

# Cockroaches, Urinals, and Placebos: Ten Cool Studies to Promote Student Appreciation for Research in Psychology

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# MIDDLEMIST, KNOWLES, & MATTER (1976)

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## Personal Space Invasions in the Lavatory: Suggestive Evidence for Arousal

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The hypothesis that personal space invasions produce arousal was investigated in a field experiment. A men's lavatory provided a setting where norms for privacy were salient, where personal space invasions could occur in the case of men urinating, where the opportunity for compensatory responses to invasion were minimal, and where proximity-induced arousal could be measured. Research on micturation indicates that social stressors inhibit relaxation of the external urethral sphincter, which would delay the onset of micturation, and that they increase intravesical pressure, which would shorten the duration of micturation once begun. Sixty lavatory users were randomly assigned to one of three levels of interpersonal distance and their micturation times were recorded. In a three-urinal lavatory, a confederate stood immediately adjacent to a subject, one urinal removed, or was absent. Paralleling the results of a correlational pilot study, close interpersonal distances increased the delay of onset and decreased the persistence of micturation. These findings provide objective evidence that personal space invasions produce physiological changes associated with arousal.

# ZAJONC, HEINGARTNER, & HERMAN (1969)

*Journal of Personality and Social Psychology*  
1969, Vol. 13, No. 2, 83-92

## SOCIAL ENHANCEMENT AND IMPAIRMENT OF PERFORMANCE IN THE COCKROACH<sup>1</sup>

ROBERT B. ZAJONC,<sup>2</sup> ALEXANDER HEINGARTNER, AND EDWARD M. HERMAN<sup>3</sup>

*Institute for Social Research, University of Michigan*

Maze and runway performance of cockroaches was observed under solitary and social conditions in an attempt to test the drive theory of social facilitation. In Experiment I cockroaches were observed under two types of social treatments, coaction and audience. In both treatments maze performance was impaired while runway performance was facilitated when compared to performance of subjects in solitary conditions. In Experiment II the effects of reduced presence of conspecifics were investigated. Experiment I generated results that were in support of the hypothesis that the mere presence of conspecifics is a source of general arousal that enhances the emission of dominant responses. The results of Experiment II suggested that partial presence of conspecifics may have distracting effects.

# TRIVERS & MILGRAM (1969)

## An Experimental Study of the Small World Problem\*

JEFFREY TRAVERS

Harvard University

AND

STANLEY MILGRAM

The City University of New York

*Arbitrarily selected individuals ( $N=296$ ) in Nebraska and Boston are asked to generate acquaintance chains to a target person in Massachusetts, employing "the small world method" (Milgram, 1967). Sixty-four chains reach the target person. Within this group the mean number of intermediaries between starters and targets is 5.2. Boston starting chains reach the target person with fewer intermediaries than those starting in Nebraska; subpopulations in the Nebraska group do not differ among themselves. The funneling of chains through sociometric "stars" is noted, with 48 per cent of the chains passing through three persons before reaching the target. Applications of the method to studies of large scale social structure are discussed.*

# MOSELEY ET AL. (2002)

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## A CONTROLLED TRIAL OF ARTHROSCOPIC SURGERY FOR OSTEOARTHRITIS OF THE KNEE

J. BRUCE MOSELEY, M.D., KIMBERLY O'MALLEY, PH.D., NANCY J. PETERSEN, PH.D., TERRI J. MENKE, PH.D.,  
BARUCH A. BRODY, PH.D., DAVID H. KUYKENDALL, PH.D., JOHN C. HOLLINGSWORTH, DR.P.H.,  
CAROL M. ASHTON, M.D., M.P.H., AND NELDA P. WRAY, M.D., M.P.H.

### ABSTRACT

**Background** Many patients report symptomatic relief after undergoing arthroscopy of the knee for osteoarthritis, but it is unclear how the procedure achieves this result. We conducted a randomized, placebo-controlled trial to evaluate the efficacy of arthroscopy for osteoarthritis of the knee.

**Methods** A total of 180 patients with osteoarthritis of the knee were randomly assigned to receive arthroscopic débridement, arthroscopic lavage, or placebo surgery. Patients in the placebo group received skin incisions and underwent a simulated débridement without insertion of the arthroscope. Patients and assessors of outcome were blinded to the treatment-group assignment. Outcomes were assessed at 12

**W**HEN medical therapy fails to relieve the pain of osteoarthritis of the knee, arthroscopic lavage or débridement is often recommended. More than 650,000 such procedures are performed each year<sup>1</sup> at a cost of roughly \$5,000 each. In uncontrolled studies of knee arthroscopy for osteoarthritis, about half the patients report relief from pain.<sup>2-16</sup> However, the physiological basis for the pain relief is unclear. There is no evidence that arthroscopy cures or arrests the osteoarthritis. Therefore, we conducted a randomized, placebo-controlled trial to assess the efficacy of arthroscopic surgery of the knee in relieving pain and improving function in patients with osteoarthritis.

CLARK & HATFIELD (1989)

## Gender Differences in Receptivity to Sexual Offers

Russell D. Clark III, PhD  
Elaine Hatfield, PhD

**ABSTRACT.** According to cultural stereotypes, men are more eager for sex than are women; women are more likely to set limits on such activity. In this paper, we review the work of theorists who have argued in favor of this proposition and review the interview and correlational data which support this contention. Finally, we report two experimental tests of this hypothesis.

# MINAMI & DALLENBACH (1946)

## THE EFFECT OF ACTIVITY UPON LEARNING AND RETENTION IN THE COCKROACH, *Periplaneta americana*

By HIROSHI MINAMI and KARL M. DALLENBACH, Cornell University

In 1924, Jenkins and Dallenbach,<sup>1</sup> using the method of retained members, found that retention after 1, 2, 4, and 8 hr. of sleep was far better than after corresponding periods of normal waking activity, and further that there was practically no greater loss in retention after 8 hr. of sleep than after 2 hr. They considered their results as significant enough to account for the discrepancy in Ebbinghaus' curve of forgetting between the 8.8-hr. and the 24-hr. periods<sup>2</sup>—a discrepancy that prompted their study; and to warrant their conclusion that "forgetting is not so much a matter of the decay of old impressions and associations as it is a matter of interference, inhibition, or obliteration of the old by the new."

# MINAMI & DALLENBACH (1946)

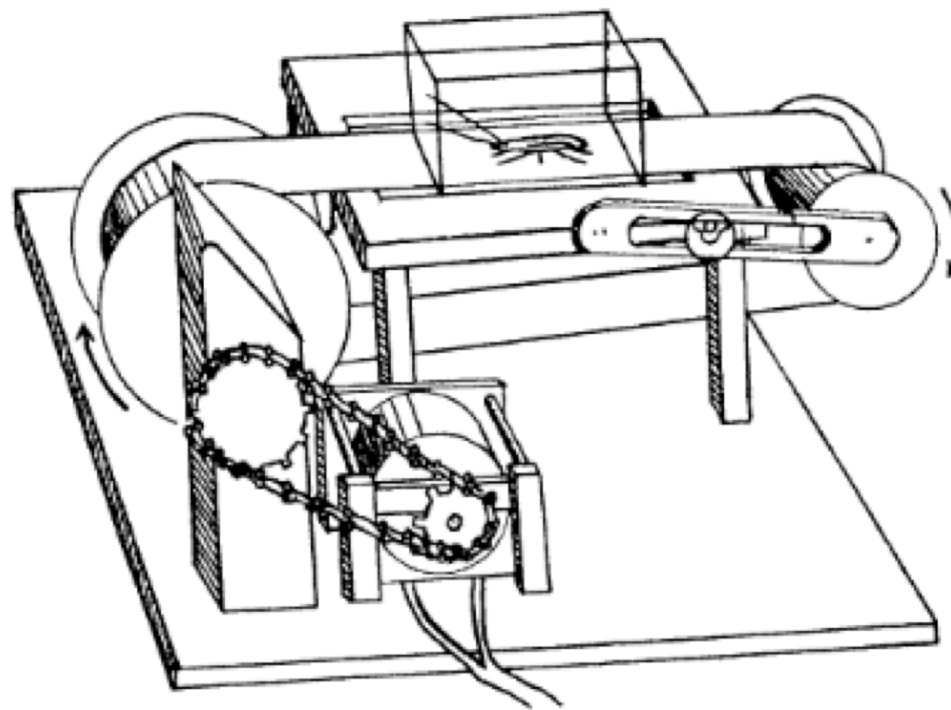
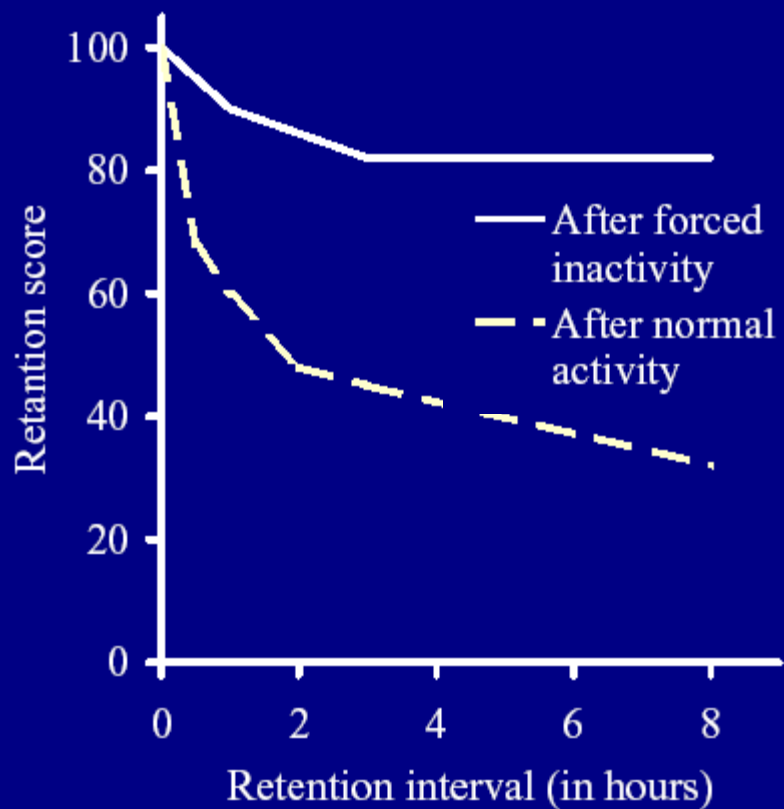
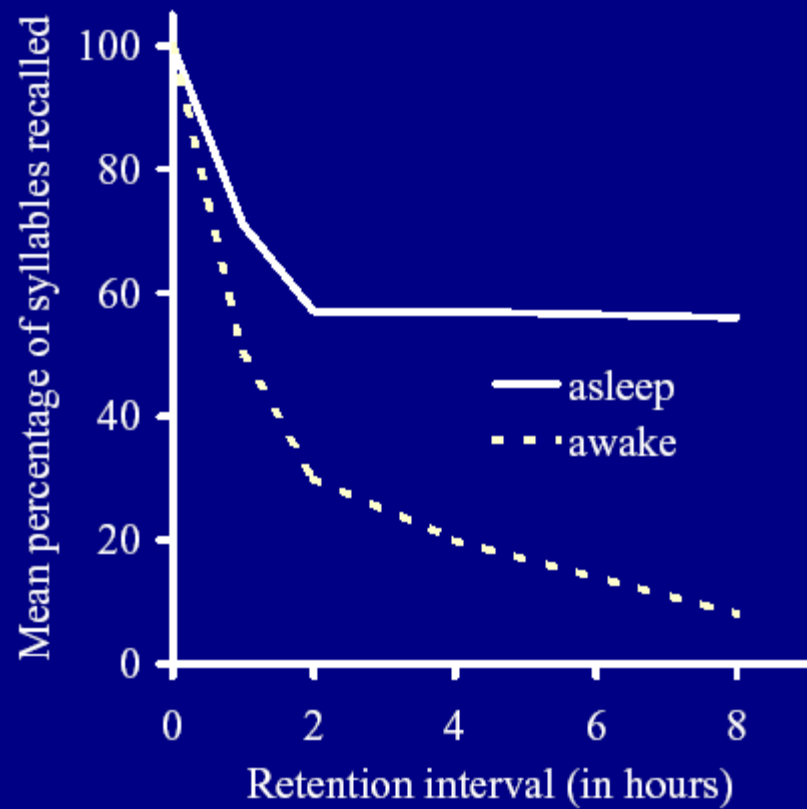


FIG. 2. ACTIVITY TREADMILL





Cockroaches



College Students

# MINAMI & DALLENBACH (1946)

- Fundamental characteristics of nervous system functioning
- Methods of assessing memory

MISCHEL, SHODA, & RODRIGUEZ (1989)

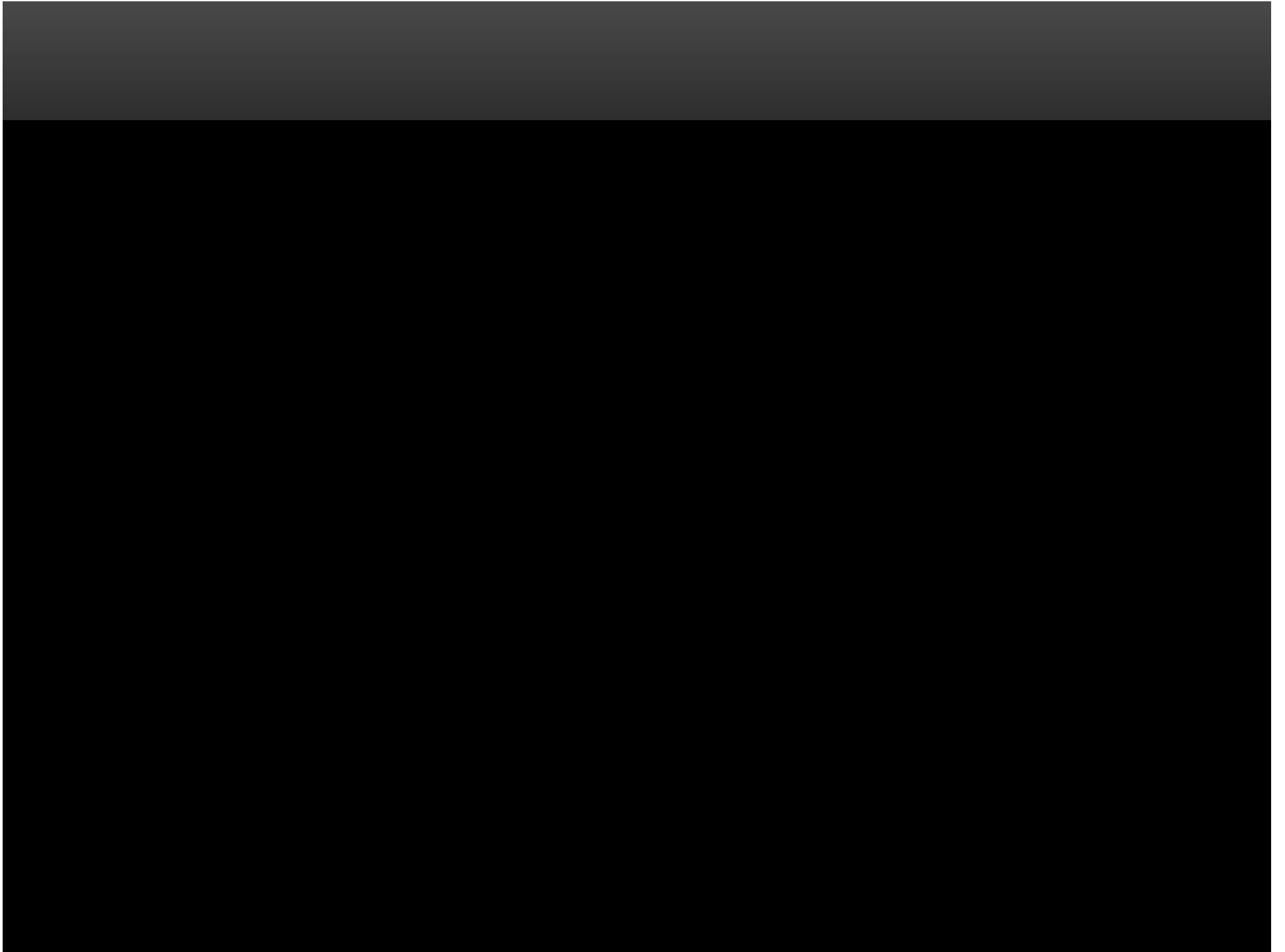
## Delay of Gratification in Children

WALTER MISCHEL, YUICHI SHODA, MONICA L. RODRIGUEZ

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To function effectively, individuals must voluntarily postpone immediate gratification and persist in goal-directed behavior for the sake of later outcomes. The present research program analyzed the nature of this type of future-oriented self-control and the psychological processes that underlie it. Enduring individual differences in self-control were found as early as the preschool years. Those 4-year-old children who delayed gratification longer in certain laboratory situations developed into more cognitively and socially competent adolescents, achieving higher scholastic performance and coping better with frustration and stress. Experiments in the same research program also identified specific cognitive and attentional processes that allow effective self-regulation early in the course of development. The experimental results, in turn, specified the particular types of preschool delay situations diagnostic for predicting aspects of cognitive and social competence later in life.

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# MISCHEL, SHODA, & RODRIGUEZ (1989)

- Simple, short laboratory procedures can reveal important phenomena
- Personality characteristics become evident early in life
- The characteristics that make us successful are not intuitively obvious; and consequently, they're not "taught"
- Cause vs Effect – would teaching this help?

# SIMONS & LEVIN (1998)

## Failure to detect changes to people during a real-world interaction

DANIEL J. SIMONS

*Harvard University, Cambridge, Massachusetts*

and

DANIEL T. LEVIN

*Kent State University, Kent, Ohio*

Recent research on change detection has documented surprising failures to detect visual changes occurring between views of a scene, suggesting the possibility that visual representations contain few details. Although these studies convincingly demonstrate change blindness for objects in still images and motion pictures, they may not adequately assess the capacity to represent objects in the real world. Here we examine and reject the possibility that change blindness in previous studies resulted from passive viewing of 2-D displays. In one experiment, an experimenter initiated a conversation with a pedestrian, and during the interaction, he was surreptitiously replaced by a different experimenter. Only half of the pedestrians detected the change. Furthermore, successful detection depended on social group membership; pedestrians from the same social group as the experimenters detected the change but those from a different social group did not. A second experiment further examined the importance of this effect of social group. Provided that the meaning of the scene is unchanged, changes to attended objects can escape detection even when they occur during a natural, real-world interaction. The discussion provides a set of guidelines and suggestions for future research on change blindness.

**Watch what happens as the  
unsuspecting pedestrian  
provides directions.**

# SIMONS & LEVIN (1998)

- Our intuitive ideas about how our attentional system works can be VERY wrong.
- Attention is a limited resource
- We pay attention to what we need to, but everything
- Attention is influenced by learning – ingroup vs outgroup members



# STACK & GUNDLACH (1992)

## **The Effect of Country Music on Suicide\***

**STEVEN STACK**, *Wayne State University*  
**JIM GUNDLACH**, *Auburn University*

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### *Abstract*

*This article assesses the link between country music and metropolitan suicide rates. Country music is hypothesized to nurture a suicidal mood through its concerns with problems common in the suicidal population, such as marital discord, alcohol abuse, and alienation from work. The results of a multiple regression analysis of 49 metropolitan areas show that the greater the airtime devoted to country music, the greater the white suicide rate. The effect is independent of divorce, southernness, poverty, and gun availability. The existence of a country music subculture is thought to reinforce the link between country music and suicide. Our model explains 51% of the variance in urban white suicide rates.*



# STACK & GUNDLACH (1992)

- Correlation vs. Causation & the third variable problem
- What do you do when you CAN'T conduct an experiment?
- Practice generating alternative hypotheses

# HARRIS, BROWN, MARRIOTT, WHITTALL, & HARMER (1991)

## **Monsters, ghosts and witches: Testing the limits of the fantasy–reality distinction in young children**

**Paul L. Harris\*, Emma Brown, Crispin Marriott, Samantha Whittall and Sarah Harmer**

*Department of Experimental Psychology, South Parks Road, University of Oxford, Oxford OX1 3UD, UK*

Estes, Wellman & Woolley (1989) have shown that children as young as 3 years of age can distinguish between mental entities such as an image or dream of an object and a real object. Nevertheless, children often show persistent fear of imaginary creatures, particularly monsters (Jersild, 1943). To find out what conception children have of such imaginary creatures, 4- and 6-year-olds were questioned about three types of item: real items (e.g. a cup), ordinary imagined items (e.g. an image of a cup) and supernatural imagined items (e.g. an image of a monster). In two experiments, both age groups sharply differentiated the real items from both types of imagined item. Despite this apparently firm grasp of the distinction between fantasy and reality, two further experiments showed that 4- and 6-year-olds are not always certain that a creature that they have imagined cannot become real. Having imagined a creature inside a box, they show apprehension or curiosity about what is inside the box, and often admit to wondering whether the creature is actually inside. The experiments suggest that children systematically distinguish fantasy from reality, but are tempted to believe in the existence of what they have merely imagined.

# HARRIS, BROWN, MARRIOTT, WHITTALL, & HARMER (1991)

Ethics

Developmental Methods

Appearance-Reality Distinction

Cognitive development

# ADD YOUR OWN EXAMPLE

[http://web.simmons.edu/  
~turnerg/Cockroaches.html](http://web.simmons.edu/~turnerg/Cockroaches.html)

## Cockroaches, Monsters, and Placebos:

### Ten Studies to Promote Student Appreciation for Research in Psychology

Below we list several of our favorite studies (we know that there are more than ten - sue us) that promote appreciation for scientific research in psychology. We have posted space for you to add to this list - What are your nominees for best study to promote appreciations for research? Once we get enough suggestions we plan to add your suggestions to ours, divide this list by sub-discipline, and include a brief explanation of how we use each one in class.

- Chen, S.C. (1937). Social modification of the activity of ants in nest-building. *Physiological Zoology*, 10, 420-436.
- Clark, R. D., & Hatfield, E. (1989). Gender differences in receptivity to sexual offers. *Journal of Psychology & Human Sexuality*, 2, 39-55.
- Feldman, G., Zayfert, C., Sandoval, L., Dunn, L., Cartreine, J.A. (In Press). Reward Responsiveness And Anxiety Predict Performance Of Mount Everest Climbers. *Journal of Research in Personality*.
- Freckleton, W.C., and Wahlsten, D. (1968). Carbon dioxide-induced amnesia in the cockroach, *Periplaneta americana*. *Psychonomic Science*, 12, 179-180.
- Harris, P.L., Brown, E., Marriott, C., Whittall, S. & Harmer, S. (1991) Monsters, ghosts and witches: testing the limits of the fantasy-reality distinction in young children, *British Journal of Developmental Psychology*, 9, 105-123.
- Joshua D. Greene, "The secret joke of Kant's soul", in *Moral Psychology*, 2008, Vol. 3: *The Neuroscience of Morality*, W. Sinnott-Armstrong, Ed., (Cambridge, MA: MIT Press).
- Kahneman, D. & Tversky, A. (1984). Choices, values, and frames. *American Psychologist*, 39, 341-350.
- Kruger, J., Dunning, D. (1999). Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments. *Journal of Personality and Social Psychology*, 77, 1121-34.
- Middlemist, R.D., Knowles, E.S., & Matter, C.F., (1976). Personal Space Invasions in the Lavatory: Suggestive Evidence for Arousal, *Journal of Personality and Social Psychology*, 33, 541-546.
- Minami, H. and Dallenbach, K. (1946). The effect of activity upon learning and retention in the cockroach, *Periplaneta americana*. *American Journal of Psychology*, 59, 1-58.
- Mischel, W., Shoda, Y., & Rodriguez, M. L. (1989). Delay of Gratification in Children. *Science*, 244, 933-938.
- Moseley, J.B., O'Malley, K., Petersen, N.J., Menke, T.J., Brody, B.A., Kuykendall, D.H., Hollingsworth, J.C., Ashton, C.M. and Wray, N.P. (2002). A Controlled Trial of Arthroscopic Surgery for Osteoarthritis of the Knee, *New England Journal of Medicine*, 347, 81-88.
- Schachter, S. (1971). Some extraordinary facts about obese humans and rats. *American Psychologist*, 26, 129-144.
- Simons, D. J. & Levin, D.T. (1998). Failure to detect changes to people during a real-world interaction, *Psychonomic Bulletin and Review*, 5, 644-649.
- Stack, S., & Gundlach, J. (1992). The effect of country music on suicide. *Social Forces*, 71, 211-218.
- Travers, J. and Milgram, S. (1969). An experimental study of the Small World problem. *Sociometry*, 32, 425-443.
- Wilson, T. D., Lisle, D. J., Schooler, J. W., Hodges, S. D., Klaaren, K. J., & LaFleur, S. J. (1993). Introspecting about reasons can reduce post-choice satisfaction. *Personality and Social Psychology Bulletin*, 19, 331-331.
- Zajonc, R.B., Heingartner, A, and Herman, E.M. (1969). Social enhancement and impairment of performance in the cockroach. *Journal of Personality and Social Psychology*, 13, 83-92.

#### Suggest a study:

Below, please enter your nominee in APA format and include a BRIEF explanation of how it increases student appreciation for research.

Submit

For a copy of this PowerPoint:  
<http://web.simmons.edu/~turnerg/TOPppt.pdf>

Thanks!

Questions?