

The Illusions Under Which We Labour: A Practical Challenge to Organisational Psychology

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What's the Problem?

- In research and practice, we emphasize (to a much greater degree than realised) the situation/environment/context
 - Human resource policies **direct**
 - Socialization practices **shape/mold**
 - Management practices **standardise/control**
- All based on “**situational premise**”
- Is this a problem?



Polemical

- **The focus of organisational psychology on the situation is problematic because...**

There are reasons to question to what degree the situation, as construed in social science, matters

- **Obviously, a controversial assertion**
- **But, first, let us define the situation**



What Is the Situation?

- **Situation can be considered:**

- ① **Environment**

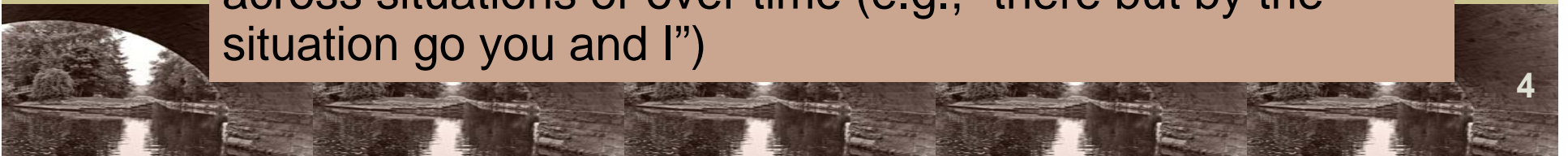
- An attitude, cognition, or behavior reflects (is a product of) culture, socialization, influence, indoctrination, class, upbringing, or socioeconomic status (e.g., poverty)

- ② **Intervention**

- An attitude, cognition, or behavior is induced by a natural or experimental event/manipulation meant to represent a social context (e.g., social learning, training)

- ③ **Change**

- An attitude, cognition, or behavior is unstable/malleable across situations or over time (e.g., “there but by the situation go you and I”)



Thus, there are still many in the field who insist on explaining context-driven socially problematic behavior in largely individualistic, trait-based terms, no matter how much evidence has been amassed to the contrary.

Extensive research on the “fundamental attribution error” demonstrates that the more troublesome or threatening the behavior, and the more extreme the actions with which they are concerned, the more tempting it is to attribute primary responsibility to disagreeable or damaged “others” whose bad acts are thought to be the products of their flawed characters. This can occur no matter how powerful the situations, settings, and structures to which the actors have been exposed and in which they have acted.

Recognizing the causal role of broad, destructive social forces in the genesis of socially problematic behavior implicates us all at a more direct and unsettling level than the dispositionalism with which it competes. It casts whatever tacit assent we may have extended to the social contextual status quo (e.g., prisons, poverty, or wars) in a very different light. Thus, our implicit support for the policies and practices that may have given rise to the damaging social contexts in question can be seen as part of the problem—a problem we may be expected to help solve.

— Haney and Zimbardo, *Personality and Social Psychology Bulletin*, 2009

Effects of Environment

Comparisons of Heredity vs. Environment

- **Socially desirable behaviors**
 - ① Diet/weight
 - ② Exercise/fitness
 - ③ Altruism/prosocial behavior
- **Socially undesirable behaviors**
 - ④ Drug use
 - ⑤ Smoking
 - ⑥ Antisocial/criminal behavior

Before we examine the evidence of genes and environment as influences on behavior, let's very briefly review behavioral genetics

Studying Environment v. Genes

Behavioral Genetics Primer

- **Studies monozygotic (identical [MZ]) and dizygotic (fraternal [DZ]) twins reared apart and those reared together**

– For MZ/DZ twins reared together:

a=additive genetic effect (broad heritability)

c=common or shared environment effect, and

e=error or unique (or non-shared) environment effect

$$r_{MZ} = a^2 + c^2 \quad \{\text{similarity in MZ is variance in genes + environ}\}$$

$$r_{DZ} = (0.5 \times a^2) + c^2 \quad \{\text{DZ share half as many genes}\}$$

$$1 = a^2 + c^2 + e^2 \quad \begin{matrix} \text{total} & \text{shared} & \text{shared} \\ \{\text{variance is} & \text{genes} & \text{environ} & \text{+ unique}\} \end{matrix}$$

Note: MZ twins=100% genetically similar (identical genes);
DZ twins=50% genetically similar (share 50% genes)

Studying Environment v. Genes

Behavioral Genetics Primer

- The aforementioned formulae can be recast as follows

Shared genes variability:

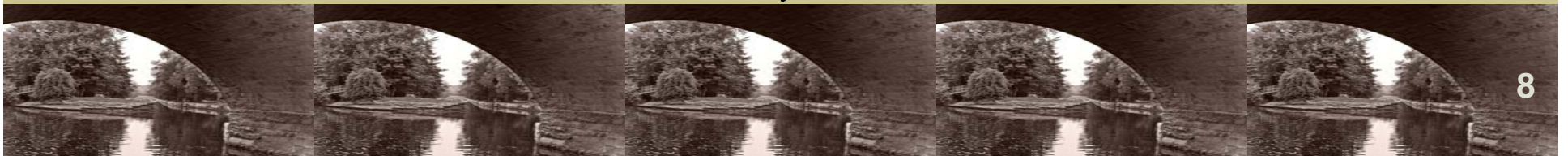
$$a^2 = (r_{MZ} - r_{DZ}) \times 2$$

Shared environment variability:

$$c^2 = r_{MZ} - a^2$$

Non-shared environment variability: $e^2 = 1 - r_{MZ}$

- There are variations of this formula that accommodate twins reared apart and reared together, effects of measurement error, and so on



Environment 1

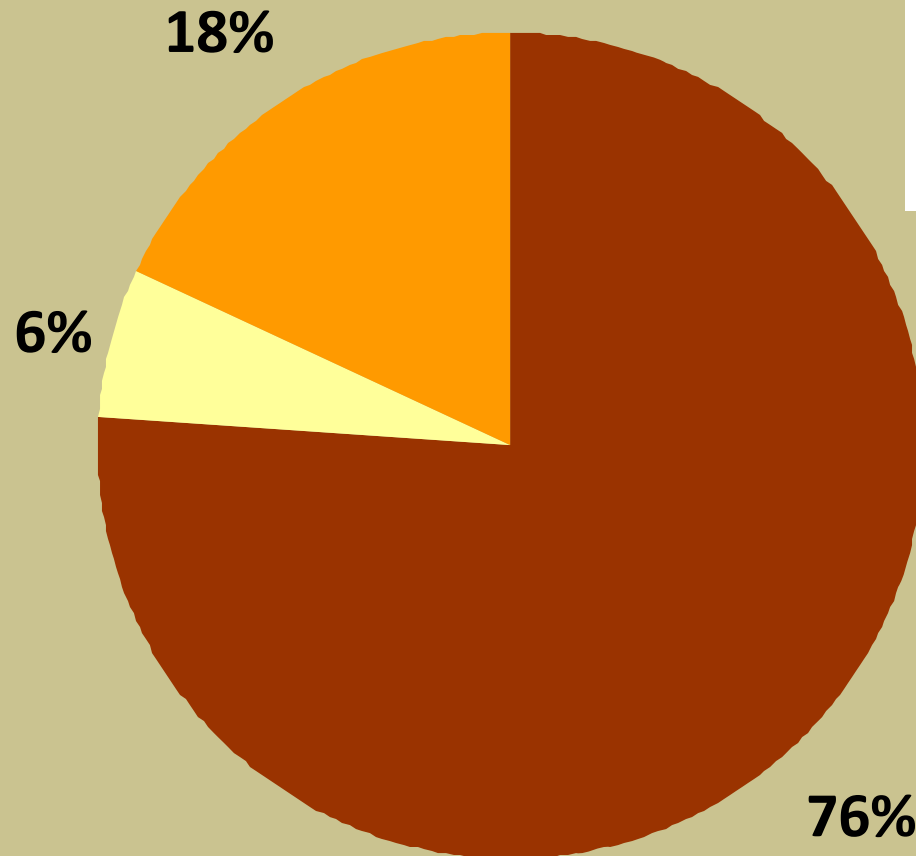
Genes and Body Mass Index (BMI)

Heritability of Body Mass Index (BMI)	Shared genes		Shared environment		Non-shared environment	
	M	F	M	F	M	F
Hjelmborg et al. (2008) 10,556 Finn twins	80%	82%	7%	4%	13%	14%
Hur (2007) 888 Korean twins	82%	87%	0%	0%	18%	13%
Schousbo et al. (2004) 624 Danish twins	65%	61%	5%	8%	30%	31%

Environment 2

Summary: Variance in Body Mass Index

Mean sources of variability: BMI



Interestingly, weight gain also shows high heritabilities so even **change** may be genetic

- Genes
- Environment
- Error



Environment ²

Behavioral Genetic Studies of Exercise

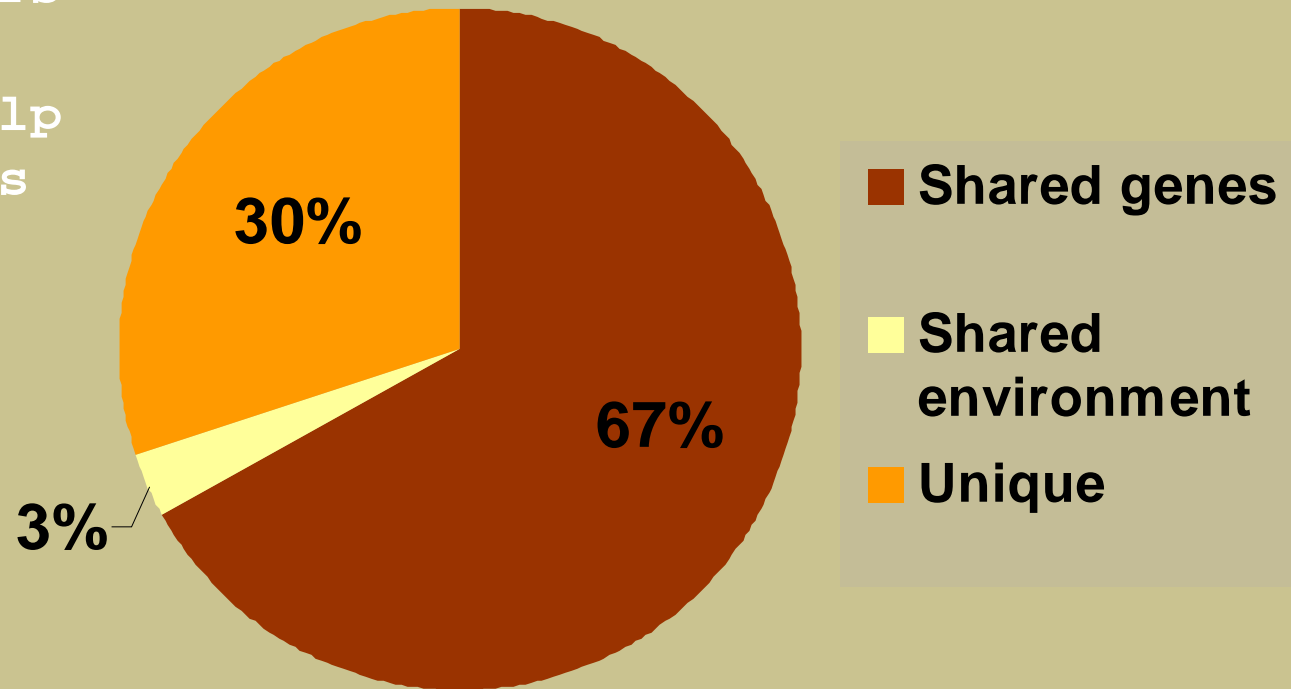
Sample	Genes	Environment	Unique
Australia (males)	22.9	20.6	56.6
Australia (females)	31.1	16.4	52.5
Denmark (males)	44.4	4.7	51.0
Denmark (females)	50.1	3.1	46.8
Finland (males)	55.8	6.2	38.0
Finland (females)	61.0	0.0	39.0
Netherlands (males)	68.1	2.7	29.2
Netherlands (females)	50.3	13.3	36.5
Norway (males)	33.6	31.1	35.4
Norway (females)	56.6	0.0	43.4
Sweden (males)	63.9	0.0	36.1
UK (females)	70.5	0.0	29.5
MEAN	51.4	7.5	41.1

Environment ③

Altruism

As measured by parents' and teachers' rating of degree to which child*:

- Often volunteers to help others
- Will try to help someone who has been hurt
- Shares treats with friends



* When child was age 7.

Environment 4

Drug Use

Drug	Shared genes	Shared environment	Non-shared environment
Any	77%	0%	23%
Cannabis	76%	0%	24%
Stimulants	76%	0%	24%
Psychedelics	81%	0%	19%
Opiates	44%	33%	23%
Cocaine	44%	13%	43%
Mean	66%	8%	26%

Source: Kendler et al. (2006) study of 1,386 Norwegian twin pairs

Environment 5

Smoking

Study	Shared Genes	Shared environment	Non-shared environment
659 American male twins	64%	19%	17%
434 American female twins	77%	0%	23%
1063 Australian female twins	74%	3%	23%
851 American female twins	78%	7%	15%
1979 Australian female twins	70%	18%	12%

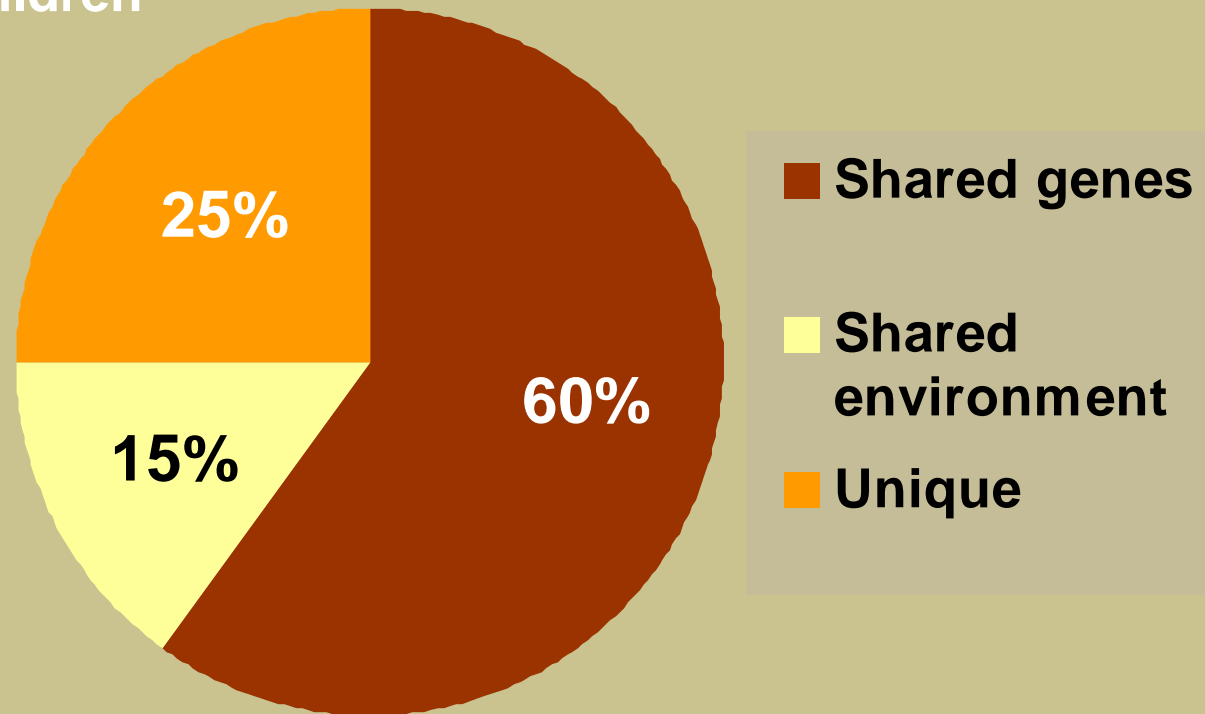


Environment 6

Aggressive Antisocial Behavior

Aggressive antisocial behavior was rated by parents using items such as:

- destroys one's own and others' belongings
- fights with other children
- attacks others
- threatens others

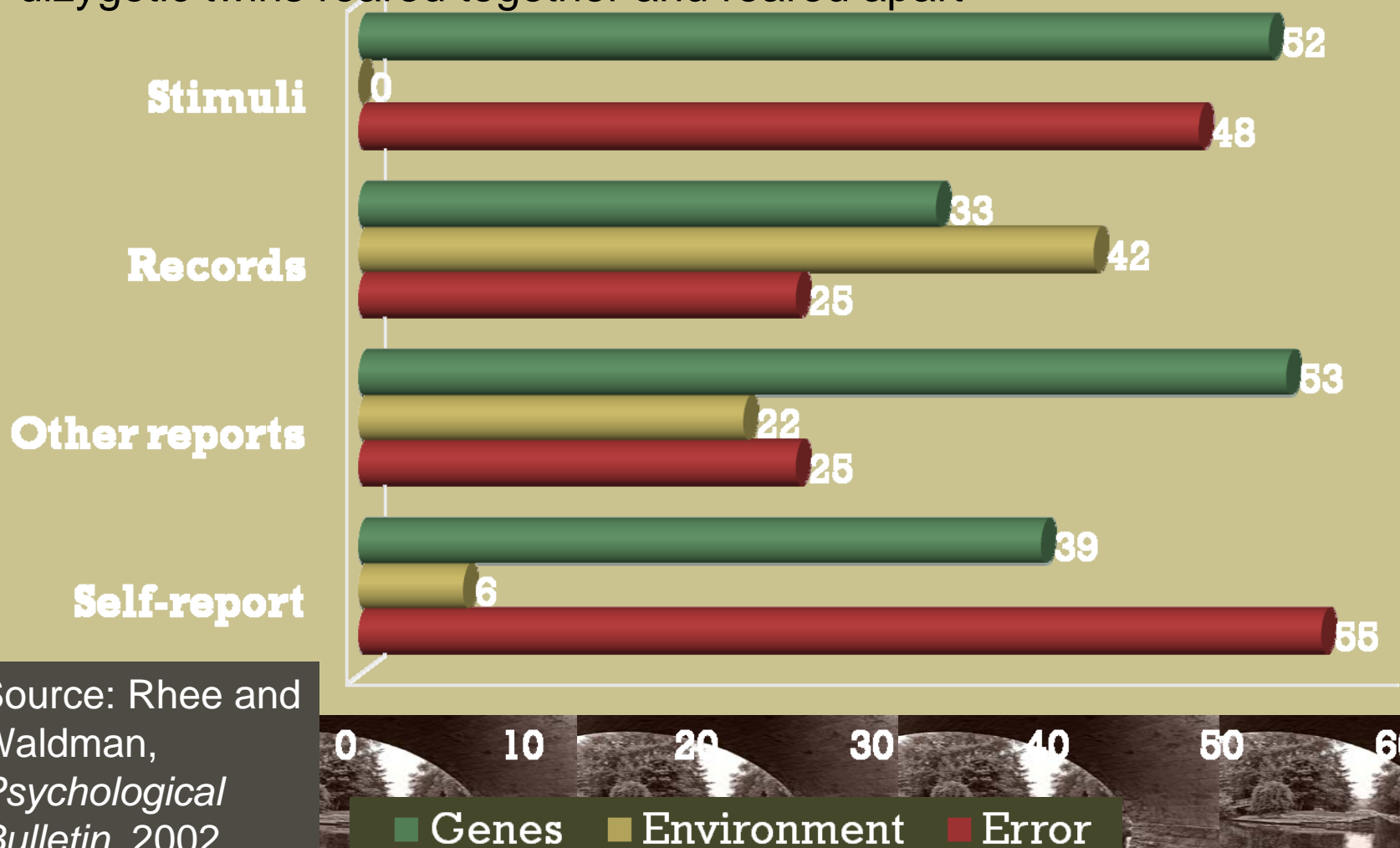


Sample:
1,480 pairs of
Swedish twins

Environment 6

Criminal Behavior

Meta-analysis of behavioral genetics studies of monozygotic and dizygotic twins reared together and reared apart



Source: Rhee and Waldman, *Psychological Bulletin*, 2002

Summary on Environment

- Relative to differences in genes, differences in environment appear to play a minor role in variability in socially desirable (weight, exercise, altruism, etc.) and undesirable (drug use, criminality, infidelity) behaviors
- Now, we turn to the second aspect of the situation: **Intervention**



What Is the Situation?

- **Situation can be one of three things:**

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Intervention

- **Society**

- ① Sexual abuse

- ② Winning lottery

- ③ Marriage (and divorce, widowhood)

- **Organisational psychology & behavior**

- ④ Stress management

- ⑤ Self-efficacy and performance



Intervention 1

Meta-Analysis: Childhood Sexual Abuse & Adult Adjustment

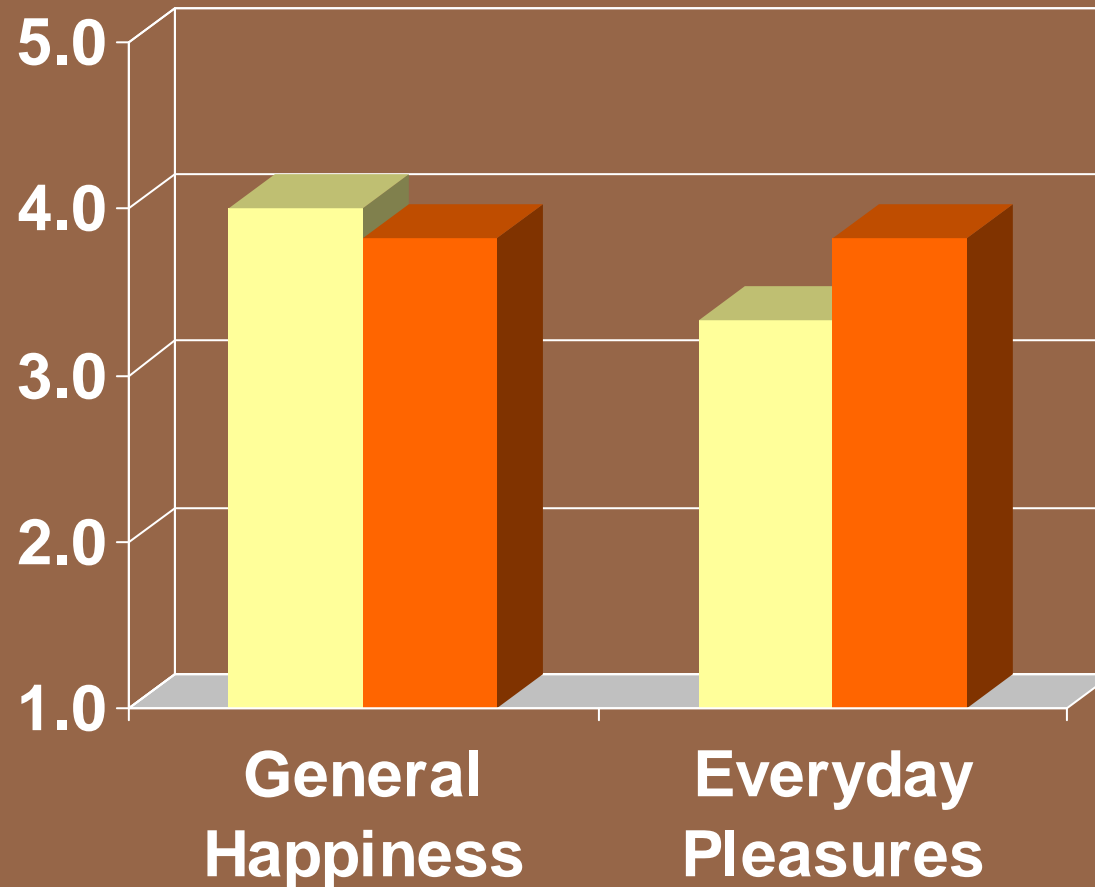
Symptom	k	N	\bar{r}
Alcohol	8	1,645	.07
Anxiety	18	7,365	.13
Depression	23	7,949	.12
Eating disorders	10	2,998	.06
Obsessive – compulsive	7	1,934	.10
Paranoia	10	2,052	.11
Self-esteem	16	3,630	.04
Sexual adjustment	20	7,723	.09
Social adjustment	17	4,332	.07
Somatization	19	4,376	.09
Suicide	9	5,425	.09

Childhood sexual abuse was coded, across studies, as either dichotomy (yes-no) or frequency degree to which individual was victim of one of four types of sexual abuse (no strong differences by type of abuse).

Rind, B., Tromovitch, P., & Bauserman, R. (1998). A meta-analytic examination of assumed properties of child sexual abuse using college samples. *Psychological Bulletin*, 124, 22-53.

Intervention 2

Winning Lottery



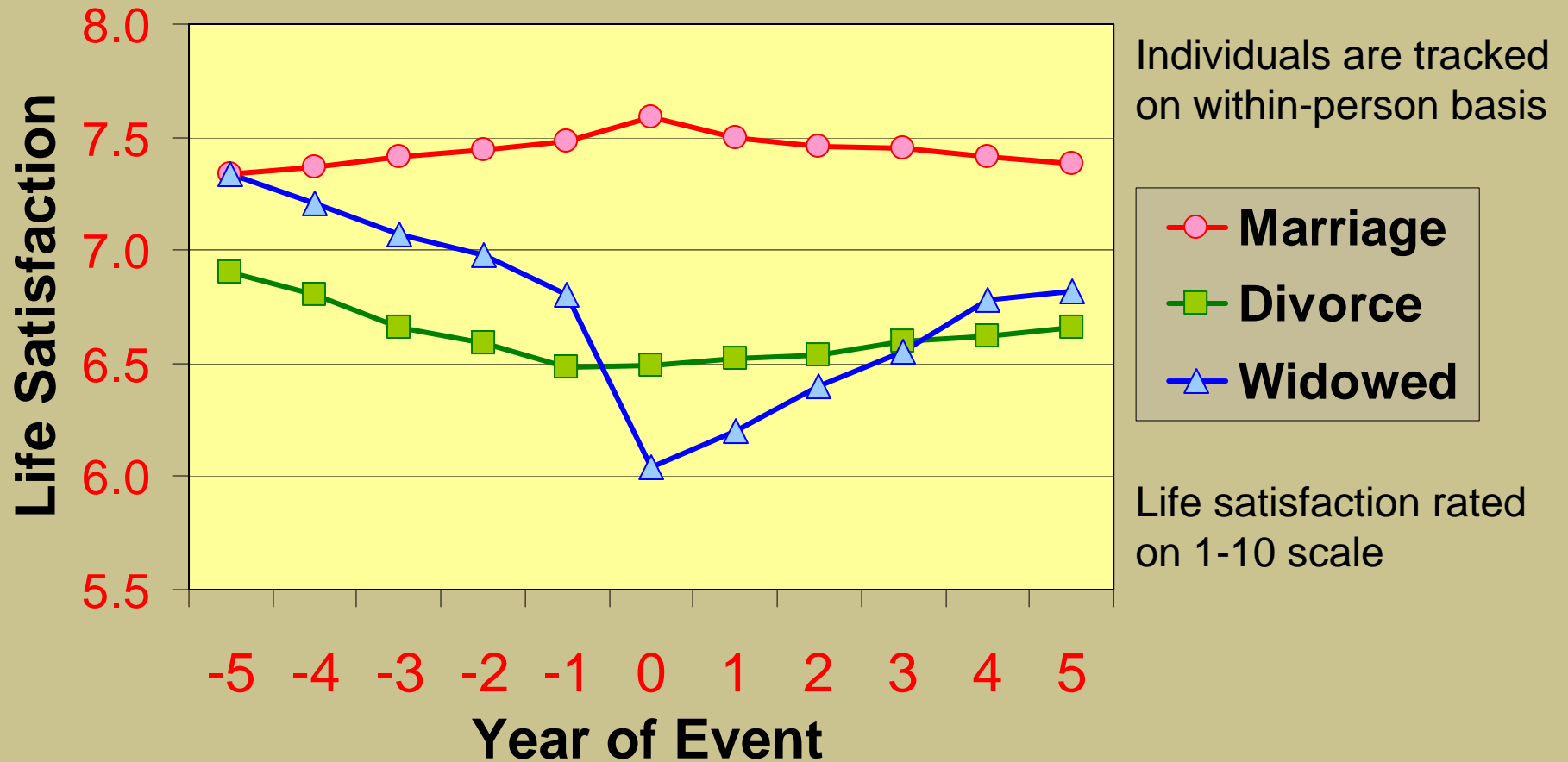
Sample: Winners of Illinois State Lottery
Average Prize \$480,000 (\$1.58M 2009 USD).

Winners
Control

Size of prize was not related to happiness.

Intervention 3

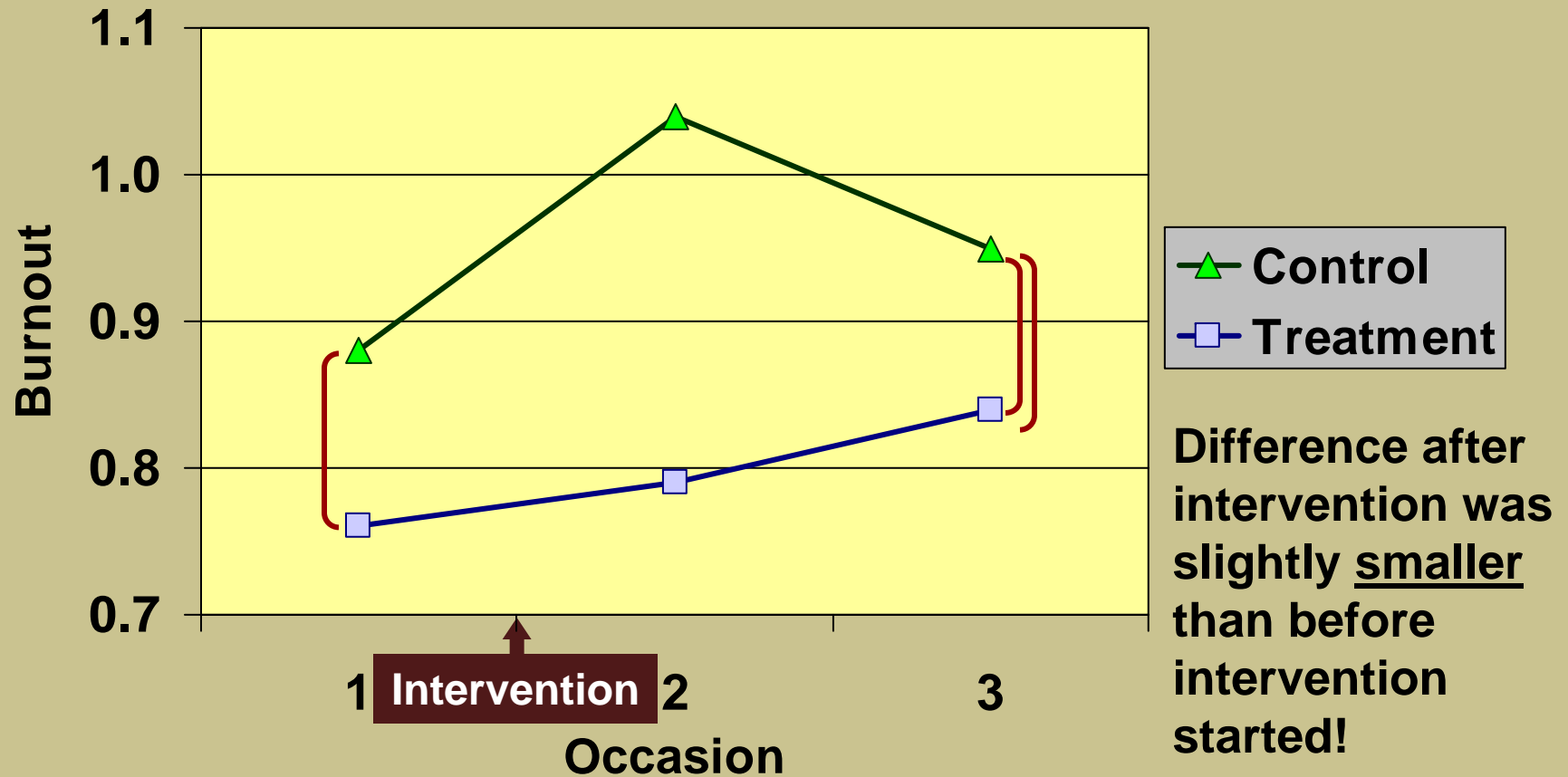
Marital Events



Source: Diener, Lucas, & Scollon, *American Psychologist*, 2006

Intervention 4

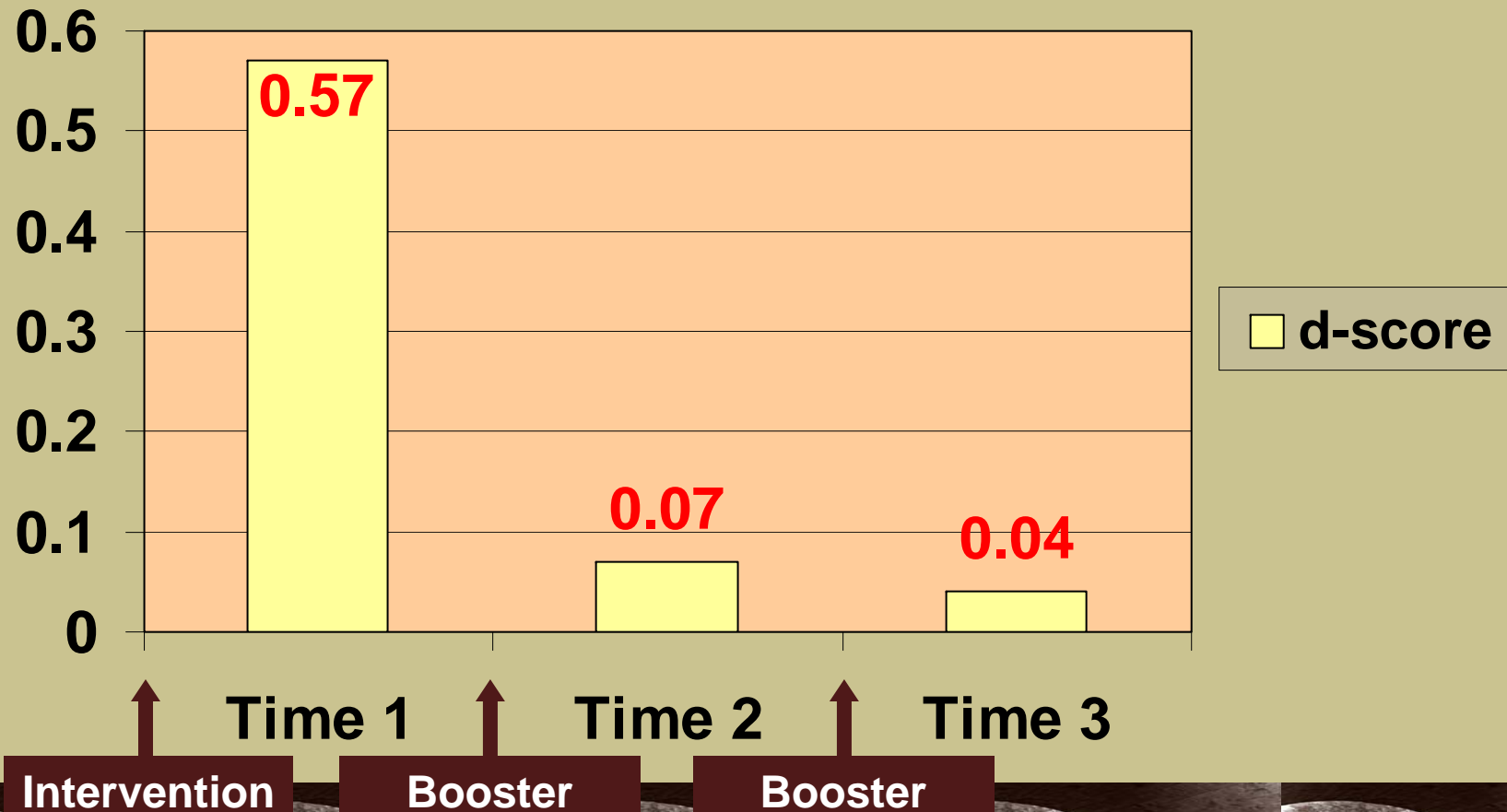
Stress Management Program



Intervention 5

Self-Efficacy Intervention

Difference (d-score) in accountants' job performance between control group and treatment (self-efficacy program) group



Source: McNatt & Judge, *Academy of Management Journal*, 2004

Summary on Interventions

- **Interventions suffer from many limitations**
 - Often only short-term effects studied
 - Manipulations often artificially strong (or, artificial and strong)
 - Naturalistic (field) interventions often suffer from a “situational fallacy”
 - **A correlation between a putative external variable and behavior—or between a treatment and behavior—reflects the effects of environment on behavior**

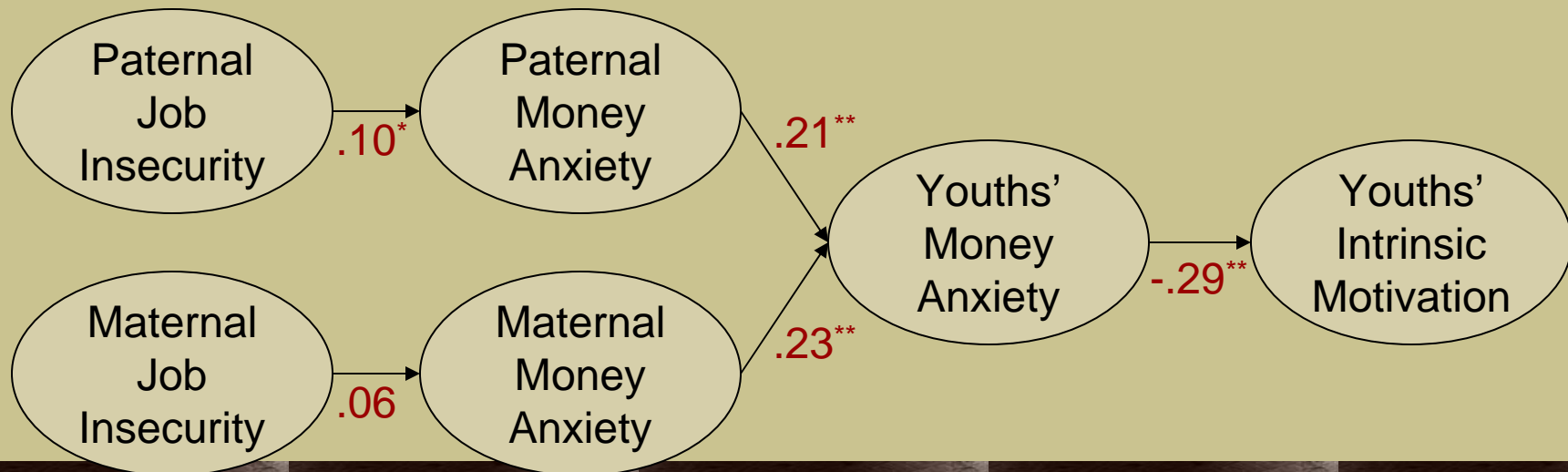


“Situational Fallacy”

Contagious Effect of Job Insecurity

Parental feelings of distress, concerns, and worries about money matters do cross over to affect their children, either directly or indirectly through communications or children’s observations of interactions within the families.

This study contributes to the stream of research on family and economic socialization by focusing on the crossover effects of parental money anxiety on youths’ beliefs about money and work.



Source: Lim and Sng, *Journal of Applied Psychology*, 2006

What Is the Situation?

- **Situation can be one of three things:**

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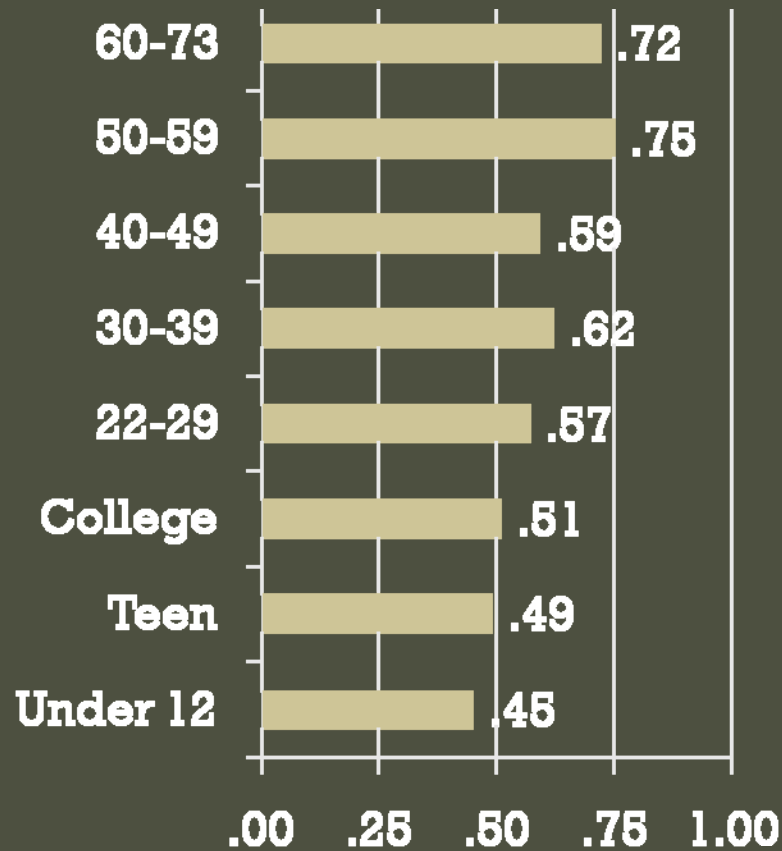
Do people really change?



Change

Individual Level

Ave. test-retest r over 7.5-year period



- **Personality is highly but not perfectly stable (either rank-order or mean-level change)**
- **Of course, change may well be a heritable individual difference as well**

Change

“Best Predictor of Future Behavior Is...”

Percent of individuals released from prison who have been charged with another crime three years later

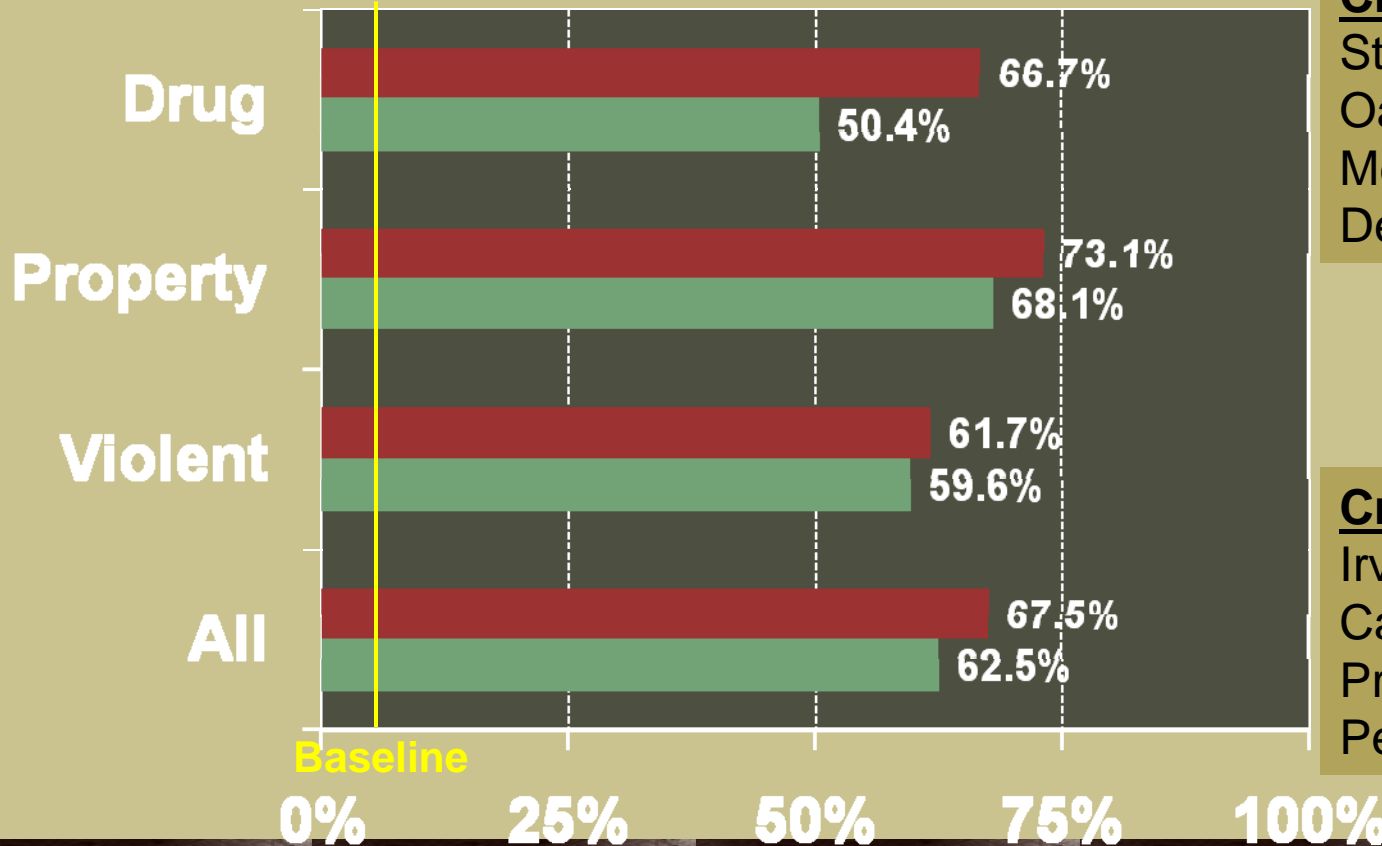
Crime rate (per cap):

St. Louis, MO=2.1%
Oakland, CA=1.9%
Memphis, TN=1.8%
Detroit, MI=1.9%

■ 1994
■ 1983

Crime rate (per cap):

Irvine, CA=0.1%
Cary, NC=0.1%
Provo, UT=0.2%
Peoria, IL=0.2%



Source: Bureau of Justice Statistics, U.S. Department of Justice

Change

Philosophy Is Practice, and Practice is Philosophy

- Though it continues to be debated, change is modest to moderate in adulthood
- Much change is:
 - **Random** (impossible to explain)
 - **Idiosyncratic** (random events, gene-environment interactions)
 - **Genetic** (stability vs. change itself is genetic)
 - **Adaptive universal** (many life changes occur in every—or nearly every—human)



Summary

- **Reasons for skepticism regarding the degree to which the situation or context explains attitudes and behaviors**
 - Environment: Shared genes 5-10 times more important than shared environments
 - Intervention: Contrived interventions produce short-term effects; natural interventions are rarely *tabula rasa* and generally have modest effects
 - Change: Change happens, but is not dramatic and often is not controllable



Attribution Errors

- Fundamental Attribution Error
 - Tendency to over-value dispositional or personality-based explanations for behaviors while under-valuing situational explanations for those behaviors
- Is this really **Fundamental**? What of:
 - Tendency to over-value situational or external causes of behaviors while under-valuing natural/universal or dispositional explanations for those behaviors



So What Does Matter?

- **Well, genes, of course**
 - Personality traits
 - Intellectual and physical abilities
 - Anthropomorphic characteristics
- **“Human universals” (Nettle, 2006)**
 - Experience
 - Maturation
 - Adaptation
- **Stochastic processes**
 - Chance
 - Fate

Nettle, D. (2006). The evolution of personality variation in humans and other animals. *American Psychologist*, 61, 622–631.

Negative Implications

Philosophy Is Practice, and Practice is Philosophy

- **What not to do**

- **Apply rules, structures, cultures, systems, interventions that apply across people**

- What are the unexamined costs of a bureaucratic/legalistic or social-interventionist approach to management?

- **Socialize/mold the person to the job**

- How would management practice change if we assumed that people don't often bend according to our rules, interventions, systems, techniques, etc.?



Positive Implications

Philosophy Is Practice, and Practice is Philosophy

- **What to do**

- **Invest more heavily in selection**

- We have many good ways to assess who people are before they are hired (personality, values, intelligence, biodata)

- **Fit/adapt the job to the person**

- If we start with the assumption that the person is not likely to change (in ways we control), how would they like their job and work structured?

- **Capitalize on strengths**



What This Talk is Not

- **A broadside against all interventions, all context, or all experiments**
 - Some (goal-setting) work better than others
 - My own research is fairly criticized by my own criticisms
- **A proscription**
 - All that I endeavor is to give you room for thought



Free Will?

- **Genetic predispositions, strong though they are, are ideologically neutral**
 - Is there free will?
 - Who is responsible?
 - Role of volition/choice
- **It is not pessimistic**
 - Unless we prefer to live the lives of fairy tales
- **It answers hard questions**
 - Such as: Why does change not happen?



A Final Note

- **Organisational psychology is a relatively healthy discipline within the limits of the social sciences (Kuhn)**
- **My polemic applies to other social science areas (e.g., behavioral economics)**
- **Still, IMHO, our collective knowledge, from the literature, fails to appreciate dominant causes of human behavior**
 - Those would be: genes, evolution, chance

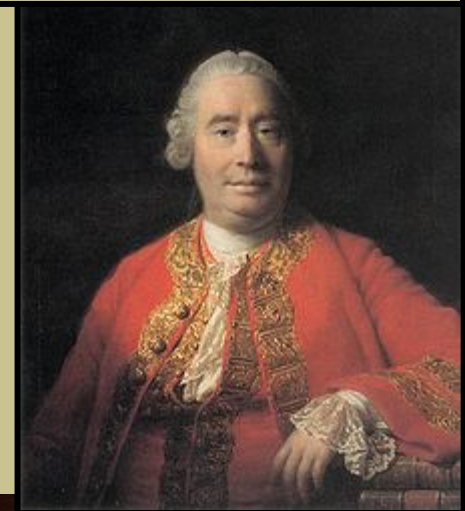


A Final, Final Note

- **We would be wise to avoid the “is-ought” problem (Hume)**

The author...makes observations concerning human affairs; when all of a sudden I am surpriz'd to find, that instead of the usual copulations of propositions, is, and is not, I meet with no proposition that is not connected with an ought, or an ought not.

- **Translation: The world in which we do live is (is) not necessarily the one in which we would wish to live (ought)**
- **If psychology is a science, it is concerned with predicting and understanding—not ideology**



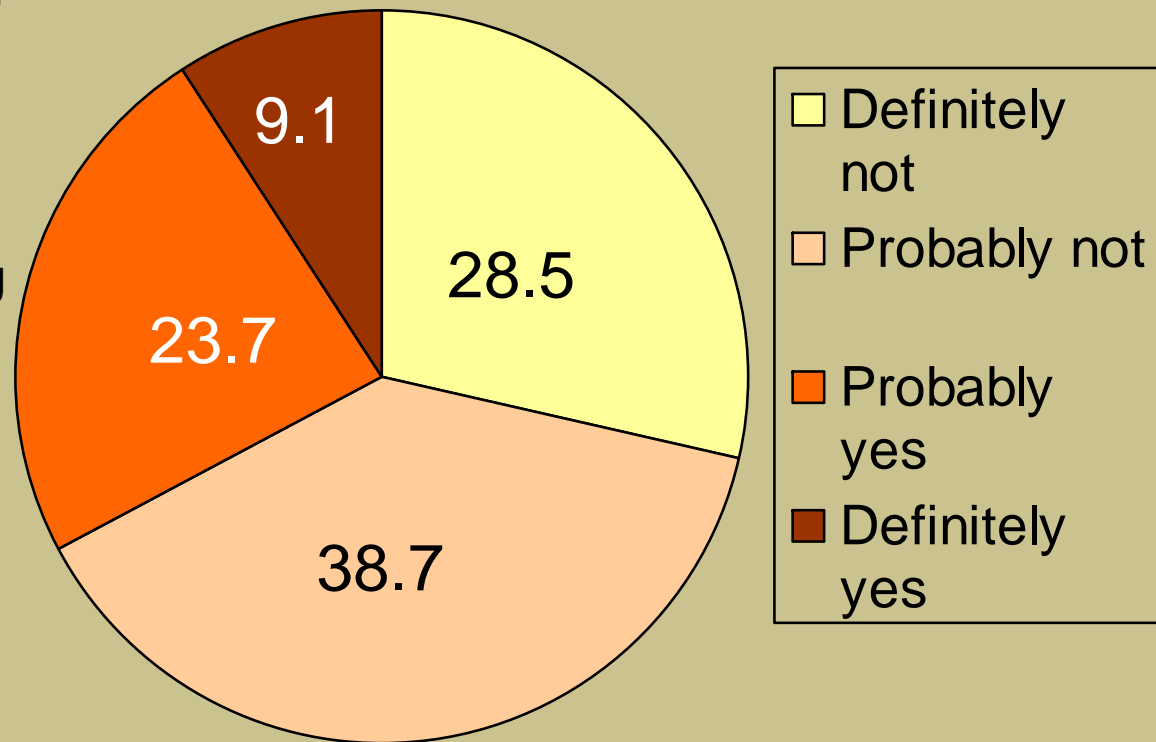
The Ought-Is Problem

“You Can’t Handle the Truth”

Someday the science of genetics may be powerful enough so that it will be possible to predict from one's genes at birth the year when one will die of natural causes (assuming that one has no died accidentally before that date).

If this were true today, would you want to know your anticipated year of death?

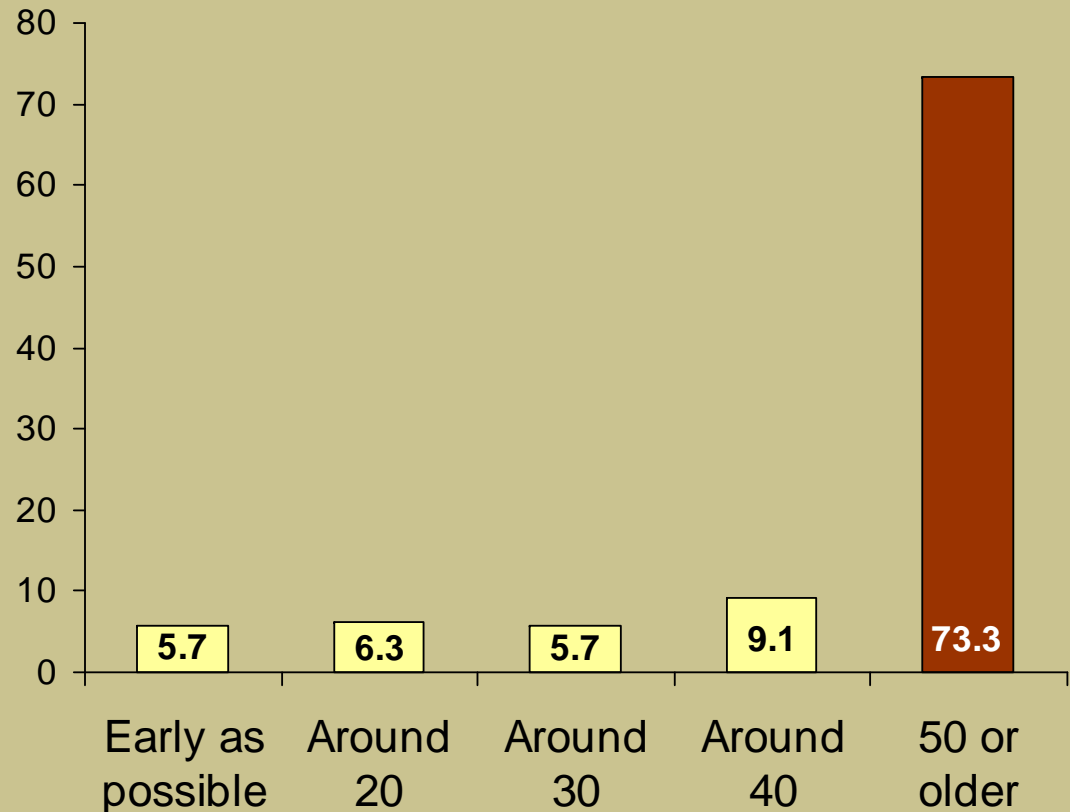
Percent Individuals Choosing Response



The Ought-Is Problem

“You Can’t Handle the Truth”

If this were true today, at which age if any would you wish to be informed?



Percent Individuals Choosing Response





Thank You!

For copies of slides/papers, visit...

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