucial to the termination of the immune response once the antigen has been destroyed. Tsc cells suppress the function of other lymphocytes, concurrently maintaining their cytotoxicity.
Mononuclear Cells (Monocytes): Particular leucocytes that develop into macrophages.
Peripheral Blood Mononuclear Cells (PBMC's): Mononuclear cells that are found in the blood throughout the body.
Phagocytic Cell: Cells that engulf both damaged tissue during an inflammatory response as well as pathogens that pose a threat to the body's health. Macrophages are one example of a phagocytic cell.
Cytokines: Proteins in the body whose purpose is to stimulate the proliferation, growth and differentiation of lymphocytes. Lupus patients often show characteristic deficits in specific cytokines.
Interleukins: Proteins that are produced primarily by monocytes, macrophages, and other lymphocytes that help to regulate the immune response, especially in Th-1 immunity.
Interleukin 2 (IL-2): The specific interleukin that facilitates B-cell differentiation into plasma cells (which secrete antibodies) and T-cells in gaining their cytotoxicity.
Interleukin 6 (IL-6): IL-6 promotes T-cell proliferation and encourages B-cells to differentiate into plasma cells. IL-6 works antagonistically to IL-10.
Interleukin 10 (IL-10): The interleukin that suppresses T-cell differentiation, inhibits IL-2 secretion, thus, discouraging T-cells from acquiring their cytotoxicity and B-cells from differentiating into plasma cells.
Interferon _ (IFN- _): A T-cell derived cytokine that helps to regulate the immune response.
_ – Adrenoceptor: Adrenergic receptors, which respond to tropic hormones, and are located on PBMC's and stimulate the release of corticosteroids, especially cortisol.
Immunoglobulins: A term used to describe one of several classes of proteins that compose antibodies. There are 5 different types of immunoglobulins.

several subtypes including helper T-cells (CD-4+), cytotoxic T-cells (CD-8+), and T suppressor cytotoxic lymphocytes (Tsc cells). T-cells are active in the body's cell mediated response called Th-1 immunity, a type of immunity that fights against intracellular pathogens (i.e., cancer cells). CD-4+ cells activate B-cells to secrete antibodies or assist other T-cells that are responding to an antigen. CD-8+ cells are the specific cells that kill infected cells (Roitt & Delves, 2001). Tsc cells suppress the function of other cells while retaining their cytotoxicity. B-cells function in the body's humoral response (Th-2 immunity) by secreting antibodies specific to a single antigen or foreign invader. Cytokines are proteins that affect the proliferation, growth, differentiation and function of immune cells via induction or inhibition (Roitt & Delves, 2001). All of these play an important role in maintaining the body's health. People with SLE exhibit a few characteristic variations in the expression of certain lymphocyte and leukocyte subpopulations and cytokine levels as compared to these same measures of a healthy person.

Some other typically identified variations in persons with SLE include a consistently reduced level of _-adrenoceptors on peripheral blood mononuclear cells (PBMC) and decreased levels of specific cytokines including Interferon-_ (IFN-_), Interleukin-6 (IL-6), and Interleukin-10 (IL-10) (Pawlak et al., 1999). _-adrenoceptors are adrenergic receptors located on the surfaces of mononuclear blood cells that are circulated throughout the body. These receptors are specific to tropic hormones (i.e., epinephrine, norepinephrine, and adrenocorticotropic hormones), which in turn stimulate the release of two types of corticosteroids, mineralocorticoids and glucocorticoids (i.e., cortisol). Long-term release of cortisol by the body can result in immune system suppression (Roitt & Delves, 2001). IFN-_ is a type of cytokine that is derived from T-lymphocytes and acts in the regulation of the immune response. IL-6 and IL-10 work antagonistically with regard to each other. IL-6 promotes T-cell proliferation, and encourages B-cell differentiation into plasma cells, which produce antibodies. IL-10 inhibits T-cell proliferation, IL-2 secretion, and Th-1 differentiation.

Just as characteristic baseline levels of cytokines and immune receptors vary between healthy people and people with SLE, their responses to acute stress is also known to differ. Researchers know that acute stressors are induce several cytokine changes in both Lupus populations and healthy ones. However, as the data presented latter suggests, investigators may be unable to observe some of these characteristic changes, or such changes are significantly diminished in people with SLE. These altered changes include temporary increases in peripheral blood lymphocytes, with an especially marked increase in natural killer (NK) cell counts. NK cells function to bind to cells that contain viral mRNA and trigger apoptosis in the affected cell.

Observed variations in response to an acute stressor depend on the individual and can be influenced by a variety of factors. Researchers know that acute stress affects all people differently according to their ability to manage and respond to stress effectively using coping skills and their social support. Although studies with regard to coping skills and social support are not entirely consistent, the implication is that chronic disease may be positively affected when the patient possesses and uses active coping skills (McCracken, Semenchuk, & Goetsch, 1995) and has a wide network of social support. Ward et al. (1999) found that people with SLE who lacked the ability to share feelings with others, thus possibly lacking complete social support, were more likely to suffer from greater symptom expression.

The current article examines and summarizes studies that have explored the influences of various types of stressors on the immune reaction of patients with SLE compared to healthy controls. Psychological stressors have been the main area of focus in this type of research, but one study also examined the effects of a physical stressor on symptom expression in SLE. The physical stress studied was an acoustic stressor. Acoustic stressors are a type of physical stress specifically placed on the body's auditory senses in the form of loud music or noise. Later, I will summarize the findings as well as current beliefs and understandings.

## Psychological Stressors

Psychological stress is a form of stress that researchers can easily administered in a laboratory setting and therefore can examine its effects on immune function and overall symptom exacerbation in SLE. Pawlak et al. (1999) investigated the difference in stress responses among SLE patients and healthy controls. The experiment involved the use of a public speaking task to induce a stress related immune response in participants. Technicians drew blood immediately before, immediately after, and one hour after participants performed the task to evaluate the immune response over time. Investigators gathered subjective measures, consisting of self-reports obtained through the use of State Trait Anxiety Inventory (STAI) and the Center for Epidemiological Studies-Depression Scale (CES-D), as well as cardiovascular measures and several specific

immunological measures. Analysis of data revealed some statistically significant differences.

Both the control and experimental groups reported an increase in anxiety. Physiological measures showed both groups experienced marked, stress-induced increases in blood pressure and heart rate. The data reflected similar and equivalent increases in both groups for these measures, but also differences in several ways on the immune measures, reflecting the most important findings of this study. SLE patients demonstrated an increase in their NK cell counts as a result of stress exposure, but this increase was significantly less pronounced than that of the healthy controls. Researchers also concluded that statistically significant levels were reached with regard to the effect of stressors on the functional capacity of NK cells. The stressor increased NK cell activity levels in the controls, but not in the SLE group. _-adrenoceptors increased in the control group by 50% after exposure to the stress, but there was no change in the experimental group. Lastly, CD3+, CD4+, and CD8+ cell counts were significantly decreased in patients with SLE, but not in the control group after the stimulus was presented. CD3+, CD4+, and CD8+ cells all act to activate T cells in an immune response although they do so through different mechanisms. These findings are consistent with findings of other studies that reported both healthy controls and SLE patients were affected similarly with regard to cardiovascular measures, but differed significantly in lymphocyte populations, including NK cell function and _-adrenoceptors. (Jacobs et al. 2001) Pawlak et al. (1999) reported these findings as evidence that SLE patients have an aberrant regulation of immune function, specifically of their sympathetic immune response.

Jacobs et al. (2001) replicated and expanded the findings of Pawlak et al. (1999). Jacobs et al. used a virtually identical method to the Pawlak et al. study to compare the cytokine patterns of healthy controls to SLE patients. Investigators determined that all participants had active SLE in accordance with the SLE Disease Activity Index (SLEDAI).

(Jacobs et al, 2001) found several significant differences between the SLE patients and matched-healthy controls. The representative lymphopenia, meaning an abnormally low level of lymphocytes, was present in the SLE group accounting for the decreased counts of the lymphocyte subsets. However, changes in these lymphocyte subsets as a result of the stressor were significantly less pronounced in the SLE group. This result was consistent with the data obtained in the Pawlak et al. (1999) study. Also consistent with that study was the finding that the functional abilities of the NK cells were enhanced in the control group but not in the experimental group. This finding explains the decreased cytotoxicity in Lupus patients. The specific cytokines evaluated in this study included, IFN-_, IL-2, IL-4, IL-10, and IL-6. The functions of IL-2 is to induce B and T cell proliferation and enhance the cytotoxicity of NK cells in the destruction of tumor cells. IL-4 functions to promote Th-2 immunity by inhibiting Th-1 as well as to induce B and T cell proliferation. Not only did the healthy controls show triple the number of IFN-_ at baseline measurements as that of the SLE group, but they also displayed increases in the same cytokine levels when they were measured immediately following the stressor. The experimental group did not exhibit this increase.

No significant findings resulted from the measurements of the cytokines IL-2, IL-6, and IL-10. Specifically, there were no observable changes in IL-2 levels at any time point measured, nor were there differences observed between groups. The SLE group presented baseline concentrations of IL-6 that were approximately 60% that of the healthy controls and concentrations of IL-10 that were about 25% of healthy controls. Neither of these cytokines displayed stress-induced changes across groups. An interesting finding observed in the SLE group alone was that of a 100% increase in the Th2 immunity driven cytokine IL-4 as a result of the stressor. This increase returned to baseline by the one-hour evaluation period. Researchers recognize IL-4 as initiating the production of active B-cells. Researchers also know that this increase in active B-cells improves the secretion of antibodies or immunoglobulins. The authors believe that the low levels of IL-10 in conjunction with high levels of IL-4 in SLE patients after the stressor had been administered explain the aggravation and amplification of disease symptoms. The increase in IL-4 results in a larger immune response, resulting in an increase in disease activity. Low levels of IL-10, a cytokine that typically functions to suppress the immune response, would fail to prevent symptom exacerbation.

In another experimental study, Ward, Marx, and Barry (2002) investigated the changes in SLE symptom expression and disease exacerbation as related to psychological stress using self-report measures. Specifically, this study focused on the potential relationship between depressive symptoms and anxiety and the state of SLE, as well as how this relationship changed the course of the disease over time. Twenty-five original participants were involved although only 23 participants' data was reported in the article. The same physician assessed participants each time, every two weeks for 40 weeks. Each

assessment required the participant to complete a questionnaire that incorporated the CES-D and the STAI. Participants also answered questions regarding their current medications, symptomatology over the previous two weeks and gave a brief medical history. The physician performed a physical, scoring activity of the disease based on a global assessment. Using the information obtained through the physical, the doctor also used the Systemic Lupus Activity Measure (SLAM), the SLEDAI, and the European Consensus Lupus Activity Measure (ECLAM) all of which measure disease activity in different ways. Lastly, each participant underwent routine laboratory testing at each assessment.

After each meeting between the participant and physician, the data were analyzed. Researchers used participant's self-report measures in combination with the physician's evaluation in several different ways to determine if changes in SLE activity were related to changes in psychological state. The study noted that over the 40-week period participants underwent significant changes in their psychological distress levels. Changes in their psychological distress levels consisted of increases or decreases in either the CES-D or the STAI by more than 50% from baseline levels. Not only did patients experience dramatic disposition changes, but they also experienced substantial changes in their SLE activity as indicated by 19 patients who experienced greater than a 50% increase or decrease in any of the three physician rated scales, as compared to their baseline measures.

These results provide evidence that increases in SLE activity, as determined by the patient's global assessment, is significantly and simultaneously related to increases in the CES-D and STAI. Investigators reported that the SLAM was also significantly and simultaneously related with the CES-D and the STAI. These findings alone suggest that a patient's psychological distress levels may be strongly correlated with the expression of disease symptoms. A surprising finding was that the STAI was significantly, but negatively correlated to the SLEDAI. Researchers believe that this finding is because of responses to specific questions regarding depression on the SLAM scale. When these questions were removed, the significant effect was diminished. Depression and anxiety were not found to have a major relationship to the immediate change in disease activity (at least changes that were sustained for any period of time) nor were they found to predict future changes in SLE activity. Despite this finding, the physician's global assessments of their patient's disease mirrored the patient's reported psychological state, suggesting that even perceived stress levels can influence the expression of symptoms and therefore the course of the disease.

In study by Adams, Dammers, Saia, Brantley, and Gaydos (1994), which examined the relationship of stress, depression, and anxiety on the severity of symptoms, participants were mailed surveys that included the Life Experience Survey (LES), 56 Daily Stress Inventories (DSI), a Symptom History, and 56 Daily Symptom Checklists (DSC). The LES examines three types of life stressors, including the number of stressful events and both positive and negative weighting of those events. Researchers chose the negative weighting of events after examining a stepwise regression for each LES variable. They used the negative weighting of events measure in further analyses due because they found them to be the biggest predictor of symptom history.

Participants were instructed to fill out the DSI and DSC at the same time every day. On a weekly basis, the participants were to mail the surveys to the researchers. Investigators analyzed the surveys in several ways to determine if a correlation existed between current life stress and symptom exacerbation. The researchers also looked at differences between groups and individuals. The study found evidence connecting stress and self-reported symptom severity (Adams et al, 1994). Investigators examined both major and minor life stressors and found a positive correlation between stressors, as well as levels of depression and anxiety, and the severity of SLE symptoms. They reported positive correlations with stress for joint pain, rash, and abdominal distress symptoms. Researchers found no significant correlations between stress and kidney complications, respiratory or heart distress, and fever/body temperature changes.

Specifically, minor life stressors and depression were strongly linked to SLE symptoms. There was little fluctuation or variation in each participant's daily symptomatology, and researchers discovered no significant findings regarding symptom fluctuation. The within-subjects analysis, using a least-squares dummy variable, was performed to identify the relationship of variables over time for an individual participant. This analysis compared a participant's daily symptom variation to his/her own average symptom severity level. The within-subject analysis provided data inconsistent with the previously stated findings. These findings suggest a small subpopulation of participants may have a more reactive disease toward the negative effects of stress, depression, and anxiety, consequently intensifying symptoms of their disease. Analysis of the participants, whose disease may not

be as equally reactive, suggested that no correlation existed between symptom fluctuation and exposure to stress or feelings of depression and anxiety. Therefore, researchers believed that these participants were less affected by stressors and failed to demonstrate the increase in symptom expression as a result.

Although no correlation was found between stress, anxiety, depression, and symptom severity for some participants, the different levels of analysis provided generally consistent evidence and, therefore, are likely reliable findings supporting the hypothesis that SLE activity is affected by stress (major life stress, but particularly, minor life stress), depression, and anxiety.

The studies discussed thus far have examined the effects of purely psychological stress. The majority of the findings are relatively consistent and support the notion that psychological stress is related to symptom expression and exacerbation in SLE. In the following section, I will examine the effects of a physical stressor, in the form of acoustic stress, to determine how a different type of stressor might influence the immune response.

## Physical Stressors

Only one study (Hinrichsen, Barth, Ferstl, & Kirch,1989) examined the effects of acoustic stress on the immunological response of SLE patients. These researchers wanted to determine if a connection existed between immune reaction and the clinical course of the disease and administration of corticosteroid therapy. Physicians has previously diagnosed all patients using the American Rheumatology Association criteria. Of the 14 participants with SLE, 10 were considered to have moderately active SLE, and four were evaluated to have active grade SLE. Investigators selected a matched-control group. Blood was drawn immediately before and immediately after the presentation of the acoustic stimulus.

Researchers administered the stimulus as environmental noise on a tape cassette for three min during a 10 min period. The maximum volume of the noise reached 90dB. Blood analysis performed before the stressor was presented, once again demonstrated the characteristic variations common to SLE patients. These included within lymphocyte subset distributions displayed an increased B-cell count and lymphopenia. Post-stressor analysis showed the control and experimental groups both experienced an increase in leukocyte populations, but only the control group had an increased lymphocyte count. The increases in leukocyte populations, as well as the comparative B-cell and Tsc lymphocyte elevation were significantly less marked in SLE patients. Investigators concluded that the effect of the acoustic stimulus influenced the immune response in both controls and patients but affected the patients more dramatically. Researchers determined that no dependence existed between immune reaction and the clinical course of the disease and the dispensation of corticosteroid therapy (Hinirchsen et al., 1989). There is no clear explanation for why a difference existed, slight as it was, between the immune response of people with Lupus and people in the control group when investigators presented various acute stressors, nor did the researchers hypothesize about the differences.

## Conclusions

In summary, both the correlational and experimental studies reviewed suggest a link, whether simply a relationship or a true effect, between stress and exacerbation of symptoms in SLE. Current studies have limitations, and future investigations about the effects of stress on symptom expression in SLE should address those limitations.

Studies that were done before the creation of such sensitive and accurate immune measurement devices provide inconsistent data, creating some uncertainty about precision of measuring immune system changes. Several studies discussed in this review used correlational analysis of self-report measures, which prevented establishing causal relationships. Moreover each study presented in this article used somewhat small sample sizes. Obtaining a sufficiently large sample of SLE patients, who meet all established qualifications in hopes of eliminating as many confounds as possible, is very difficult.

More specific limitations apply to each study. Previous research in conjunction with the studies presented in this article show inconsistent results with respect to the _-adrenoceptor counts on PBMC's. Considering the effects of stressors on NK cell function, the possibility that NK cells of SLE patients may come from a different source (compared to healthy controls) in which the function is attenuated or otherwise altered in some way remains a possibility.

However, as evidence accumulates from additional studies, the view that a connection exists between stress and SLE symptoms becomes clearer. We need more research to continue this path of investigation and to resolve questions stemming from limitations in the existing research. Such studies should not only re-evaluate previous studies, but they should also incorporate more sensitive immune system measures to detect significant

effects that have gone unnoticed. Studies should also investigate the possible link between physical stressors and their influence on the increase of symptoms in SLE (Wallace, 1987). We also need a continuation of investigations into the effects of decreased _-adrenoceptors and overall counts of NK cells in SLE patients, and specifically, how these differences result in altered immune responses to stress. Another study might examine differences when researchers teach coping skills and given support to respond and manage stress more effectively to members of one group, while they do not provide such techniques to members of a comparison group. Results from such a study could help further establish a relationship between effective coping and SLE symptom expression.

SLE is a difficult disease with which to live with. A large portion of this difficulty results from the individuality of the disease and how little researchers and practitioners understand its causes and management. Thus far studies have supported the hypothesis that various types of stress can influence and increase a patient symptoms. The findings summarized throughout this article suggest the importance of minimizing stress and increasing the use of coping skills in patients with SLE.

## References

Adams, S. G., Jr., Dammers, P. M., Saia, T. L., Brantley P. J., & Gaydos, G. R. (1994). Stress, depression, and anxiety predict average symptom severity and daily symptom fluctuation in systemic lupus erythematosus. *Journal of Behavioral Medicine, 17,* 459-477.

Hinrichsen, H., Barth, J., Ferstl, R., & Kirch,W. (1989). Changes of immunoregulatory cells induced by acoustic stress in patients with systemic lupus erythematosus, sarcoidosis, and in healthy controls. *European Journal of Clinical Investigation, 19,* 372-377.

Jacobs, R., Pawlak, C. R., Mikeska, E., Meyer-Olson, D., Martin, M., Heijnen, C. J., Schedlowski, M., & Schmidt, R. E. (2001). Systemic lupus erythematosus and rheumatoid arthritis patients differ from healthy controls in their cytokine pattern after stress exposure. *Rheumatology, 40,* 868-875.

McCracken, L. M., Semenchuk, E. M., & Goetsch, V. L. (1995). Cross-sectional and longitudinal analyses of coping responses and health status in persons with systemic lupus erythematosus. *Behavioral Medicine, 20,* 179-187.

Pawlak, C. R., Jacobs, R., Mikeska, E., Ochsmann, S., Lombardi, M. S., Kavelaars, A., Heijnen, C. J., Schmidt, R. E., & Schedlowski, M. (1999). Patients with systemic lupus erythematosus differ from healthy controls in their immunological response to acute psychological stress. *Brain, Behavior, and Immunity, 13,* 287-302.

Potter, K. N., Mockridge, C. I., Rahman, A., Buchan, S., Hamblin, T., Davidson, B., Isenberg, D. A., & Stevenson, F. K. (2002). Disturbances in peripheral blood B cell subpopulations in autoimmune patients. *Lupus, 11,* 872-877.

Ravirajan, C. T., & Isenberg, D. A. (2002). Transgenic models of tolerance and autoimmunity: with special reference to systemic lupus erythematosus. *Lupus, 11,* 843-849.

Roitt, I. M., & Delves, P. J. 2001. *Roitt's essential immunology (*10th ed.). Blackwell Science, Inc.: Malden, MA.

Systemic Lupus Erythematosus (10/15/2002). *Review of Optometry, 139,* 55-57. http://www.revoptom.com/-index.asp?show=archive&issue=10_2002&year_range=2002

Wallace, D. (1987). The role of stresses and trauma in rheumatoid arthritis and systemic lupus erythematosus. *Seminars in Arthritis and Rheumatism, 16,* 153-157.

Ward, M. M., Lotstein, D. S., Bush, T. M., Lambert, R. E., van Vollenhoven, R., & Neuwelt, C. M. (1999). Psychosocial correlates of morbidity in women with systemic lupus erythematosus. *Journal of Rheumatology, 26,* 2153-2158.

Ward, M. M., Marx, A. S., & Barry, N. N. (2002). Psychological distress and changes in the activity of systemic lupus erythematosus. *Rheumatology, 41,* 184-188.

# Special Features

Richard L. Miller

*University of Nebraska at Kearney*

*In this volume, the Special Features section provides a forum for three types of essays that should be of considerable interest to students and faculty. As in past volumes, students have presented research that supports opposing positions about a controversial issue. Students have also written psychological analyses about popular drama.*

*Controversial Issues*

*Views expressed about controversial issues do not necessarily represent the authors' views. Anna Carroll and Drew Powell discuss the merits of sexual predator laws. Isabelle Cherney and her colleagues examine the development of gender from a nature-nurture perspective following their attendance at the Nobel Conference at Gustavus Adolphus College.*

*Psychological Analyses – Dramatic*

*KristiLynn Volkenant argues that the character, Prot, in the movie* K-PAX *displays symptoms of dissociative fugue. However the movie's writer allows for an interpretation in which Prot is an alien from a planaet in which everyone is born knowing the difference between right and wrong. Tiffany Mousel uses the movie,* Seven, *to distinguish how violence in the name of religion reflects aggression versus sincere devotion.* The English Patient *provides a context for Julie Malone to document acute stress disorder and describe conditions that can promote recovery. Amy Halbur assesses whether the character, Helen Hudson, in* Copycat *illustrates panic disorder with agroaphobia or post traumatic stress disorder. Using the film,* A Clockwork Orange, *Jason Houston asserts that the behavior of three characters illustrates how the movie's protagonist, Alex, uses groupthink to direct his followers to engage in violently distruptive behavior.*

*Note:* There are a variety of issues that students can address for the next issues of the *Journal*'s Special Features sections. At the end of this issue (pp. 69-71), you can read about three topical issues; Evaluating Controversial Issues, Conducting Psycho-logical Analyses—Dramatic, and Conducting Psychological Analyses—Current Events.

## Controversial Issues

### Sexual Predator Statutes: A Legal Abuse Lacking Firm Psychological Foundation

Anna K. Carroll

*Creighton University*

Sex offenders are not ideal American citizens, and they have few advocates for their civil rights. However, when the rights of a group are disproportionately violated to such extremes as with sex offenders, someone must be willing to take an unpopular stand. The so-called "sexual predator" statutes have created controversy since their inception (Jacquette, 2000). Much of the resulting debate stems from two main premises: the punitive and biased nature of such laws and the lack of effectiveness in identifying and treating these offenders. The first premise is best studied by comparing the confinement of sexual predators to that of individuals during routine civil commitment. Although sexual predator statutes give the appearance of being a form of civil commitment, they are frequently not rehabilitative, thus only serving a punitive function and consequently contradicting the general purpose of civil commitment (Jacquette). Authorities have characterized the second premise for complaint by the lack of accuracy in psychological techniques that attempt to predict recidivism and rehabilitate sex offenders. Empirical studies question psychologists' ability to identify sex offenders who are sexual predators and whether professionals can treat them effectively (Turner, 1996). Thus, without highly accurate methods to identify and treat at-risk sexual offenders, the sexual predator statutes allow the legal system to use psychology as a guise to contain these offenders punitively.

Authorities first used civil commitment in the mid-1800's, and its creation allowed states to place mentally

Richard Miller is editor of the *Journal*'s Special Features section.

ill persons in institutions if they posed a danger to themselves or others (Bartol & Bartol, 1994). Civil commitment is still used, and its current goal is to rehabilitate the mentally ill and protect the individual and society while acting in the best interest of the individual (Bartol & Bartol). The recently created sexual predator statutes, a form of civil commitment, however, function more as method to punish and restrain sex offenders. The Washington State Legislature first created these statutes in 1990. Under the statute, authorities civilly committed sex offenders immediately following the termination of their prison sentences. The Washington statute defined a sexually violent predator as a person who has (a) been convicted of or charged with a sexually violent crime, (b) suffers from a mental abnormality or a personality disorder, (c) that makes the person likely to engage in predatory acts of sexual violence in the future (Jacquette, 2000). A very similar form of the Washington statute can be found in dozens of other states (Wrightsman, Greene, Nietzel, & Fortune, 2002).

Because of the highly predatory and heinous nature of sexual crimes, society often invokes a prejudicial mentality when dealing with sexual offenders. When the severity of the punishment does not appear to match the immorality of the crime, society feels the need to enforce further moral justice. Acting out of appall and personal fear, the strong emotional response leads to pushes for additional punishment (Morse, 2003). Unfortunately, when society bases its push for additional control on moral resentment and fear, it creates injustice by purposefully violating the defined legal system because of strong emotional responses. This injustice is indicative of the first major problem with the sexual predator statutes—the laws serve a punitive rather than rehabilitative purpose.

Such a push for additional punishment for sexual offenders is prevalent in the very design and creation of the sexual predator statutes. A task force consisting primarily of victim advocates and victims' family members, a partisan group, originally created the Washington statute (Jacquette, 2000). The resulting emotionally charged task force used discrepancies in the wording of the eventual law that qualified as many sex offenders as possible. In particular, the use of the term mental abnormality indicates the intention of the statutes. In earlier drafts, the law used the term mentally ill in qualifying sex offenders; however, the task force found that some of the target group was not mentally ill. Consequently, the qualifying term was changed to mental abnormality. This term is not a psychologically recognized term, but advocates created it only for the purpose of the statute. However, its creation allowed the statute to encompass a broader range of sex offenders, further facilitating the statute's punitive goal (Jacquette).

The use of the statute as a means for additional and punitive control becomes more obvious when evaluating the obvious discrepancies between civil commitment and the sexual predator statutes. The intention of the sexual predator statutes was to resemble civil commitment statutes, having the same goals and methods of implementation (Jacquette, 2000). A primary difference between the two is the confinement requirements for each form of commitment. Normally, authorities can hold a civilly committed individual for 180 days without a new legal hearing (Bartol & Bartol, 1994) at which time, the state holds the burden of proof to keep the individual confined. However, committed sex offenders can remain indefinitely in a facility without a hearing. When a judge grants a hearing, the burden of proof is on the offender to prove he is rehabilitated (Jacquette).

In addition, there is a significantly higher release threshold for sexual offenders than for those facing civil commitment. A civilly committed person must prove that he or she is stable, functioning, and in control of the mental illness, but a sex offender must prove those conditions and that he or she is at a low risk for recidivating. This requirement is a difficult because of the lack of mitigating factors found within the confines of a facility. Because past history is one of the best predictors psychologists have identified for future sexual violence (Marshall, 1999), the offender will inevitably be at a "higher risk" for recidivism despite any actual psychological change. The negative effect of this practice is evident in the release rate of sex offenders from confinement, namely that most sex offenders are never discharged. In fact, Minnesota and Washington, the states with the longest history of sex offender commitment programs, had not released a single offender 10 years after the passage of the law (Janus, 2000). The statutes thus exert social control over sexual offenders by making release from commitment difficult at best.

A second flawed premise of the sexual predator statutes stems from the use of psychological techniques that have little empirical support. A major component to the commitment decision is the psychological assessment of risk for future violence. Yet research has show that psychologists are largely ineffective at predicting which sex offenders will recidivate (Turner, 1996). Although a variety of instruments are available for assessing such risk, they rely heavily on a key risk factor for predicting recidivism, namely, past offenses. Therefore even though the individual has completed his or her punishment for

the committed crime, he or she is punished again for the same crime by being civilly committed indefinitely. Additionally, current psychological risk assessment instruments are far from infallible. Two commonly used actuarial instruments, the Static-99 and the Guided Clinical Risk Assessments, only moderately correlate with sexual offender recidivism, .33 and .23 respectively (as cited in Campbell, 2003). The result is that sex offenders are further punished for actions based on moderately applicable risk assessment instruments and his or her past offenses—offenses for which they have already served the maximum prison time.Despite the problems associated with risk prediction, psychologist must use that information to make a decision—an obvious ethical issue—that will dramatically effect a human life. As Campbell (2003) states, “Any psychologist undertaking such an evaluation must rely on assessments of very limited accuracy. Psychologists who nonetheless attempt these evaluations assume a level of expertise that far exceeds the available data” (p. 277).

The key problem with such assessments is their innate unreliability. Though some studies have suggested that actuarial predictions are superior to clinical predictions, evaluations of risk is flawed (Elbogen, 2002). Unfortunately, the nature of the risk assessment often forces the psychologist to evaluate beyond any actuarial decision that may have been reached, toward clinical decisions that increase the inaccuracy of the ultimate decision (Wrightsman et al., 2002). Additionally, studies show that psychologists are much more likely to make these decisions clinically, without all of the necessary information for an actuarial or statistically driven decision (Elbogen, Mercado, Tomkins, & Scalora, 2001).

Flawed psychological techniques are also inherent in another important aspect of sex offender confinement, that of treatment. Similar to civil commitment, the stated goal of sex offender commitment is rehabilitation, but discrepancies in the effectiveness and availability of treatment for these offenders indicates that these goals were loftily.

There are many available treatments for sex offenders, ranging from therapy, often in the form of cognitive and behavioral training, to the use of pharmacological methods of chemical castration. Unfortunately, there is evidence that facilities offer little or no treatment at all (Jacquette, 2000). Reviews have found that the majority of facilities servicing commitment programs fall short of constitutional and statute requirements in the areas of outpatient programs, treatment, and staffing (La Fond, 2003).

Even if professionals afford such treatment to sex offenders, evidence indicates that treatment for offenders is often ineffective (Marshall, 1999). Thus, although treatment is needed for release, treatments do not allow offenders to be easily rehabilitated and released. Unfortunately as Janus (2000) pointed out, “So long as danger and mental disorder predicates are satisfied, states may commit individuals for whom no effective treatment exists” (p. 16). Without effective treatment and rehabilitation, the commitment of sexual offenders is nothing more than society’s attempt to further the punishment of a sexual offender.

The punitive nature of sexual offender commitment and the use of psychological techniques in implementing these laws are two main problems that highlight the faulty premises of the sexual predator statutes. Set up under public demand, the statutes seek a more partisan goal than civil commitment. Inconsistencies with civil commitment proceedings, uncertainty in predicting future violence, and inadequate treatment for sexual offenders, all indicate that sexual predator statutes are not meant to facilitate rehabilitation and release. Set up under the guise of civil commitment, which works in the best interest of the mentally ill, the statutes instead work to indeterminately confine sex offenders. By unfairly confining these individuals on the basis of a biased statute and using faulty psychological techniques to facilitate this confinement, sexual predator statutes become primarily punitive in nature, depriving sex offenders of any legal rights afforded to other American citizen. In accepting sexual predator statutes, society condones social backlash against the legal system under the pretext of psychological definitions and treatments, an obvious legal abuse.

## References

Bartol, C. R., & Bartol, A. M. (1994). *Psychology and law: Research and application* (2nd ed). Pacific Grove, CA: Brooks/Cole..

Campbell, T. W. (2003). Sex offenders and actuarial risk assessments: Ethical considerations. *Behavioral Sciences and the Law, 21,* 269-279.

Elbogen, E. B. (2002). The process of violence risk assessment: A review of descriptive research. *Aggression and Violent Behavior, 7,* 591-604

Elbogen, E. B., Mercado, C., Tomkins, A. J., & Scalora, M. J. (2001). Clinical practice and violence risk assessment: Availability of MacArthur risk cues in psychiatric settings. In D. P. Farrington, C. R. Hollin, & M. McMurran (Eds)., *Sex and violence: The psychology of crime and risk assess*ment (pp. 38-55).

London: Routledge.
Jacquette, B. (2000). Sexual predator law: A pendulum swung too far. *Trauma, Violence & Abuse, 1,* 94-98.
Janus, E. S. (2000). Sexual predator commitment laws: Lessons for law and the behavioral sciences. *Behavioral Sciences and the Law, 18,* 5-21.
La Fond, J. Q. (2003). Outpatient commitment's next frontier: Sexual predators. *Psychology, Public Policy, and Law, 9,* 159-182.
Marshall, W. L. (1999). Diagnosing and treating sexual offenders. In A. K. Hess & I. B. Weiner (Eds)., T*he handbook of forensic psychology* (2nd ed.) (pp. 640-670). New York: John Wiley & Sons.
Morse, S. J. (2003). Bad or mad?: Sex offenders and social control. In B. J. Winick & J. Q. La Fond (Eds)., *Protecting society from sexually dangerous offenders: Law, justice, and ther*apy (pp. 165-182). Washington, DC: American Psychological Association.
Turner, L. S. (1996). Sex offender statutes: Society's need for protection versus an individual's constitutional rights. *Law and Psychology Review, 20,* 263-274.
Wrightsman, L. S., Greene, E., Nietzel, M. T., & Fortune, W. H. (2002). *Psychology and the legal system.* Belmont, CA: Wadsworth Publishing.

---

# Sexual Predator Laws Are Legally and Clinically Justified

Drew R. Powell

*Creighton University*

As a society, we face important decisions regarding the treatment of mentally disordered individuals who are deemed dangerous and likely to commit sexual offenses. We have legal as well as ethical obligations to care for them. Mentally ill individuals, who have also proven themselves dangerous, need to be committed civilly to mental heath facilities for the protection of society and themselves. Civil commitment is not used to punish the individuals, but rather it is a legal way to provide them with the rehabilitation they desperately need to function properly in society. This article seeks to explain that sexual predator laws, a form of civil commitment, are not only legally and morally justified but that psychology has progressed so that we can assist the legal system in reaching its decisions.

Civil commitment via sexual predator statutes is another measure used by the courts to protect society from sexual predators with mental abnormalities. In 1997, the United States Supreme Court (Kansas v. Hendricks) rendered a 5 to 4 decision confirming that Kansas' sexual predators laws were constitutional (Wakefield & Underwager, 1998). Once the Supreme Court decision was handed down, other states revised their sexual predator laws. These laws call for civil commitment of offenders who are at an especially high risk to re-offend even after they have served their criminal sentence. All sexual predator laws mandate a comprehensive evaluation and a risk assessment of the accused offender prior to his or her conviction to determine his or her level of risk to re-offend if released (La Fond, 2000).

Since the beginning, there have been objections to the use of civil commitment for sexual predators. These objections have focused on such legal conflicts as double jeopardy, which state that someone cannot be punished twice for the same crime, and ex post-facto laws. The Supreme Court ruled in Kansas v. Hendricks (1997) that these predator laws violate neither of the above objections. Kansas v. Hendricks also agreed that the basis for civil commitment proceedings rests in two legal theories, police power and *parens patriae.* Police power is typically the basis for incarcerating citizens to prevent future violence. Authorities justify civil commitment on the basis of *parens patriae,* the power to protect people who cannot protect themselves (e.g., mentally ill, physically disabled, and children).

Courts call upon psychologists to perform comprehensive evaluations and risk assessments to determine the appropriateness of civil commitment for patients in either case. Furthermore, sexual predator laws focus on a small group of sex offenders—the most dangerous sex offenders (Janus, 2000). This condition supports the use of selective incapacitation. The basis for selective incapacitation is the premise that professionals can identify the most dangerous offenders and that sexual violence will decrease if offenders are detained (Janus). Mental health clinicians are educated, trained, and qualified to identify dangerous individuals by assessing the potential for future violence (i.e., risk assessment). Clinicians must adopt a predictive-preventive approach and identify at-risk individuals. By identifying the most at-risk individuals, we can prevent future harmful acts (La Fond, 2000).

Scholars generally separate risk assessment into two different approaches—clinical and actuarial (Wakefield & Underwager, 1998). Clinical decisions are based on an individual's experience, training, and general clinical

impressions. Actuarial assessments are systematic and quantified, often based on statistical procedures and probability statements.

Psychological practice has progressed so that psychologists cannot rely solely on clinical interviews to make accurate predictions (Wakefield & Underwage). Professionals need to include other systematic factors in making prediction to avoid personal biases that could arise if they use only a clinical interview. By more closely adhering to the results of empirical research, there is a significantly reduced chance of judging persons based solely on their past or the personal experiences of the clinician (Wakefield & Underwager, 1998). Over time, clinicians have improved their assessment of sexual offender recidivism above chance level predictions by keeping their assessments largely focused on actuarial methods. Almost all of the past criticisms of violence predictions, not actuarial predictions, or more commonly called risk assessment, are based on the use of clinical predictions, not actuarial predictions.

Risk assessment of sexual violence has improved upon predictions of general violence by identifying risk factors associated with sexual violence specifically. These factors are typically either static or dynamic. Static factors are past events or characteristics that cannot be changed, such as age, offense history, and childhood events. These factors are very reliable because they are fixed and, therefore, cannot fluctuate. Dynamic factors are characteristics that are changeable, such as criminal attitudes and treatment progression. Professional can determine both dynamic and static factors during a clinical interview or the administration of objective psychological tests and ultimately actuarial risk assessments.

Practitioners have used objective methods of psychological assessment for many years, and their accuracy levels continue to increase dramatically. In 1991, Hare developed one such measure, the Psychopathy Checklist-Revised (PCL-R), which is a 20-item symptoms rating scale for psychopathy (Wakefield & Underwager, 1998). The PCL-R has continued to demonstrate significant utility in predicting future violence across divergent populations (Wakefield & Underwager, 1998). An assessment of psychopathy is necessary but not sufficient in almost any risk assessment, including assessing the dangerousness of sexual predators. Investigators have found psychopathy to be the most robust predictor of future violence. Nonetheless, the PCL-R is a diagnostic tool because psychopathy is not an actuarial measure of risk.

There are actuarial methods specific to sexual violence. For instance, the Rapid Risk Assessment for Sexual Offender Recidivism (RRASOR), contains several easily scored items. These items include prior sexual offenses, extra familial victims, male victims, and the offender's age being less than 25 years (Wakefield & Underwager, 1998). The RRASOR has demonstrated moderate predictive accuracy ($r$ = .27) and shown some utility as a screening device for sexual recidivism (Wakefield & Underwager, 1998). Another actuarial measure of sexual violence is the Minnesota Sex Offender Screening Tool (MnSOST), which researchers developed specifically in response to Minnesota's sexual predator laws. This method of assessment helps identify sexual predators and determine if they will recidivate. The authors of the MnSOST claim a significant improvement over chance and identify the MnSOST as one of the most accurate measures of sexual violence risk (Wakefield & Underwager, 1998).

Not only are mental health professionals involved in assessing the level of risk sexual predators pose, but also, once a sexual predator has been civilly committed, clinicians need to determine the best form of treatment for each individual. Prison-based treatment is effective when clinicians use the relapse prevention model. The aim of this model is to train offenders how to stop undesired behavior, along with maintaining abstinence from sexual offending (Launay, 2001). This model is most effective when it coincides with cognitive-behavioral therapy. However, research indicates that the most effective treatment setting is non-prison-based, which is why a civil commitment setting is ideal to treat sexual offenders (Polizzi, MacKenzie, & Hickman, 1999).

Cognitive-Behavioral Therapy (CBT) is increasingly becoming the treatment of choice for sexual offenders (Wood, Grossman, & Fichtner, 2000). CBT helps the offenders realize that there is a problem within them and provides ways to eliminate the internal sexual problems. More specifically, CBT emphasizes internal events, such as perceptions, thoughts, fantasies, feelings, urges, values, and beliefs. Then CBT posits that these events happen prior to the offense and that offenders can reliably change and control those internal events (Wood, Grossman, & Fichtner, 2000).

Practitioners correct the problems within offenders by pairing unpleasant stimuli with an unobserved deviant fantasy. By constantly treating offenders, mental health professionals can identify the cognitive and affective precursors to sexual violence (Wood, Grossman, & Fichtner, 2000). Offenders who undergo CBT show significantly fewer signs of risk of sexual recidivism. Hall (1995) con-

ducted a meta-analysis of recent sex offender treatments and found that effective treatments—cognitive-behavioral and hormonal—reduced recidivism by approximately 30% (Wood, Grossman, & Fichtner, 2000).

Few people would disagree that sexual predators are a serious danger to society. A way to alleviate that danger is by identifying them and treating those who suffer from a mental illness that could result in repeated sexual deviance. Civilly committing individuals who fit this criterion is morally just because it is our duty as a civilized society. Once sexual offenders have been rehabilitated, the courts have stated that each offender will be released to become, once again, a productive member of society (Janus, 2000). Because research clearly demonstrates that psychologists have the ability to predict and treat sexual offenders, sexual predator statutes are legally, clinically, and morally justified.

## References

Janus, E. S. (2000). Sexual predator commitment laws: Lessons for law and the behavioral sciences. *Behavioral Sciences and the Law, 18,* 5-21.

La Fond, J. Q. (2000). The future of involvement civil commitment in the U.S.A. after *Kansas v. Hendricks. Behavioral Sciences and the Law, 18,* 153-167.

Launay, G. (2001). Relapse prevention with sex offenders: Practice, theory, and research. *Criminal Behavior and Mental Health, 11,* 38-54.

Polizzi, D. M., MacKenzie, D. L., & Hickman, L. J. (1999). What works in adult sex offender treatment? A review of prison- and non-prison-based treatment programs. *International Journal of Offender Therapy and Comparative Criminology, 43,* 357-374.

*Kansas v. Hendricks* (1997). 521 U.S. 346; 117 S. Ct. 2072.

Wakefield, H., & Underwager, R. (1998). Assessing violent recidivism in sexual offenders. *IPT Journal, 10.* Retrieved from http://www.ipt-forensics.com/-journal/volume10/j10_6.htm

Wood, R. M., Grossman, L. S., & Fichtner, C. G. (2000). Psychological assessment, treatment, and outcome with sex offenders. *Behavioral Sciences and the Law, 18,* 23-41.

# The Nature of Nurture and Gender

Isabelle D. Cherney, Erika Lawrence,

Karin Leak, Anna Carroll, Jeff Kalar,

Nicole Neff, Amanda Stein, and Jamie Voss

*Creighton University*

During the fall semester 2002, senior psychology majors from Creighton University attended the first four presentations at the Nobel Conference held at Gustavus Adolphus College in St. Peter, Minnesota. The conference's topic was "The Nature of Nurture," and it provided an informative forum to address a fundamental question the students encountered in their honors course on the psychology of gender. Why are we the way we are?

The course's instructor asked students to reflect on several questions related to individual differences and the role of gender. In particular, questions included: What are some of the specific factors that contribute to the development of "gender" and what are some of the specific factors that contribute to the development of "sex"? How do those factors interact to produce behavior? Which side of the nature/nurture debate is "winning the argument" and why? What speaker(s) persuaded students in one way or the other? What were the arguments that swayed them the most? Which scientific findings contributed to their opinion? Why? What new questions have arisen? What are the big challenges in this field of study? This article presents a summary of the students' observations.

On the two day trip, the seniors heard presentations given by Kandel (2002) on "Genes, Synapses, and Long-Term Memory," by Kagan (2002) on "The Tapestry Woven by Biology and Experience," by Plomin (2002) on "Nature and Nurture: Genetic and Environmental Influences on Behavioral Development," and by Maccoby (2002) on "The Nature of Children and Their Nurture by Parents."

Overall, the speakers contended that both nature and nurture are important in human development; however, the scientists differed in the weights they attached to the contributions of either one of them to development. According to Plomin (2002), the age-old debate between nature and nurture seems to have changed from a predominantly dichotomous issue to an interactive one. That is, the question seems to have evolved from which one,

nature or nurture, is more influential to how they interact to affect development. Of the four speakers that the seniors heard, Kagan (2002) and Plomin (2002) showed evidence for the significance of nature in development, whereas Maccoby (2002) spoke about the importance of nurture in human development. Kandel (2002) presented a talk on the interaction between nature and nurture and how it affects learning and memory.

The first speaker was Nobel laureate Eric Kandel (2002). His research focuses on biological factors of learning and memory. His work with sea slugs *(Aplysia)* and memory showed that learning modulates the strength of specific neural connections. When the slugs' nervous systems were increasingly sensitized (i.e., increased behavioral response following exposure to a threatening stimulus) through repeated electrical shocks, they had a heightened response to other stimuli. A mild touch anywhere on their body caused the slugs to withdraw their gills. This response was possible because of the alterations in the functioning of the synapses that lead to habituation and sensitization. For learning to occur, new protein must be synthesized. His research demonstrated that the environment could give rise to an alteration of the individual genetic expressions, so that different life experiences can lead to the modifications of behavior. Thus, the environment contributes to the protein synthesis that "turns on" certain genes. He contended that learning could only occur by the consistent interaction between nature and nurture.

The second speaker, Jerome Kagan (2002) emphasized the importance of nature on behavior. He stated that genetic programming serves as scaffolding and experience fills in the rest. In other words, our genes give us biological potential, and our surroundings, experiences, and social factors determine how we express that potential. He asserted that during the early years of life, biology (maturation) is the primary force in development and environment is the secondary force. According to Kagan, the early development is determined by a careful plan governed by genes. These genetic effects extend over time in the form of maturation, which is universal, biological, and contributes to the basic brain architecture. On the other hand, environment explains why humans differ in their value systems, their vocabulary, or their emotions. He argued that individual differences in behavior are all subject to biological constraints. If the brain has not matured, it is unable to express and learn new behaviors. Furthermore, Kagan explained how temperamental differences could be traced to differences in the brain's neurochemistry.

Robert Plomin (2002) presented another nature-oriented viewpoint. He used twin and adoption studies to demonstrate the influence of nature and nurture on differences in height and weight, the incidence of mental illnesses, IQ, verbal and spatial reasoning, as well as processing speed. To illustrate the importance of biology, he presented evidence from his behavioral genetics studies to show that almost two thirds of the differences in height and weight are because of genes, whereas the environment accounts for only one third of the difference. He discussed the issue of heritability, the proportion of variation among individuals that can be attributed to genes. This genetic variance is estimated based on studies of twins and adoption studies. Plomin also showed that mental illness might be more heritable than medical disorders because of the complexity of the brain and genes. As examples he pointed out that the concordance of monozygotic twins for autism is 60% and for reading disabilities about 70%.

Plomin also explained the differences between nonshared and shared environments. A nonshared environment is one in which the environment makes individuals in a family different from one another. In contrast, a shared environment is one that makes family members similar to one another. Why are children raised in the same household so different? According to Plomin, one explanation is that the lives of siblings diverge in their nonshared environments. Behavioral genetics studies seem to indicate that it is the nonshared environment that accounts for most of environmental influences in one's life. Plomin emphasized that children tend to modify, select, and construct their experiences in part on the basis of their genetic propensities.

In contrast to Plomin's behavioral genetics view, Maccoby (2002) focused on the importance of the environment during development. She claimed that biology and environment are not merely additive, but rather interactive. According to Maccoby, the equation: "Heredity + Environment = 100%" is missing a crucial link—the interaction between the two. The environment is necessary to trigger individuals' genes. For example, height, a predominantly biological trait, can be changed through environmental pressures. Whereas Plomin (2002) remarked that nutrition (e.g., diet) has only a minimal influence on height, Maccoby argued that it can have a much more profound impact. She cited a study that found Japanese children, who lived in the United States, are taller than Japanese children who lived in Japan, even though the children shared the same genetic background. Clearly, the difference in nutrition (environment) is having an effect on height despite similarities in the genes.

Maccoby further disagreed with Plomin on the contributions of shared and nonshared environments on behavior. She contended that the two concepts were indistinguishable in many ways. For example, despite growing up in the same family, siblings are typically exposed to different environments (e.g., friends) and they often show different responses to divorce. According to Maccoby, these examples illustrate how it is difficult to separate environmental influences into shared and nonshared spheres. Ultimately, the interaction between various environmental factors and genes determines who we become.

At the beginning of the semester and as part of the honors seminar, the instructor asked students to reflect on the development of gender roles. At that time, the class was split in terms of the weight they were assigned to the relative influence of nature and nurture on development. About half the students believed that nature predominantly molded gender development and about half believed that the environment predominantly influenced gender development. After attending the Nobel conference, the instructor posed the same question to the students. The students thought that all of the speakers were persuasive, and some of them changed their preconceived notions about the nature of nurture and gender.

One student commented that an individual's genetic propensities will affect how he or she interacts with the environment. At the same time, the effects on an individual's environment and his or her experiences define how his or her biological potential will be expressed. Nature and nurture concurrently influence one another in what may be seen as a continuous dialogue, establishing together which traits are expressed.

Another student confessed that, before the conference, she thought that nature only provided a blueprint and that nurture built upon it. However, the presentations provided her with another insight. Although nature provides the foundation, both nature and nurture continuously interact to build personality characteristics and influence beliefs, thoughts, and actions. After attending the Nobel conference, her views had changed to include the interaction of nature and nurture working together as a dynamic and changing force on a person. In other words, she found Maccoby's (2002) argument that it is important to include the interaction term in the nature/nurture equation very convincing.

Other students' opinions did not change. For example, one student contended that genes do seem to lay the groundwork to human behavior, but that the environment still plays a significant role in the development of behavior and gender roles. Overall, after the trip, the majority of students leaned toward the nature side of the equation (i.e., they believed that, in many instances, genes may contribute more to behavior than previously thought). Plomin (2002), according to a majority of the students, had convinced them of the importance of behavioral genetics. In the end, they all commented how they had underestimated the contributions of the interaction between environment and genes to the development of gender.

The seniors also commented on the specific factors that may contribute to the development of "gender" and the specific factors that may contribute to the development of "sex." Gender refers to the social categories of men and women, and sex refers to the biological categories of men and women, (i.e., genes, chromosomes, and hormones). The social categories of gender are distinguished from one another by a set of psychological features and role attributes that society has assigned to the biological category of sex (Helgeson, 2002).

Students commented that, after attending the 2002 Nobel Conference, assuming that gender role was solely a function of environmental or biological factors seemed too simplistic. Gender role then refers to the expectations that go along with being a man versus a woman. Gender must have both a biological component that sets the foundations of development and an environmental component that strengthen or weaken certain neural pathways. As Rayls (2002) wrote: "People select, modify, and create environments correlated with their genetic propensities" (p. 125). This interaction demonstrates why biology and environment cannot be separated with respect to the development of gender.

However, as Maccoby (2002) cautioned, without environmental factors interacting with biology, there is little if any development. She focused on the importance of the home environment for development, citing several studies that showed that differential parenting styles could affect IQ scores, even with adopted children. Plomin's (2002) behavioral genetics arguments convinced the majority of students of the importance of genes in development and in the development of gender roles. Propensities for boys to seek out physical activities, to play outdoors, to be more aggressive, and to play with different types of toys than girls can more easily be explained using a biological than an environmental argument.

Despite the different emphases that Plomin and Maccoby presented, both acknowledged the similarities

between their viewpoints. Even though they may have contended that nature (Plomin) or nurture (Maccoby) was a more important contributing factor to certain aspects of personality, they agreed on many issues regarding development. They agreed that nature's influence can be modified by nurture, and that nurture can be influenced by genetic factors. The quest is to find out how nature and nurture interact to determine who we become. Some of their differences were highlighted, but overall, their views converged in many areas. As Kagan (2002) stated, the human mind likes variation. We tend to focus on differences even though they only account for .01% of humanity.

In sum, the consensus among the speakers was that they all agreed that biology is at the base of development, behavior, and differences but that the environment acts upon these biological factors both externally (e.g., socialization) and internally (e.g., predispositions) to produce the small percentage of difference among human behavior. Possibly this conference raised more questions than it answered. However, it showed a new direction for the nature/nurture discussion. The real debate has shifted from a mere understanding of nature and nurture to the examination of how much of human behavior is because of nature, how much is because of nurture, and, more importantly, how much is because of the interaction between the two. The Nobel Conference was very helpful in stimulating new insights and explanations into the areas of nature and nurture and their implication for gender research.

## References

Helgeson, V. S. (2002). *The psychology of gender.* Upper Saddle River, NJ: Prentice Hall.

Kagan, J. (2002, October). The tapestry woven by biology and experience. In R. Martin (Chair), *The nature of nurture.* Symposium conducted at the Nobel Conference, St. Peter, MN.

Kandel, E. R. (2002, October). Genes, synapses, and long term memory. In R. Martin (Chair), *The nature of nurture.* Symposium conducted at the Nobel Conference, St. Peter, MN.

Maccoby, E. E. (2002, October). The nature of children and their nurture by parents. In R. Martin (Chair), *The nature of nurture.* Symposium conducted at the Nobel Conference, St. Peter, MN.

Plomin, R. (2002, October). Nature and nurture: Genetic and environmental influences on behavioral development. In R. Martin (Chair), *The nature of nurture.* Symposium conducted at the Nobel Conference, St. Peter, MN.

Rayls, A. J. S. (2002, August). Through the looking glass. *Minnesota Monthly,* 114-119.

# Psychological Analyses – Dramatic

## Prot: Dissociative Fugue or Alien in the Movie. *K-PAX*

KristiLynn R. Volkenant

*Creighton University*

In the motion picture, *K-PAX* (Gordon & Softley, 2001), a man, who said his name was Prot, appeared mysteriously at the train station, and police mistakenly arrested him as a purse-snatcher. Prot claimed to be from the planet K-PAX, where there were no families, no marriage, and everyone raised children collectively. On K-PAX there were also no laws and no lawyers because everyone in the universe was born knowing the difference between right and wrong. Prot had no memory of a life in any place other than on the plant K-PAX, even though he appeared completely human and was very intelligent.

Through hypnotic regression, Prot's psychiatrist, Dr. Mark Powell, was able to learn some facts about Prot's past and what put him in his current mental state. The psychiatrist eventually determined that Prot was Robert Porter, a man from New Mexico, who came home to find his wife and daughter had been murdered.

A diagnosis for Prot could be dissociative fugue, which Comer (2001) defines as a dissociative disorder in which a person travels to a new location and may assume a new identity, simultaneously forgetting his or her past. Coons (1999) notes that although episodic or autobiographical memory is severely affected by dissociative fugue, procedural memory is often left unaffected. Prot remembered how to interact with children and pushed them on a swing, but he could recall any memories of a past life. According to the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (2000), there are four essential diagnostic criteria for dissociative fugue. The first criterion is sudden, unexpected travel away from home with amnesia or the inability to recall one's past. Assuming Prot was Robert Porter, he traveled from New Mexico to New York City, and he had no memory of who he was, other

than his assumed identity of Prot; Prot meets criterion number one.

Prot was Robert Porter's new identity, and the name, Prot, looked and sounded similar to his former last name. He believed he had been Prot all his life and only after being hypnotized numerous times and shown a picture of Robert Porter was he willing to admit that he could be that man. This assumption of a new identity and the inability to recall one's old personal identity is the second diagnostic criterion.

The third criterion for diagnosing dissociative fugue is that the patient's loss of identity must not occur exclusively within dissociative identity disorder, and there must not be a physical cause or drug-related. Patients with dissociative identity disorder typically go back and forth between personalities; Prot believed he was only Prot and not anybody else. Clinicians in the motion picture ruled out physical or drug causes by administering drug and other tests on his brain and body. They found no physical reason, such as head trauma that would cause delusions. Prot also tested negative for any type of drug, therefore ruling out a drug or medically induced psychosis.

As with most psychological disorders, there must be significant distress or impairment in social, occupational, or other important areas of functioning. These conditions are the final criterion according to the *DSM-IV-TR* (2000). Prot did not display any distress over his situation. He was perfectly happy believing he was from the planet K-PAX because the culture of K-PAX, with no families and no need for laws, made suffering any sort of hurt inflicted by another human virtually impossible. He did, however, have significant social and occupational impairment. A prospective employer would not hire a person who believed he was from another planet about which nothing was known. Directly related to that point, very few people, outside of a mental institution, would want to befriend someone who believed he or she was from another planet, especially one that had completely different values and beliefs than this world. He did make many friends on the psychiatric ward, but most of them just wanted to go with Prot when he left for K-PAX because they believed the place existed, and they wanted to escape their current situation.

Besides the four diagnostic criteria, there is usually a stressful, traumatic event that initiates a fugue, and Prot had experienced such an event in his life. Dr. Powell discovered that Prot really was Robert Porter, a man who came home from work one day to find that his wife had been raped and killed and that his six-year-old daughter had been murdered. Additionally, the man who committed the crimes was still in the house, and Robert Porter killed the intruder with his bare hands by breaking the man's neck. Robert Porter tried to commit suicide by jumping into a rushing river.

Coons (1999) reports that most dissociative fugues happen during the interval from 20 to 40 years of age. Prot was in his mid-thirties, which placed Prot in the average age range. Coons (1999) also states that fugues have been associated not only with war and natural disasters but also severe marital distress, depression, and avoidance of responsibility. Prot's loss of his wife could have produced severe distress, and he may have been avoiding responsibility for killing a man with his bare hands.

Prior to learning about Prot's past, the doctors who treated him at the Manhattan Psychiatric Institute were puzzled. At first they suspected he was schizophrenic, and they tried treating him with Haldol. The previous hospital in which he had been a patient had given him Thorazine. The drugs were completely unsuccessful. Over time, Dr. Powell detected clues, such as the way Prot naturally interacted with children and his intense fear of a sprinkler. Dr. Powell believed the only way to help Prot was to hypnotize him and regress him five years to see what he had pushed into his unconscious. During the hypnotic session, Prot told Dr. Powell about a friend who called him to talk whenever he needed help in times of stress. Prot held fast to the belief that he was from K-PAX, and his friend jumped into a river and tried to kill himself. From this and other information revealed by Prot, Dr. Powell determined that Prot was really Robert Porter and that he was simply distancing himself from his memories to protect himself from the horror and stress of the trauma.

The writer of *K-PAX* left it up to each viewer to decide if the planet K-PAX really existed and if Prot were an alien. By the end, Prot was in a catatonic state, and Bess, a fellow patient, was missing from the hospital, presumably gone to K-PAX. In this article, however, I have argued for a psychological diagnosis of dissociative fugue for Prot, which makes him Robert Porter. Prot possesses all the diagnostic criteria for this diagnosis: he traveled from New Mexico to New York City and had no memory of who he was; he assumed the new identity of Prot, alien from the planet K-PAX; his problem was not attributed to dissociative identity disorder or any physiological problem; and he suffered from social and occupational distress. Prot also suffered from a very stressful

and traumatic event, the murder of his wife and daughter, which might have precipitated the fugue.

## References

American Psychiatric Association. (2000). Di*agnostic and statistical manual of mental disorders* (text revision). Washington, DC: Author.

Comer, R. J. (2001). *Abnormal psychology* (4th ed.). New York: Worth.

Coons, P. M. (1999). Psychogenic or dissociative fugue: A clinical investigation of five cases. *Psychological Reports, 84,* 881-886.

Gordon, L. (Producer) & Softley, I. (Director). (2001). *K-PAX* [Motion Picture]. United States: Universal Studios.

---

# Mental Illness or Fundamentalism in *Seven*

Tiffany Mousel

*Nebraska Wesleyan University*

The movie, *Seven* (Fincher, Kopelson, & Carlyle, 1995) depicts a man who simply seems to be a brutal killer. The motivation behind the man's brutal acts appeared to be mental illness. A closer examination of this individual, however, suggests his motivation was religious. Going one step further, viewers could interpret the killer's incentive as an underlying mindset of fundamentalism, rather than religious beliefs or mental illness. In the context of recent acts of terrorism in our country and around the world, does *Seven* lead to a deeper understanding of the motivations behind such behavior? *Seven* can help us understand terrorists who claim religion as a basis for their destructive acts. The movie suggests that the content of religious belief is not the culprit but rather the underlying mindset with which people approach religious belief that distinguishes aggressive from constructive devotion.

The psychological thriller depicts two detectives on the trail of a vicious serial killer. Methodical, exacting, and grotesquely creative, the killer planned each murder to the finest detail. As the detectives closed in, he patiently waited for the final confrontation, determined to complete his bloody masterpiece of terror.

As the plot of *Seven* unfolds, Detective Somerset discovered that the killer was following a pattern of events. The man, who committed the murders selected his victims based on their adherence to the seven deadly sins. Detective Somerset explained how, according to the *Historical Dictionary of Catholicism* (Collinge, 1997), there are seven deadly sins, and seven cardinal virtues. The sins include: gluttony, greed, sloth, envy, wrath, pride, and lust. The sins and virtues were and are teaching tools for preaching and punishment in the Catholic catechism. Somerset pointed out that if someone committed one of these sins, his or her soul could obtain forgiveness through contrition or atonement for his or her sin.

To the young and less experienced detective, Detective Mills, hard evidence, such as crime photos of disgusting homicides, pointed a finger at a psychotic killer. The young detective expressed the frustrations of dealing with a person who displayed mental illness of a severe nature and exclaimed:

> This man is totally insane, independent, wealthy, and well educated. He is a freak, a psycho! His dog made me do it, the voices told me to do it, Jody Foster told me to do it. Hell, who knows what he would say (Fincher, Kopelson, & Carlyle, 1995).

Detective Mills believed that the killer was simply mentally ill; however, Detective Somerset agreed with a psychologist of religion, arguing that this killer was not mentally ill, but driven by an underlying mindset of fundamentalism.

I will examine fundamentalism in the context of authoritarianism. According to Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950), authoritarianism refers to an individual's rigid mindset and is associated with his or her need to submit to authority on political and economic matters. This type of submission is human rather than divine in origin. I contend that submission to human authority can also to be applied to religion. Altemeyer and Hunsberger (as cited in Paloutzian, 1996) used this notion of submission and developed the idea of conforming to a divine authority, as well as a human authority. This application of authoritarianism to submission to a religious authority is part of fundamentalism. Altemeyer and Hunsberger (as cited in Paloutzian) reported supporting evidence for that view by citing a moderate correlation between authoritarianism and fundamentalism. This implication of this correlation helps to explain fundamentalism as an underlying mindset that is neutral to religious content and applies equally to Christians, Muslims, and followers of other religions.

Altemeyer and Hunsberger (as cited in Paloutzian,

1996) claimed that fundamentalism assesses the dogmatic mindset rather than the content of belief. In other words, fundamentalism is not the actual content of religious beliefs but rather an underlying religiosity with which a person approaches religious beliefs. This mindset has four characteristics. First, fundamentalism includes one set of religious teachings that clearly contains the fundamental, basic, and inerrant truth about humanity and deity. Secondly, fundamentalists' believe that this truth is unchanging and an influence of early thought that has been passed down through generations. Fundamentalism is also characterized by the belief that there is evil in the world and that evil opposes the one idea that holds true for a fundamentalist. The fundamentalist believes this evil must be fought. Finally, fundamentalists' underlying mindset includes the belief that those who follow one truth will have a divine being's special favor; therefore, the divine being opposes those who do not follow the one truth.

Applying these characteristics to the movie, *Seven*, how the murderer may have been driven by a fundamental mindset becomes evident. The killer in the movie was, in his own mind, submitting to a divine power. When confronted about his brutal killings of innocent victims by Detective Mills, he replied, "I didn't choose, I was chosen…I am simply an instrument." The powerfulness of his submission led him plan and carry out the murder of seven people. The killer's mindset also included a belief that the seven deadly sins and seven cardinal virtues should dictate who deserved to live and die. This set of religious teachings clearly contains fundamental and basic truths about humanity and deity, the first characteristic described by Altemeyer and Hunsberger (as cited in Paloutzian, 1996). Mounce (1978) aids in explaining a further characteristic of fundamentalism. He points out that fundamentalism contains a truth that believers must follow according to the unchangeable practices of the past. The killer's belief is unchanging in that the ancient Christian church, based on Greek philosophy, developed the seven sins and virtues.

The final characteristic of fundamentalism is that forces of evil opposed the truth and that believers and followers of these teachings hare a special relationship with the deity. In this case, the killer believed that people who committed one of the seven deadly sins should be destroyed because they were a force of evil against the truth. The killer's mindset also included the idea that God favored those who lived by the seven sins and virtues. In the end of the movie, the killer believed that even he must die because he had committed the sin of envy.

The concept of fundamentalism helps viewers of *Seven* understand how an individual, who appears to be mentally ill, can be motivated by another force—underlying religious belief. Throughout history, acts of terrorism have devastated countries and left families and communities traumatized. Most people view terrorists as individuals who display outrageous acts of abnormal behavior. There is some comfort to assume that abnormal behavior or mental illness drives individuals to perform acts of rage and violence. There is difficulty viewing terrorist's motivations as religious, because people usually view religion as a system that provides comfort and salvation, especially following events such as September 11th. *Seven* provides an explanation for how terrorists can claim religion as a basis for their destructive acts. The content of their religious beliefs is not the cause of their destructive behavior. Instead, the fundamentalists' underlying mindset with which they embrace their religious beliefs can lead them to perform acts of terrorism.

## References

Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. (1950). *The authoritarian personality*. New York: Harper.

Collinge, W. J. (Ed.). (1997). *Historical dictionary of Catholicism.* Lanham, MD: Scarecrow

Fincher, D. (Director), Kopelson, A., & Carlyle, P. (Producers). (1996). *Seven* [Motion Picture]. United States: New Line Productions, Inc.

Mounce, R. H. (1978). Seven deadly sins. In E. R. Harrison, G. W. Bromiley, & C. F. H. Henry (Eds.), *Baker's dictionary of theology* (p. 483). Grand Rapids, MI: Baker Book House.

Paloutzian, R. (1996). *Invitation to the psychology of religion* (2nd ed.). Needham Heights, MA: Simon & Schuster.

---

# Acute Stress Disorder in the Film *The English Patient*

Julie M. Melone

*Creighton University*

*The English Patient* (Zaentz, & Minghella, 1996) portrays a wonderful mosaic of characters who struggle to cope with life and death during World War II. In the turbulent setting of the movie, there are scenes of both love and beauty intertwined with the traumatic experiences associated with war. The combat trauma that the

characters suffer sets the stage for mental disorders such as stress disorder, drug abuse, and depression. The focus for this analysis is on the character Hannah, who suffers from acute stress disorder. Hannah is a French Canadian nurse who struggles to find meaning and happiness in life amidst the uncontrollable death and suffering of World War II. After the deaths of her boyfriend and a close friend, Hannah retreats to an Italian monastery to care for a patient who has a dark past of his own. The friendship that Hannah forms with the patient and the development of a new love interest help her recovery.

## Trauma and Dissociation

As a nurse, Hannah saw the destruction of war through many combat-mangled patients. However the prominent trauma she experienced was the loss of loved ones. The first loss Hannah suffered was the loss of her boyfriend, Captain McGun. Hannah did not witness the death but learned about it from a dying soldier, who saw the Captain die the day before. The news of her love's death traumatized her as illustrated by her immediate dissociation.

Hannah's dissociation was the intense and trance-like altered state associated with acute stress disorder. After Hannah learned about McGun's death, a bombing raid hit the medical tents. Instead of taking cover as everyone else, she remained standing for a short time. She was disoriented and was not startled as the bombs exploded around her. A doctor grabbed her and pulled her to the ground at which time she recovered from her dissociated state and started to cry and sob, "He's dead. He's dead."

Shortly after the first trauma, Hannah experienced a brief moment of happiness when she lent her close friend, Jan, money to buy lace and joked about sewing clothes for her. However, seconds after Jan's jeep pulled ahead of her's, Hannah heard the explosion of Jan's jeep as it hit a landmine. Hannah sprinted toward the remains of her friend, and someone in the unit restrained her. Hannah could only helplessly look at the horrific site of her dead friend.

Later that afternoon, Hannah dissociated and walked through the minefield, despite numerous unheard warnings by others, to pick up a bracelet of Jan's. She finally realized the immediate danger, and one of the members of the bomb unit escorted her to safety. Hannah later met one of these two men, and he recognized her, but she did not know him because of her dissociated state at their first meeting. A further illustration of dissociation occurs when Hannah explained that she "felt like a child who can't keep her balance."

## Additional Symptoms

In addition to meeting the necessary criteria for trauma and dissociation, Hannah displayed many other symptoms required to diagnose acute stress disorder. According to the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (text revision) (2000), these symptoms include avoiding reminders of the traumatic event, re-experiencing the trauma, emotional numbness, and physical arousal symptoms.

### *Avoidance*

After Jan's death, Hannah avoided discussing Jan's death with those in her unit. When friends tried to offer their condolences, Hannah did not acknowledge their comments, but responded by talking about an unrelated subject. For example, her superior officer told her "This [Hannah's response] is normal. It's shock—for all of us." Hannah replied by saying she needed morphine for a patient.

Hannah's avoidance continued, as she chose to stay behind with the English patient in a deserted monastery. Her plan was to return to her unit once the patient died, but while she waited for that to happen, she successfully avoided her friends and the war environment. Moreover, Hannah stopped wearing her military uniform and started wearing civilian clothes. Finally, caring for this patient was a situation that gave Hannah a sense of stability and control. Hannah knew that this patient would die and that she could competently care for him until his death.

### *Emotional Numbness*

The best example of Hannah's emotional numbness occurred when Kip, part of the bomb unit, discovered a bomb with a trip wire hidden in the piano she was playing. After Kip showed Hannah the bomb that could have killed her if she had played a certain key, she simply shrugged her shoulders, while others in her situation would have reacted with horror. Kip informed Hannah that there were probably numerous mines throughout the monastery, but she did not leave. In fact she calmly told the English patient, "He [Kip] thinks I'm mad because I laugh at him." These examples of Hannah's emotional numbness further reinforced a diagnosis of acute stress disorder. In addition Hannah's emotional numbness was a way she coped with her lack of control over the deaths of her loved ones.

### *Re-experiencing the trauma*

Hannah re-experienced trauma through recollections. There were scenes of her sobbing deeply at night when alone. In these scenes, Hannah mourned the death of her loved ones as well as the meaningless of her life. She felt that she had no control over her life and that unexpected disasters would plague her throughout her life.

### *Physical Arousal*

Hannah had two symptoms that fit the category of physical arousal. First, Hannah displayed irritability. She became irritated with those in her unit who tried to console her. She also was irritated when her superior officer expressed discontent with her plan to stay behind in the monastery. Additionally, she became angered when another visitor, David, brought her eggs from her friend Mary. She assumed that Mary was meddling in her affairs and then aggressively told David that she did not need to be looked after. Second, she had trouble sleeping. For example, there was a beautiful scene that showed Hannah playing hopscotch late at night under a bright moon. She played hopscotch because it was an activity she controlled completely, unlike the recent events of her life, and the game was associated with happy carefree childhood moments.

### *Treatment*

Hannah's main ally for recovery was the social support (Comer, 2001) she established with her patient and Kip. Hannah knew that her patient had suffered from the war and suspected that he had lost loved ones. She hoped his experiences would help put her losses into perspective. The friendship that developed seemed to help them both through this transition period in their lives. The English patient requested that Hannah inject him with enough morphine to kill him. Hannah complied with the patient's wish, which symbolized that life was not completely out of her control. The patient's death also helped her accept death as a part of life. Secondly, Hannah's interest and subsequent love affair with Kip seemed to help her find enjoyment in life. Their relationship began with a casual friendship and became more intense.

There was also a behavioral element to Hannah's recovery in the form of exposure therapy (Comer, 2001). The morning after Hannah and Kip made love for the first time, Kip and his team had to disarm a bomb. Hannah begged Kip not to go and became horribly afraid that another loved one would be taken from her. She rode her bicycle to find Kip, discovered the war was over, and Kip was still alive. The exposure therapy dispelled her belief that she was a curse to those who loved her.

Finally, time was therapeutic for Hannah. The events and symptoms she exhibited took place within a month. Therefore, a diagnosis of acute stress disorder was more appropriate than a diagnosis of posttraumatic stress disorder, which lasts longer than a month (DSM-IV-TR, 2000). Before the month ended, Hannah came to terms with her loss, her future, war, and life. Furthermore her relationships with those around her and the end of the war helped her not to develop into posttraumatic stress disorder or depression.

## Discussion

*The English Patient* provides an excellent case study of acute stress disorder. At the beginning of the movie, the viewer saw a young nurse, Hannah, suffer terrible trauma. As a result of repeated exposure to trauma, symptoms such as dissociation, avoidance, emotional numbing, distressing recollection, and physical arousal developed. With the help of the English patient and Kip, Hannah's process of coming to terms with trauma was well under way within a month. Hannah, like so many other victims of war, showed the powerful resilience of the human spirit.

## References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington DC: Author.

Comer, R. J. (2001). *Abnormal psychology.* New York: Worth.

Zaentz, S. (Producer), & Minghella, A. (Director). (1996). *The English patient* [Motion picture]. United States: Miramax.

# A Criminal Psychologist's Struggle: Panic Disorder with Agoraphobia in *Copycat*

Amy Halbur

*Creighton University*

"George Washington, John Quincy Adams, Andrew Jackson, Martin VanBuren…" are not words taken from a middle school social studies class; these names are the chant of a traumatized woman who suffers from panic disorder with agoraphobia in the movie *Copycat* (Milchan, Tarlov, and Amiel, 1998). In the movie, Dr. Helen Hudson, a prominent forensic psychologist played by Sigourney Weaver, developed an anxiety disorder after experiencing a horrifying attack on her life. Throughout the film, Dr. Hudson displays a variety of symptoms of panic disorder with agoraphobia, primarily in the form of panic attacks and fear of leaving her apartment.

Daryll Lee Cullem, a serial killer, violently attacked Dr. Helen Hudson, a renowned expert on criminal psychology, while she was giving a public lecture. Surviving physically, Dr. Hudson had not overcome the psychological effects 13 months later, and she continued to suffer from panic disorder with agoraphobia. To maintain connection with the outside world, this intelligent woman relied on her computer network and assistant Andy. Although she recognized the disabling nature of her condition, Helen's fears and recurrent panic attacks kept her from leaving her apartment. A string of serial murders in the area eventually brought the talented psychologist into contact with Inspector M. J. Monahan, played by Holly Hunter.

Plotting in his cell, Cullem contacted a man named Peter Foley. Dr. Hudson was the last victim in Foley's horrific quest for fame. To save her life and that of Inspector Monahan, Helen had to summon the strength to overcome her agoraphobia and apply her skills to challenge both her attacker and her worst fears.

Dr. Hudson displayed recurrent panic attacks during the film. Authorities define panic attacks as "periodic, discrete bouts of panic that occur suddenly, reach a peak within 10 minutes, and gradually pass" (Comer, 2001, p.155). According to the American Psychiatric Assocation's *Diagnostic and Statistical Manual of Mental Disorders,* (2002), at least four of the following symptoms must be present to merit a diagnosis of panic attack: palpitations of the heart, sweating, trembling or shaking, shortness of breath, feeling of choking, chest discomfort, nausea, dizziness, derealization, fear of losing control, fear of dying, paresthesias, and chills or hot flashes.

Helen's struggle to retrieve a newspaper from her apartment hallway illustrated many of these symptoms. When forced to venture into the apartment hallway, Dr. Hudson was overcome by a panic attack. Unable to reach the paper, she attempted to snag it with a broom. When that attempt failed, she became noticeably upset and began to recite the presidents' names in an attempt to calm herself. As she completely flattened herself against the wall in an attempt to gain comfort from the concrete substance, the symptoms of panic attacks appeared. Beginning with dizziness and blurred vision, she was also overcome with shaking. Helen's breath shortened, and there were indications of an increase in her heart rate. After she rapidly snatched the paper, she immediately ran through the door and began to recover. The entire episode did not last more than 10 min.

Another instance of a panic attack shown in *Copycat* was during Inspector Monahan's first visit with Helen. During the police visit, Helen was disturbed when the officers entered her home because she was not accustomed to visitors. She took pills to calm herself, most likely antianxiolytics such as Xanax, and had a brandy. When shown photographs of the crime scenes, Dr. Hudson became overwhelmed by their presence and a panic attack ensued. She dropped her glass and yelled for Andy. Helen breathed rapidly into a brown bag as an accelerated heart rate, trembling, and dizziness accompanied her shortness of breath.

Although Dr. Hudson clearly suffered from panic attacks, this reaction was not a codable disorder according to *DSM-IV-TR* guidelines. She also suffered from agoraphobia, which leads to a diagnosis of panic disorder with agoraphobia. The diagnostic criteria for this disorder include both recurrent, unexpected panic attacks, as previously discussed, and at least one panic attack followed by one month or more of persistent concern about additional attacks, concern about implications and consequences of attacks, or a significant behavior change. In addition, the diagnosis requires that the physiological effects of a substance or medical condition do not cause the panic attacks, and that agoraphobia must be present (*DSM-IV-TR*).

Necessary symptoms for a diagnosis of agoraphobia include "anxiety about being in places or situations from which escape might be difficult (or embarrassing), or in which help may not be available…" (*DSM-IV-TR*, p. 433). Other required criteria include an avoidance of situations that produce anxiety, and that the anxiety is not better explained by the criteria of another mental disorder. The fears that Helen experienced, from strangers entering her apartment to simply venturing into the hallway not five feet from her door, demonstrate her extreme anxiety. She confined herself to her apartment for 13 months to avoid such anxiety, well over the one month regarded necessary for diagnosis of panic disorder with agoraphobia.

Helen kept her life extremely structured and restricted to ensure against threats to her safety. Her concept of what was safe, though, was isolation from the world outside her apartment. Helen regularly displayed anxiety when confronted with the need to leave her apartment. When Cullem broke in and endangered her life, she could not overcome her anxiety and forced herself to escape. Even in much less threatening situations, such as the retrieval of the newspaper, Helen displayed her fear of social situations. Refusing to venture outside her door, Helen also displayed anxiety when she felt others were invading her privacy, such as her panic attack during Inspector Monahan's first visit.

Because the onset of Helen's disorder was a traumatic attack on her life, thoroughness requires a consideration of a diagnosis of posttraumatic stress disorder. Whereas the period between her attack and the 13 months of isolation were not described in *Copycat*, there was a period when such a diagnosis would have been more suitable. Under the present circumstances, though, the prevalence of her avoidance of the outside world and recurrent panic attacks indicate that she was suffering from panic disorder with agoraphobia. There are ample signs that Dr. Hudson's disorder caused dysfunction in her life, socially, emotionally and occupationally. Her only contacts with the outside world were Andy and her computers. Helen was not able to develop support systems or leave her home to attend social functions. She was suffering profoundly from the emotional turmoil caused by Cullem's attack. Agoraphobia prevents her from practicing in the field, which is something that she shows interest in through her calls to the police concerning the murders.

As a gifted psychologist, Dr. Hudson was aware that her condition was disabling, but she was caught in the negative reward cycle of gaining reduction in anxiety through avoidance. In terms of treatment, the film showed evidence of Helen taking medication, receiving support from her relationship with Andy, and using distraction techniques, such as the listing of presidents. These approaches are not sufficient, though. One highly regarded treatment method that Helen could have attempted was in-vivo systematic desensitization. This form of therapy would consist of gradual exposure to situations listed in a fear hierarchy, while applying relaxation techniques, to end the negative reward cycle (Comer, 2001). Therapy also needs to address the underlying issues that stem from the traumatic experience.

Dr. Hudson did not have the opportunity to attempt these treatments because of circumstances in the film. Instead, she was forced to confront her worst fears to save her life. In a behavioral treatment method termed flooding, practitioners expose clients to anxiety causing situations without a gradual buildup of tolerance or any instruction in relaxation (Comer, 2001). Although Dr. Hudson discussed her feared situations through her involvement with the police and conversation with Daryll Lee, she was not yet prepared to leave her apartment. This reluctance was evident in her failed attempt to escape by leaving her apartment after the serial killer's entry. Helen was forced into Foley's replication of the situation that elicits her greatest fears—Cullem's attack in the lecture hall bathroom.

Fortunately, Helen was able to calm her anxiety and outwit Peter Foley. Even after escaping from the bathroom where he had tied her to the ceiling, she struggled to make herself walk onto the roof. She began to show symptoms of a panic attack, but she tried to exit the building once more and was able to step out of the stairwell. After Inspector Monahan shot Foley, Helen took a breath, kicked his gun away, and was able to walk back toward the stairs, leaving her worst fears behind her.

This flooding experience clearly had a great impact on Helen's condition. She successfully overcame another threat to her life and faced almost the exact situation responsible for the onset of her disorder. Dr. Hudson will need to continue to work through the effects of her traumas and to return to the outside world. After living within the walls of her apartment for 13 months, while suffering from panic disorder with agoraphobia and surviving two attempted murders, Dr. Helen Hudson was on the road to recovery. Her experiences were not easy, but this resilient woman should no longer need to call on George Washington and John Quincy Adams to calm herself.

## References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (text revision). Washington DC: Author.

Comer, R. J. (2001). *Abnormal psychology* (4th ed.). New York: Worth.

Milchan, A. (Producer), Tarlov, M. (Producer) and Amiel, J. (Director). (1998). *Copycat* [Videotape]. United States: Warner Bros.


---

# *A Clockwork Orange*: Symptoms of Groupthink


Jason Houston

*University of Nebraska at Kearney*


In the movie, *A Clockwork Or*ange (Kubrick, 1971) Alex the protagonist and narrator navigates the audience through a psychological roadmap of the changes that occur throughout his immoral life. Alex pretended to be a proper child during the day so that his parents would not know the deviant things he did at night. At night, he put on a mask and his other self shined through. Alex organized a following (the Droogs) and groupthink was a prevalent factor that explained how he maintained his hold on the group, while encouraging everyone's feelings of invincibility.

Groupthink, by definition, is "the mode of thinking that persons engage in when concurrence-seeking becomes so dominant in a cohesive in-group that it tends to override realistic appraisal of alternative courses of action" (Janis, 1971, p. 43). The principles of groupthink that Alex used included an illusion of invulnerability, unquestioned belief in the group's morality, rationalization, stereotyped view of the opponent, conformity pressure, self-censorship, illusion of unanimity, and mindguards. By using the principles of groupthink, Alex and the group perceived that the group was indestructible.

## *A Clockwork Orange*

The plot of the movie revolves around a young Alex and his violent quest for pleasure and power. Alex began each nightly ritual with a quick trip to the "Milk Bar," where he and his friends ingested illicit chemical substances that they believed sharpen their inner attitudes towards violence. They traveled from setting to setting, beating, raping, and stealing the innocence, wealth, and safety of the townsfolk. They believed the world and all of its objects were there for the group's taking. After raping and murdering a middle-aged woman in front of her husband, the group thought they were invincible. The next night the group returned to engage in their debauchery, and Alex found himself in a startling position with another murdered victim.

## Symptoms of Groupthink

### *Invulnerability*

Alex and his group portray themselves as being invulnerable. They maintained this illusion by blinding themselves to the severe consequences of their actions. For example, while driving on a dark country road they showed no regard for themselves or others, as they played "chicken" with other cars. Also, they beat up an old man and raped and killed a woman without concern for the consequences. The group thought that, as a whole, they were invulnerable and that nothing or no one could hurt them. Alex and the Droogs thought that they were superior and that others were weak by comparison. The notion that others were weak in comparison to the group is a sign of groupthink. The group had a stereotyped view of the opponent, thinking that other people were too weak and not intelligent enough to defend themselves.

### *Morality*

Alex and the Droogs also exhibited an unquestioned belief in the group's morality. They thought they were acting in right and moral ways even though they ignored the ethical and moral rules of society. An example of this behavior was the group's actions when they held down a man and forced him to watch his wife being sexually assaulted. The man pleaded with them to stop and attempted to explain that their actions were wrong, but the group only laughed at his pleas. They did not even stop to listen to what he said. Even though they were raping, stealing, and assaulting others, the group thought they were doing what was fun and enjoyable. Alex and the Droogs did not question the morality of what they did because they thought that they were superior and that regular rules and morals did not apply to them.

### *Rationalization*

The group demonstrated rationalization when they beat up an old, drunk beggar. They justified this decision by saying that the old man was a nuisance to society

because he was a drunk. Alex and the group had no pity for people who were drunks no matter what their age. The old man said that they were a bunch of ruffians because of their lawlessness and disorder. Thus, when a leader promotes an idea and the rest of the group does not listen to other points of view, groupthink can lead to poor decision making (McCauley, 1989).

### Self-censorship

The group also displayed conformity pressure and self-censorship. When one of the Droogs (Dim) started to speak out about some of his ideas, Alex quickly reprimanded him. Alex called Dim a "cally bratchny" (shitty bastard) and a "gloopy shoot" (stupid fool). Through his actions, Alex preserved his leadership position by forcing the Droogs to remain silent so they would not undermine his authority. Later in the movie, two of the three Droogs attempted to undermine Alex's authority when they proposed their own ideas about what the group should do. Once again Alex put the Droogs in their place. This time Alex did not use words; he used physical violence by knocking them into a pier. As the largest Droog reached for the other Droog, Alex cut his hand. These are direct examples of extreme measures to gain conformity from the group. After these things happen, self-censorship was evident because group members did not want to speak out against any of the ideas that the leader or the rest of the group had.

### Illusion of Unanimity

By not speaking out against any of the group's ideas, there was an illusion of unanimity. The pressure and self-censorship made the group suppress ideas that would go against the grain. An example occured when Alex and the Droogs went into a shop to get something to drink. Alex proposed some evil plans for the evening and asked the Droogs how they felt about it. Not one of the Droogs said a word. Because the other members did not express their opinion, group consensus was attained.

### Mindguards

Finally, mindgaurds keep important information away from members of the group. Alex did not tell the group that his school counselor visited him at home. The school counselor was aware that Alex and the boys were doing deviant things and told Alex if they did not stop they would get into a lot of trouble. Thus, the Droogs only knew about the physical damage they were causing but not the true consequences of their actions. Therefore, the Droogs did what Alex said to do. Yet, if the Droogs actually knew how close they were to getting into trouble for their actions, they might not have followed Alex anymore. Later in the movie, the group finally does rebel against Alex.

### Summary

By successfully using the principles of groupthink, Alex was able to keep full control and support of the Droogs. The Droogs even thought they were an integral part of the group and that they were superior to others. The group demonstrated an illusion of invulnerability because they "blinded" themselves from the severe consequences of their actions. The group's morality was never questioned because through violence anything for them was attainable. The group maintained its rationality by playing a sort of crusading role, ridding the town of its pathetic weakness. Alex regularly used controlled censorship through aggravated violence and by mentally intimidating the rest of the group. With this behavior came the illusion of unanimity. Through fear of Alex, no other member would give an opinion opposite to his. Thus, the Droogs "falsely" felt invincible and never thought or worried about the true consequences of their ill sited actions because Alex used mindgaurds to keep the group in the dark.

## References

Janis, I. L. (1971). Groupthink. *Psychology today,* 43-46.

Kubrick, S. (Producer and Director) (1971). *A clockwork orange* [Videotape]. (Available from Warner Brothers, Hollywood, CA).

McCauley, C. (1989). The nature of social influence in groupthink: Compliance and internalization. *Journal of Personality and Social Psychology, 57,* 250-260.

# Psychologically Speaking: An Interview with Jane Halonen

Stephanie Anderson, Sarah Buhr, Ariel Huber, and Richard Miller
University of Nebraska at Kearney

*Jane S. Halonen began her academic career in 1981 at Alverno College, a small private college for women in Milwaukee, WI, renowned for its performance-based curriculum and educational innovations. From 1998 until 2003, she served as Director of the School of Psychology at James Madison University. Jane is currently the Dean of the College of Arts and Sciences at the University of West Florida.*

*Jane has been President of the Society for the Teaching of Psychology and the Council of Teachers of Undergraduate Psychology. She also serves as Associate Editor for the journal* Teaching of Psychology. *She is an Advisory Board member for the International Conference for Improving University Teaching. She has served as a faculty consultant at numerous high school teacher institutes, as advisor to the Teachers of Psychology in Secondary Schools, and as part of the management team for the Advanced Placement readings of the Educational Testing Service.*

*Jane served on the APA steering committees of both the St. Mary's Conference in 1991 and Psychology Partnerships Project Conference in 1999. She currently serves on the Task Force exploring the next phase of the Preparing Future Faculty Initiative. She is the author or co-author of several textbooks and faculty development resource books.*

**Miller:** To begin with, give us a little biographical information about yourself starting with "where did you come from, Jane?"

**Halonen:** Born and raised in Indiana, where things are nice and flat. Moved to Virginia, where things aren't. It was a nice change of pace. And now I am in Pensacola where it is flat again but with water!
I did my undergraduate work at Butler University and started out life as a journalism major and really didn't like it. Then I got snagged by intro to psych. I took my first intro class and thought, "Oh, I just belong here." It felt like I got a calling. Butler was small, but I had the good fortune of being in the honors program. Back then—let's see, when would this have been? This would have been really a long time ago, '68 through '72. The only way you could do research was if you were selected as someone who was in the honors program.

I was a reluctant researcher because I had the "clinician thing" going on. I wanted to help people. I didn't understand why we had to do research. And the department that I was in … they were not very active researchers themselves. They knew that research experience was important to get their students into graduate school, but the fact is that they were not doing research. And that, I think, I understand in retrospect, was where some of my reluctance came from, because none of them had the fire.

During my senior year at Butler, I applied to graduate schools. I'm very open about this. I got rejected soundly in the first year of applications from every single graduate school I applied to.

**Miller:** Really…?!

**Halonen:** That is correct. And I took that opportunity to think, "Hmm, I'm not sure I was advised very well, because I think my sights were up here, when they probably should have been down here, with the scores that I had on my GRE." I worked for a year as a researcher doing alcohol prevention assessment work. I actually worked with the police force in Indianapolis. My major research project was doing random surveys on the streets of Indianapolis on a couple of weekends in the fall. This project involved pulling people over and checking their blood alcohol level. I was a whopping 22 years of age when I did that. But I learned a lot from the experience, and one of the things that I learned was that I really wanted to go to graduate school. And the research part of what I was doing started being a bit more fun.

I went to graduate school at the University of Wisconsin (UW), Milwaukee. In my second round of applications, I was a little more successful getting acceptances. I had about four or five offers. I had a

The authors conducted the interview with Dr. Halonen at the 72nd Annual Rocky Mountain Psychological Association Convention in April, 2002, in Park City, UT

kind of romantic notion that Milwaukee would be really great for some reason. I can't say I did the best job of figuring out where to go. It was kind of like, hmm, Milwaukee sounds interesting. [laughter] Oh! I really appreciate good advising. I can't tell you how much I appreciate that in the faculty.

At the time, this would have been in 1973, I was the only female in the class that was accepted at UW Milwaukee. There were not many women on UW Milwaukee faculty so that was a bit of a challenge. Back in the 70's, most of the women I knew in graduate school tended to go the route of developmental or clinical psychology because that was close enough to the more traditional roles for women. And in fact I started as a developmentalist.

I worked with someone who specialized in attachment theory. I did some research with attachment behavior, thumb sucking, blanket attachment—testing theories about why kids drag blankets around, and whether or not it is really an unhealthy behavior. Or is a thumb sucker a really, really smart kid who figures out how to invest an object with mother elements and survive the world better. The research that I did on thumb sucking showed that they were smart kids, not unhealthy kids, but kids who were just adapting better. Research was more fun, but it still wasn't exactly what I wanted to do.

I did have an internship at Chicago Regional Health Center. I worked in an inpatient setting with kids 6-12 years old, and did outpatient work in a suburban community. I finished my internship and felt a calling to be an educator as opposed to a clinician. This surprised me a little bit, because I had spent all that time on the path getting ready to be a clinician, and I just realized I missed being in the classroom.

There again, I applied and met with disappointment. It turned out that academic jobs were quite scarce. I applied for a job in Chicago at a college and ended up being the number two candidate. They liked me well enough at that college that one of the faculty members mentioned another job he knew about, and so I ended up being the director of a special school for children with severe handicaps. That was my first job as a PhD.

I was not prepared. I was a clinical psychologist with no background in mental retardation other than behavior modification skills. While I was in graduate school, I minored in pediatric psychology, but it focused more on "tantrumming" kids and autistic kids. The kids with whom I was working at the school were children who were so severely retarded or disabled that none of the communities in the North Chicago suburbs could deal with their needs in a regular school or even a special school. The staff tended to all kinds of children: autistic, emotionally labile, and vegetative. I learned a lot in those two years. I learned a profound respect for people who do that kind of work, because sadly, our culture doesn't acknowledge the existence of most of those human beings.

***…after two years I put together a very good staff and then recognized that in my heart I'm an academic. I need to go teach.***

The kids taught me a lot, the parents of the kids taught me a lot, and after two years I put together a very good staff and then recognized that in my heart I'm an academic. I need to go teach. I got a job at Alverno College, which is a women's college in Milwaukee. I taught there for 17 years. When I went there, the department had about 3 and a half people. And when you work in a department that small, it means you teach everything. And so, I think I taught probably every psychology course there ever was except for research methods, and I loved it. Alverno is an odd place in that it doesn't assign grades. They do what is called a performance assessment curriculum, and that experience has profoundly shaped how I think about education.

At Alverno, I moved from instructor to full professor, served as the head of the department and the dean of the behavioral sciences. Then I looked at myself a couple of years ago and said, "Now is this where you want to retire, or do you need a change?" I decided I wanted to change ponds, had conversations with some people, and ended up at James Madison University as the director of the school of psychology. I went from a women's college that was non-graded, experimental, and notorious nationally because of the very different way they did things, to a campus that had 15,000, a psychology department that had over 1,000 majors, 43 faculty members, with enormous enterprise and a much more rigorous commitment to undergraduate research, which is one of the reasons I really liked it.

At Alverno, part of the reason I got a little bit restless was because I loved psychology so much, and I felt there were times when I was the purist of the department. I really wanted us to be doing more with experimentation and getting students to do presentations. Our students would go to the Midwestern Psychological Association Convention. They would do work much like what you would do, but there again, it wasn't quite with that fire. Most of our students at Alverno were non-traditional age students and many couldn't go on to graduate school because their lives were already fairly settled. The research piece didn't have the incentive quality of "what will this do for me?"

At James Madison, students were more driven about the potential of research. They fortunately have the opportunity to work with several research teams, and so they become very competitive for graduate school. I think that the kind of training and the passion you give your program makes a real difference

## Research…Scholarship

**Buhr:** I've heard so much in the talk about research that you and the others did and just now about "lighting the fire." What do you do now to get your students "lit," in a sense, because I know that when I transferred into the University of Nebraska at Kearney (UNK) as a junior, I had no idea about research. I started out at a community college, and I didn't even know research existed. When I found out about it I was scared to death. I thought, "I am going to squeak by. I am never ever going to do research because I know that it just stinks!" I felt that it's got to be so hard.

**Halonen:** It's research in capital letters, right? RESEARCH!

**Buhr:** Right, yeah. We've got these posters hanging on the wall of other students' work, and I thought, "I hope I never have to do that!" I'm like you, I've always wanted to go into counseling psychology and help people, and I just thought I am never ever going to need research. And then my courses required it, and I still thought it was terrible until I had a professor talk with me to see what my interests were. All of the sudden research was just really interesting. What do you do to get it into your students that research is not so scary, that it can be really exciting.

**Halonen:** I wish I could give you current information on that, and that's a little challenging because as a department head, my access, my direct access to students in this capacity is sorely limited, and that is one of the challenges I've been struggling with. In fact, I teach one class a semester, and I have to alternate. The spring semester goes to the undergrads and the fall semester goes to the graduate students because I want to make sure that my program faculty don't think I'm paying different attention to the different levels. And so in terms of having an ongoing research stream that students can move in and out of, I can't do that.

***…Ernest Boyer referred to as the scholarship of application. I study techniques related to teaching and learning.***

In fact, the focus of what I do in the area of scholarship tends to be what a man named Ernest Boyer referred to as the scholarship of application. I study techniques related to teaching and learning. Most of what I have written about and have published deals with teaching procedures. Sometimes they're data-based, sometimes they're not data-based. Sometimes it may be a literature review that I can go at with a fresh perspective and encourage other people to engage in data gathering. In fact, I can give you a really good example of that.

Some of the scholarship that I have worked on has been subsidized by American Psychological Association (APA). Because I came through the Alverno system, I have refined the capacity to translate curriculum ideas into objectives and measurable outcomes. And so, one of the challenges that APA asked me to take on about six years ago was to be the faculty advisor for the group that wanted to develop high school standards. That means that I get to help set curriculum for what high school teachers will be doing. It's a form of research. It's a form of problem solving, because my capacity to gather the teachers around the table, set the stage, ask them questions, work with them on writing, figure out how to retrieve data, in this case reactions—does this represent what the reality is—bring that back, synthesize it, and then figure out the politics. That work turned out to be a five-year process. The work looks on my vita like something that would not have been pub-

lished in a journal. And the fact is, I think it probably had more impact than something that would be published in a journal.

Because that project succeeded so well, APA then said, “Let’s look at the undergraduate curriculum.” Then I became the chair of the undergraduate curriculum committee looking at learning goals and student outcomes. The group has been active for a year and a half. We now have developed what we expect of an undergraduate major, what people should be able to do when they graduate, using the same process we did with the high school curriculum. And so, that takes up an enormous amount of time.

I was recently approached by someone at the graduate level who said, “We like what you’re doing here. Would you come and do this kind of work for clinical training purposes?” I think sometimes I should describe my scholarship as “Outcomes Are Us.” It’s an interesting niche to occupy, and I think it comes out of the behavioral training that I had, looking at psychology as a behaviorist, and working at Alverno where performance assessment is something I knew well.

I do similar work for ETS and Advanced Placement Examinations. It is a similar process. We start with the project, come up with a rubric, and assess 60,000 exams. The research that I do tends always to be oriented now toward how can we help students learn better. My philosophy is if we make our expectations clear, our students will always meet our expectations, and will always get that fire, and that lends itself to some very different ways of thinking about curriculum.

But now let me get back to the students. When I’m teaching undergraduates, I occasionally get to teach the capstone class, and I usually teach it as a history course. I teach it in a way that the student doesn’t just learn about history, but also learns about who they are in history, in relation to all these people, because it addresses the point that you raised, which is, “Oh, poor me, my brain is so small, this is something I’ll never be able to do,” and besides, as one of my former students once said, “All the important stuff’s has already been found.”

It makes sense that a student who already feels a little bit shaky would wonder how he or she could ever end up contributing? The point that I try to make to the students is that I can help them develop projects that will engage them personally. I’ll ask them to do a presentation on a famous psychologist who will be a good match for their interests. When we start out with that particular assignment, I say to them, history may not be the preferred thing that you want to do, but I’m going to give you this psychologist to study and you tell me what you think of him or her. Almost to a person, the students come to think that it is a crime that this person isn’t better known! They get very impassioned about advocating for why this person should get better treatment. I can point out that they have just done some research and should they decide that this becomes part of your life mission, then you can make this person better known.

I point out that there are people like Ludy Benjamin, who’s done the same thing with Harry Kirke Wolfe. Although I have not yet seen a student say, “Oh, I want to study history when I go to graduate school.” I think it opens them up in ways that makes them say, “Ah, research isn’t that bad, and this is kind of fun.”

In addition, at the graduate level, I teach in the doctoral program a course called professional issues, and I tend to teach that around ethics. The last time I taught it we ended up developing something that we turned into research. I shared with one of the students that I wasn’t having any success finding a textbook I liked. The student said, “Why don’t we write the textbook?” What we actually did instead was to develop our own model of ethical decision-making. The students did the research, brought their ideas into class where we generated the model and applied it to specific areas. They presented that information last year at APA Convention. This year I believe I will have the students in the fall develop a code of ethics and practice for the school of psychology. That will be fascinating. I need to get that work done in the evolution of the department, and it gives them an interesting way to intersect with all facets of psychology. It will be publishable, and they’ll be excited about that because they’ll see it as something they had a part in.

I think that the key is helping students see their place in psychology and being open as an adviso—not hammering home your agenda, but hearing what the students’ agenda is and having enough background that you can connect it to something that’s going to be interesting. I think that’s one of the things I try to do.

**Anderson:** Coming from your background at Alverno where undergraduate research really wasn't a primary focus of the program, what would you suggest for students who are maybe in a program like that where they can't find a faculty member who really wants to do research?

**Halonen:** I've seen some good models of that, too. Psychology departments run the gamut from barely functional to unbelievably fit. And, you don't always know that when you matriculate at a college, especially if you don't know what your major is going to be. The student may not understand the importance of catching fire. If they're in programs where there's lip service to research, then the student is more likely to adopt an attitude of lip service to research. Probably it's fairly important then that the student has some capacity to find people who don't just pay lip service. And I think that can be done either by reading in the area that interests you, because some of the people who do research in the area you're interested in will be marvelously responsive to your questions. E-mail certainly gives you an opportunity to create a sense of community that was not as open for people like me.

I know that there are lots of individuals who are so taken with the research that they're doing that if they receive an inquiry from a student, they're aglow. I'll give you an example of that. I once took a group of my students—I was teaching psych testing at the time at Alverno—to a seminar at Marquette University, where Leonard Berkowitz, who had done some work on violence, was presenting. I required my students to read his most recent journal publication before we went. He finished his presentation, and said, "Are there any questions?" One of my students was the first one with her hand up. She made a reference to something that he'd written. I'll never forget this. He said, "You've read my work." And she said, "Why, yes." [laughter] And then they engaged in this really interesting exchange. It's not the case that people typically read your work, so when it happens, there's a kind of magic that can take place.

If there are neighboring schools that you can take advantage of that might be a solution. I'm very big on encouraging partnerships in regions. Most colleges don't operate in complete isolation. Your faculty and students at UNK do a lot of partnering and outreach with the Great Plains Students' Research Convention. Suppose at Kearney there were no research professors. You wouldn't have a student conference, but if you did, you would want to look at the professors that you're seeing around there, figure out which ones are in your area, and then talk with them. Perhaps it would be valuable to students if the faculty indicated that they were open to that sort of interaction.

**Miller:** I think so. And certainly students would want to look at the posters and find out what research the other students are doing, to find out what research interests are being mentored and encouraged. And the professors are always milling around and are usually available for conversation.

**Halonen:** Yes. And the ones who are there means that they're going to be approachable. Now, if you happen to be in a place where faculty are publishing and they don't participate, and that's the case as well, I think it's going to be harder to find the right kind of inspiration. It's going to be harder to come by.

**Miller:** It is hard. And it's always amazing to me to see which schools don't participate in the regional conferences. They run the gamut. There are research one institutions as well as liberal arts colleges that don't participate and whose students simply aren't provided those opportunities.

**Halonen:** Well, they may have their own networks, so you don't know. They also may have been defining psychology in a way that is not consistent with empirical research. I've run across at least one department where there are three people who are counseling psychologists and basically they've created an undergraduate degree by teaching people to be mini-counselors. I don't think that's true psychology. However, that's what the standards were at that school. It's something, perhaps an offshoot of psychology, but it's not really psychology. So that's another element.

As a student, you don't know what the specific cultures are and the cultures can be very broadly defined. But, the better schools are ones like Kearney, ones like James Madison, where we really understand the value of helping people learn methodology, be creative thinkers, and be crisp, critical thinkers whether they go on to graduate school or not. When I'm doing consulting, I go to campuses and take a look at their programs, and I'm amazed at the really wonderful things that people are doing.

**Huber:** I think it's very important that undergraduates find a faculty mentor to "catch on fire"—to find something they're interested in, but I think a major part of that is being comfortable with your faculty and feeling you can approach them and not be turned down. I've talked to students from other universities where the program is researched based, who have the fire inside them but are pushed away by their professors who are trying to get their own research projects done, and trying to deal with tenure and things like that. What advice would you give to educators who are struggling with that, about how to reach out and pick some students who seem to be highly motivated?

**Halonen:** I've seen some really good models of people whom you wouldn't expect to be pro-undergraduate education, and probably my favorite of them is a woman named Linda Bartoshuk, who is at a medical center at Yale. There's no real incentive at all for her to include undergraduates on her research team and yet she knows the importance of it. She does fascinating research on the structure of the tongue. Many intro books have something called the "tongue map" where it shows "here's the salty," "here's the bitter," and so forth. That's wrong. Linda's research has demonstrated that all of those different sensors are spread across the tongue. She's taken her research, linked it with pain control, and works with cancer patients. She's incredible, but her research team not only includes medical students and graduate students, but also undergraduate students and high school students.

Okay, so there are not a lot of people like Linda out there, but I think the news is good in that we could just assume that at our flagship universities, their mission in life, their teaching loads, everything is geared toward research production. I was at a meeting just recently with the department heads at the University of Virginia (UVA), something that I helped to organize, and one of the individuals there said that their faculty only teaches 30% of the undergrad classes. They don't see undergrads, let alone interact with them. However, deans and other administrators recognize undergraduate education is critically important to produce the kind of citizens that we need for the future.

I know UVA recently planned its first undergraduate research symposium—first time in history—this year. Undergraduates can do research too, and I think that movement is something that is picking up some

***Undergraduates can do research too, and I think that movement is something that is picking up some steam across the country.***

steam across the country. As places like ours get more involved in research, the research intensive institutions seem to be saying that they really need to get more involved in teaching, and that it's a good thing. I do think that the context you are in will make a difference in the kind of research experience that you get. If you're in a very small liberal arts college with no lab funds, you're not going to get lab experience. A regional university that has fabulous facilities—I'm so envious of your setting—and your faculty obviously has some capacity, and if they hire right, they can create exactly the right culture to provide what you need. For people who go to the research intensive universities and that's the type of situation I think you are talking about, there are ways to get into research labs, but it's kind of a network game that you have to play, and again it's getting to know professors, going to the professors during office hours, doing the reading, talking with them, finding out who the graduate assistant is. It's really thinking of that situation as problem solving, too. That's a practical problem again. If you want to get research experience, then I think you can work it out by solving the problem.

**Buhr:** The research that I'm working on is the one I presented at this conference, plus a continuation of a previous study. It's something that we've talked about submitting for publication. What advice could you give me? Are there common mistakes people make? Is there something that you can tell me that will help further my paper? Is there something that would help us eventually get that little bit further along towards publication? Also, what is your opinion of the increasing amount of undergraduate research that is being published?

**Halonen:** It's really terrific! I know that there are some professors who will say if an undergraduate's name appears on a paper then it's not valid, or a deviation, that it may be seen as a training exercise as opposed to legitimate research. It is too bad, but I think those are the minority of individuals. What is the area of research that you are working in and would like to publish?

**Buhr:** I am interested in jury decision-making and jury deliberation

**Halonen:** I would advise you—and right now I'm the associate editor of *Teaching of Psychology* so I see an awful lot of papers submitted so my advice comes out of that—is that you want to know what kind of things the journal publishes. If you're assuming that the audience will be interested in your paper, then a good number of your references should probably come from that journal. It's just very straight forward.

It frequently happens that someone will submit something to me on the teaching of psychology that has been frequently covered in the journal but the author has nothing in his or her references showing that history. I am not impressed. Unless you're blazing a new trail, someone will have been in the area before you, and if you're blazing a new trail, then you've got to wonder, "Is this the right journal?" Science is not something that has the melodrama of movies attached to it. It tends to be slow, piecemeal collaborative progress as we figure out what is going on. So that's one thing I would say.

The second thing is, and this is a tough one, that our standards involve writing in a different voice than most people apply. You need to avoid passive voice when you can. As editors, we give an awful lot of feedback to people about that stultified language. It is especially important in teaching when what you're really talking about can often be quite personal. It seems much more legitimate to be talking in first person, to be explaining what you're doing with direct verbs. Poor quality writing that looks so objective and sterile is often not any fun to read.

Third, I would certainly look at the trends of recent publications. Look at a couple years and see what they tend to publish, because that may save you some submissions that won't go anywhere.

And now I'll quote Dr. Brewer when he talked today about the importance of simplifying, "Write in short sentences." I remember as a student that I thought the longer the sentence, the smarter I will sound. Well, that's wrong. Really good writing is crisp writing. It's one of the values of psychology that we want to be very precise in our explorations. Good writers avoid trite things. They avoid overlong sentences. Once you finish your draft don't put it in the mail. Sleep on it, maybe leave it for a couple days, and then go back and read it with a fresh eye. Have a colleague read it. Have someone who doesn't know what you're talking about read it because that person will be able to give you the feedback that you need to make it better.

***And now I'll quote Dr. Brewer when he talked today about the importance of simplifying, "Write in short sentences."***

**Miller:** How do you feel about the use of adjectives?

**Anderson:** She likes them. [laughter]

**Miller:** Stephanie (Anderson) is an excellent writer but she has a tendency to string two or three adjectives together for every noun.

**Halonen:** Well, I started out writing that way as well.

**Anderson:** And did it take you 10 years like Dr. Miller admitted?

**Halonen:** I still slip in to being a bit effusive sometimes. It's easy to do when you think you're trying to build the language and that's not really psychology's style of writing. Precision and simplicity is psychology's style of writing.

## Publication by Undergraduates

**Miller:** Let me ask a question that Mark Ware would ask if he were here. What do you think is the educational value of having undergraduates go all the way through to publication?

**Halonen:** And can I say publication or at least public display?

**Miller:** Let's do both.

**Halonen:** I want to answer this on two levels. One is the specific tools that you need as a psychological thinker/synthesizer in a research project. When you face a blank page, and the obligation is to come up with something creative and meaningful on your own, and once you get past the terror part, it really does force you to go back into the things that you're learned. You pull them together and fully appreciate

why you had to go through statistics and fully appreciate all the different aspects of the curriculum. I think it builds your psychological toolbox in a way that nothing else does—to be a publisher, to be published, or to have the obligation to present.

I would go one step further in the publishing part. When you do a presentation, it's a moment in time that you can't recapture. It's gone! We'll have memories of it, and you'll have memories of it, but you had your one shot of making it the best work it could be. Publication can develop your character because you have to stick it out draft after draft until published. You have to learn how to figure out how many drafts you will need as a writer.

***Publication can develop your character because you have to stick it out draft after draft until published.***

I'm a seven-draft writer. I learned that in graduate school. I'm a good writer. I'm a fast writer. But for me to get it across the finish line for publication, it's always about seven drafts.

That's the other dimension that I would talk about, and that's the way in which it builds your meta-cognition, your self-regulation about being a thinker and a worker. You have a goal out there. How do you pace yourself to get to the goal? What do you do when you get frustrated about that goal? I think you've got the "toolbox" issue, but you've also got the enhancement of who you are as an intellectual human being. I think that research really taxes your character, taxes your patience, and helps you appreciate the things that you have learned in a way that few other things can.

**Anderson:** I would like to ask what have been the joys of your career, but I'm sure you would say undergraduate research in there somewhere. So what I'm going to ask instead what have been some of the difficult things that you have encountered while working with undergraduates on research projects that made you kind of want to be less involved or made the experience a little less enjoyable.

**Halonen:** That's a good question. When you're asking students to do research, and again I'm going to define research broadly as opposed empirical research only, not all students are ready for the challenge. I've certainly seen students have emotional difficulties around the burden of doing research.

At Alverno College, we used to have a very taxing senior seminar where students had to do an independent project. It didn't have to be data generated, but they had to take a concept and work it through in a way that integrated psychology with their minor, and it was not easy. One particular awful semester, and this sounds horrifying, but I had three students who were emotional wrecks from the challenge of it. One of them threatened suicide. She said that there were other things going on in her life, and this isn't helping. Certainly, that prompted our group to take a look at the demands of the course. Were we really helping our students if this was the level of stress, or did we just get an unusual collection of students this semester or what was going on? I would say that particular semester was really hard because the suicidal student was someone that I was incredibly fond of, and someone I knew could do the work. Given the chaos of her life, I felt bad that this demand was one of those things that was making her life unravel. Ultimately she was able to pull it together, but I think it takes a gifted faculty not just to recognize the cognitive burden they are putting on students but the emotional burden as well. This is especially true if they come at it with not a great deal of self-confidence.

There's also the disappointment that happens sometimes when you know a student can do it, and they fade and they fade because they're not really settled, or they haven't really caught fire, or you haven't been able to help them get excited. This can become a personal issue. You think, "Should it have been another 50 minutes in an office hour, or should I have made myself more accessible, or should I have talked realistically about this, or should I have taken on another role besides research advice to help this student?" I think there is a real challenge when you see talent that can't settle down.

There's only so much that you as a teacher can do, and when you see those conditions start to grow, you must start figuring out how much to intervene. There's also the challenge of having the student do the thinking. We faculty can generate research ideas like it's nothing, and that's what we do. It's easy for us to think factorially, to think contingently, and eventually, you will too, but that's not where you are now, and for some faculty, there's a real temptation to have the student sit down and say, "What are you

interested in? Okay, here's a project." If you produce the idea rather than have it come from the student, you've done a disservice to the student because the student hasn't had the thrill of discovery. So you have to kind of be very gentle in how you handle that process. I think that gets at some of the frustrations.

**Huber:** It seems like a major stepping stone is getting the undergraduate students to do the research, but once a student is involved in the research—as all three of us are—what advice would you give us about taking the research to the next level, to applying, to getting into graduate school, and to building on what you've already developed in your undergraduate career?

**Halonen:** I think it's great that you recognize that this is a process that you've started and that you're building on. The majority of the students we serve as undergraduates will not become like us. They will go do other really interesting things. In fact, we did some research that I'm working on with my master's student, Thomas Farmer, using archival records on what people had done in the past 10 decades with their psychology majors to see what the trends were.

We're trying to figure out exactly how to capture these paths. My favorite one is the person who became an elephant handler! Yes, you too can become an elephant handler if you come into psychology. It's really interesting to see what has happened. I collected that data and posted it because we had alumni coming back, and I thought, "I've never seen anything like that in the *Teaching of Psychology*." There's no literature on what happens.

If you think about how much grief you've taken from relatives about becoming psychology majors, about how you can't get a job and all that grief, it's a natural area of discussion.

All right, back to your question. At the point that you know there's something that that will bring you joy in a research world, that is when you begin a research stream, and if you're lucky enough to find that as an undergraduate, then that really simplifies your search for graduate schools. You go after the best place that you can that will allow you to study what you are interested in. It's not like, "Here's the world of graduate school and which are the 20 that will accept me"—although that's one strategy.

***…something that that will bring you joy in a research world…and if you're lucky enough to find that as an undergraduate, then that really simplifies your search for graduate schools.***

The better strategy is to say, for example, that I am interested in phantom pain. Who's doing phantom pain research? What are the top five places where phantom pain research is done? As I'm building the things I am learning so that I am able to quote without thinking the findings in the area, where is that work coming from and then target those schools. I call that the old fashioned way; where we used to go after the people generating the ideas and not the spot in graduate school.

Because it's unusual if you begin those conversations as an undergraduate, you may be invited into that person's lab to do some research during the summer. You may be able to engage in a conversation ahead of time that may become instrumental in getting a bid to go to graduate school. Sometimes that can overcome challenges that students have with low GRE scores. If you can prove that you can do the research, you can talk at that level, and you can be excited, that counts a whole lot more than a high GRE score.

## Graduate School Considerations

**Miller:** Let me ask an additional question. Let's say that you are a student and you've been accepted to a variety of graduate schools, and you are down to the choice between one that is quite prestigious and a second school whose ranking is not as high, but has a program closer to what you want, how would you figure it out?

**Halonen:** Let me point out that a graduate student and I just published on the electronic listserv for Division Two[1] some advice on just this thing. The question is basically now that you're getting the bid, how do you

---

[1]Ed: **Go to:** http://list.kennesaw.edu/archives/psychteacher.html
(This site site is the Archives of PSYCHTEACHER—Society for Teaching of Psychology Discussion List.)
**Select:** Search the archives; **insert** the name, Hann, and **enter.** You will receive the prompt, Login required. Follow instructions to acquire a new password.

decide? Our thesis is that the most critical thing is the match.

It's not the prestige; it's not the money, even though the money can sometimes be really tempting. Sometimes money can be the handcuff. You know that if you have more money, it'd make your life easier. If you go to a place that's not a good match for you, the money is not going to make life easier because you will be spending it on something that may not set you up for your preferred future.

I think that if you can, visit the schools on your short list and, while there, be sure to talk to the department secretary. They know everything. They are usually a lot more attuned than most faculty in the department. I remember your secretary, Dee. She was wonderful. Also, if you can get the name of a graduate student who's in the area that you're interested, and have some confidence from the secretary that he or she is an okay graduate student, talk with that person and get the "ins and outs" of that program.

**Anderson:** This is a question that hopefully I won't need the answer to but some people may be in this situation. What if you choose a program and go to it and later find out that it isn't right for you?

**Halonen:** Get out of there.

**Miller:** We have an outstanding former student who has stuck it out at a school despite a host of difficulties with her major professor. She's got good funding; she's doing good things; she'll get her masters someday, but she's been there five years because she's being taken advantage of. She does a lot of work for the professor. Our advice to her at the end of the first year when she was being verbally abused was, "Get out of there."-- she didn't do it.

**Halonen:** And that's five years that she's not going to get back. I would say if it's really a toxic environment, and there are graduate programs that are toxic, that will steal your heart and break your spirit. If you find yourself in one of those, get out.

**Anderson:** Does it make it that much more difficult to get accepted into another program when they see that you didn't finish the first one, or do you just explain your reasoning?

**Halonen:** I think it's the case that you don't necessarily want to get out without laying some alternate plans. There are some curious things that can happen. If you find the right match, it may be the case that they can transfer some of your credits so that's not lost time.

I had a graduate student recently in a doctoral program who decided that the match was bad. He applied to another program and got accepted because he had developed a good enough track record and had people who could vouch for him. In some cases, that might be the professor who taught you when you were an undergraduate, or other people who have known you along the way. It's not such an awful thing, but that's all the more reason why you don't want to find yourself in that situation.

You want to make the right match at the beginning. You really want to treat the decision as one of the most important problems you'll ever have to solve. It requires careful selection, not, "Oh look, cool. They accepted me, and that's where I'm going to go," which a lot of people do.

## Finally

**Anderson:** Okay, last question. I'll combine a couple. How has your teaching style changed over the years, and what do you plan to do in the future as far as teaching and scholarship?

**Halonen:** My teaching style has changed in that I am much more confident after being in a classroom for two decades, that I can always make it work, and that I can abandon the plan. If a student comment takes us in a direction that will serve our purposes, I'll go with that. I'll put aside whatever the plan was, and we'll go where the passion takes us.

When I was starting out, I was much more scripted. Here are my lecture notes; here is the job; you students learn this and then give the material back to me. Now, I'm much more interested in having my class feel like a learning community in which I can do some of that learning. I have yet to learn how to teach "soft." I complain about this all the time. It's an enthusiasm piece, and I get in class, and I just get so excited about what I'm teaching that I'm exhausted at the end of it. After 20 years, you'd think I could figure out how to modulate so I would not fall asleep so early at night. [laughter] I exhaust myself when I teach.

The scholarship that's booming for me in the future, include a couple of things. My scholarship time is so woeful. As the chair, I set aside Thursday mornings as my scholarship time. I don't come in to work. At least that's my plan. I don't come into work. I stay home. (To Dr. Miller) You know how this works right? So how many times a semester do I get my scholarship morning? About three. [laughter]. My scholarship morning, but the budget's due! Okay, I guess I won't be doing my scholarship morning.

I do a lot of writing on the weekends. My husband is very patient about that. Right now, my primary scholarship will be getting the national outcomes document, with the assessment piece that we'll be working on in April. It will be my job to translate what this brilliant group of people has to say in influencing some kind of document and figure out where it goes. That's a step. That group is also planning a conference on assessment in September, for which I have served as the program chair. The proceedings of that conference will be converted into a book that I will be co-editing, and that's another huge chunk of professional work. Notice that it isn't empirical research. It's synthesizing ideas. I am also doing that work with Thomas that I described earlier. Someday I hope that will turn into an article. I want that for him because he's working to get into a PhD program, and I think that would be a useful piece of work for him.

I'll tell you the project I'd like to do. If and when I step down from being the chair, I'm really interested in trying to figure out what happens to students cognitively from the moment they say, "I want to be a psychology major," to the time when they graduate. Because I think the shifts that happen are in how they think. You can see when they start to be more tentative; you can see it when they get used to the fact that things have multiple explanations. I'd love to be able to track 5 or 6 students, including students who leave the major and try to figure out some lynch pins that would help us do that job better. That's the scholarship I would love to do when I have the time. And then there's that textbook … my plate's pretty full.

**Miller:** Thank you very much

**Halonen:** It was great fun. Thank you for asking me such provocative questions.

# Invitation to Contribute to the Special Features Section—I

Undergraduate students are invited to work in pairs and contribute to the Special Features section of the next issues of the *Journal of Psychological Inquiry*. The topic is:

## Evaluating Controversial Issues

This topic gives two students an opportunity to work together on different facets of the same issue. Select a controversial issue relevant to an area of psychology (e.g., Does violence on television have harmful effects on children?—developmental psychology; Is homosexuality incompatible with the military?—human sexuality; Are repressed memories real?—cognitive psychology). Each student should take one side of the issue and address current empirical research. Each manuscript should make a persuasive case for one side of the argument.

Submit 3-5 page manuscripts. If accepted, the manuscripts will be published in tandem in the Journal.

### *Note to Faculty:*

This task would work especially well in courses that instructors have students debate controversial issues. Faculty are in an ideal position to identify quality manuscripts on each side of the issue and to encourage students about submitting their manuscripts.

Procedures:

1. The postmarked deadline for submission to this Special Features section is December 1, 2003.
2. All manuscripts should be formatted in accordance with the APA manual (latest edition).
3. Provide the following information:
   (a) Names, current addresses, and phone numbers of all authors. Specify what address and e-mail should be used in correspondence about your submission,
   (b) Name and address of your school,
   (c) Name, phone number, address, and e-mail of your faculty sponsor, and
   (d) Permanent address and phone number (if different from the current one) of the primary author.
4. Include a self-addressed stamped envelope of proper size and with sufficient postage to return all materials.
5. Send three (3) copies of the a 3-5 page manuscript in near letter quality condition using 12 point font.
6. Include a sponsoring statement from a faculty supervisor. (Supervisor: Read and critique papers on content, method, APA style, grammar, and overall presentation.) The sponsoring statement should indicate that the supervisor has read and critiqued the manuscript and that writing of the essay represents primarily the work of the undergraduate student.

Send submissions to:

Dr. Richard L. Miller
Department of Psychology
University of Nebraska at Kearney
Kearney, NE 68849

# Invitation to Contribute to the Special Features Section—II

Undergraduate students are invited to contribute to the Special Features section of the next issue of the *Journal of Psychological Inquiry.* The topic is:

## Conducting Psychological Analyses – Dramatic

Submit a 3-5 page manuscript that contains a psychological analysis of a television program or movie. The Special Features section of the current issue (pp. 50-58) contains several examples of the types of psychological analysis students may submit.

**Option 1—Television Program:**

Select an episode from a popular, 30-60 min television program, describe the salient behaviors, activities, and/or interactions, and interpret that scene using psychological concepts and principles. The presentation should identify the title of the program and the name of the television network. Describe the episode and paraphrase the dialogue. Finally, interpret behavior using appropriate concepts and/or principles that refer to the research literature. Citing references is optional.

**Option 2—Movie Analysis:**

Analyze a feature film, available at a local video store, for its psychological content. Discuss the major themes but try to concentrate on applying some of the more obscure psychological terms, theories, or concepts. For example, the film *Guess Who's Coming to Dinner?* deals with prejudice and stereotypes, but less obviously, there is material related to attribution theory, person perception, attitude change, impression formation, and nonverbal communication. Briefly describe the plot and then select key scenes that illustrate one or more psychological principles. Describe how the principle is illustrated in the movie and provide a critical analysis of the illustration that refers to the research literature. Citing references is optional.

Procedures:

1. The postmarked deadline for submission to this Special Features section is December 1, 2003.
2. All manuscripts should be formatted in accordance with the APA manual (latest edition).
3. Provide the following information:
   (a) Names, current addresses, and phone numbers of all authors. Specify what address and e-mail should be used in correspondence about your submission,
   (b) Name and address of your school,
   (c) Name, phone number, address, and e-mail of your faculty sponsor, and
   (d) Permanent address and phone number (if different from the current one) of the primary author.
4. Include a self-addressed stamped envelope of proper size and with sufficient postage to return all materials.
5. Send three (3) copies of the a 3-5 page manuscript in near letter quality condition using 12 point font.
6. Include a sponsoring statement from a faculty supervisor. (Supervisor: Read and critique papers on content, method, APA style, grammar, and overall presentation.) The sponsoring statement should indicate that the supervisor has read and critiqued the manuscript and that writing of the essay represents primarily the work of the undergraduate student.

Send submissions to:

Dr. Richard L. Miller
Department of Psychology
University of Nebraska at Kearney
Kearney, NE 68849

# Invitation to Contribute to the Special Features Section—III

Undergraduate students are invited to contribute to the Special Features section of the next issue of the *Journal of Psychological Inquiry.* The topic is:

## Conducting Psychological Analyses – Current Events

Submit a 3-5 page manuscript that contains a psychological analysis of a current event. News stories may be analyzed from the perspective of any content area in psychology. The manuscript should describe the particular event and use psychological principles to explain people's reactions to that event.

**Example 1:** Several psychological theories could be used to describe people's reactions to the destruction of the World Trade Center on September 11, 2001. Terror management research has often shown that after reminders of mortality people show greater investment in and support for groups to which they belong and tend to derogate groups that threaten their worldview (Harmon-Hones, Greenberg, Solomon, & Simon, 1996). Several studies have shown the link between mortality salience and nationalistic bias (see Greenberg, Simon, Pyszczynski, & Solomon, 1992). Consistent with these findings, the news reported that prejudice towards African Americans decreased noticeably after 9/11 as citizens began to see all Americans as more similar than different.

**Example 2:** A psychological concept that could be applied to the events of September 11 would be that of bounded rationality, which is the tendency to think unclearly about environmental hazards prior to their occurrence (Slovic, Kunreuther, & White, 1974). Work in environmental psychology would help explain why we were so surprised by this terrorist act.

The analysis of a news event should include citations of specific studies and be linked to aspects of the news story. Authors could choose to apply several psychological concepts to a single event or to use one psychological theory or concept to explain different aspects associated with the event.

Procedures:

1. The postmarked deadline for submission to the next issue's Special Features section is December 1, 2003.
2. All manuscripts should be formatted in accordance with the APA manual (latest edition).
3. Provide the following information:
   (a) Names, current addresses, and phone numbers of all authors. Specify what address and e-mail should be used in correspondence about your submission,
   (b) Name and address of your school,
   (c) Name, phone number, address, and e-mail of your faculty sponsor, and
   (d) Permanent address and phone number (if different from the current one) of the primary author.
4. Include a self-addressed stamped envelope of proper size and with sufficient postage to return all materials.
5. Send three (3) copies of the a 3-5 page manuscript in near letter quality condition using 12 point font.
6. Include a sponsoring statement from a faculty supervisor. (Supervisor: Read and critique papers on content, method, APA style, grammar, and overall presentation.) The sponsoring statement should indicate that the supervisor has read and critiqued the manuscript and that writing of the essay represents primarily the work of the undergraduate student.

Send submissions to:

Dr. Richard L. Miller
Department of Psychology
University of Nebraska at Kearney
Kearney, NE 68849