

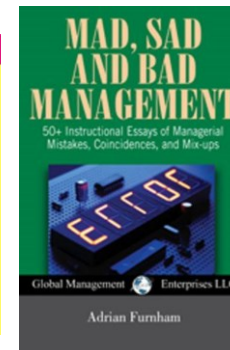
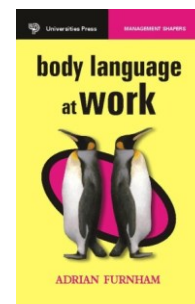
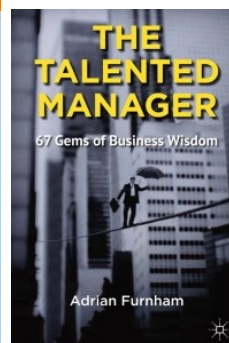
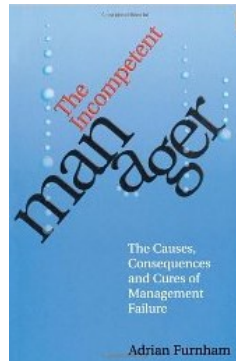
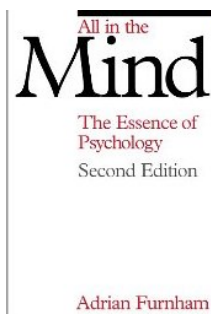
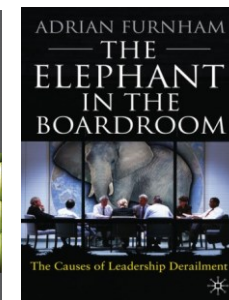
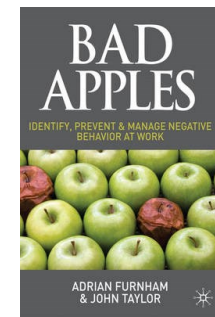
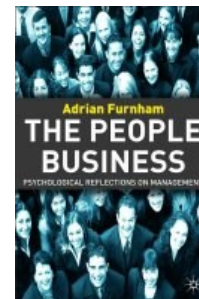
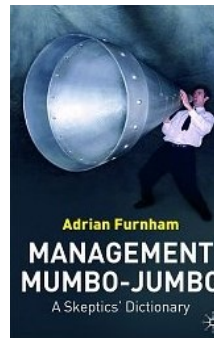
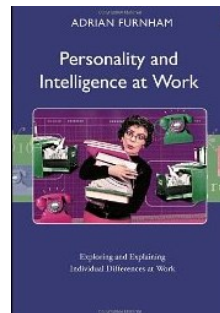
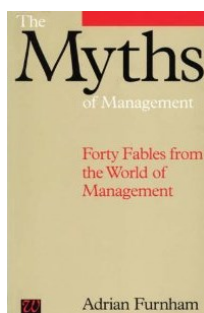
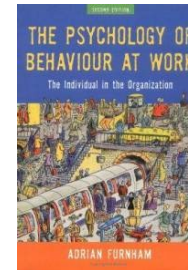
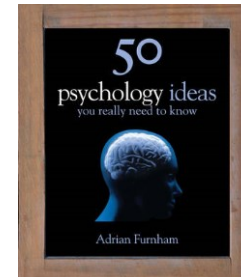
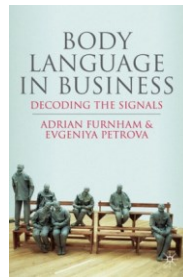
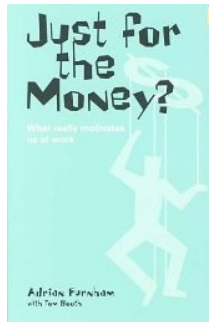


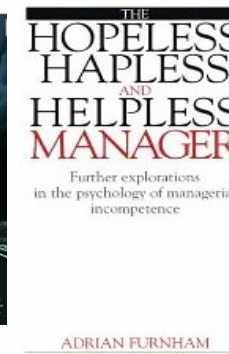
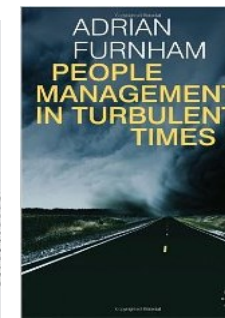
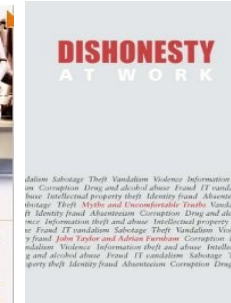
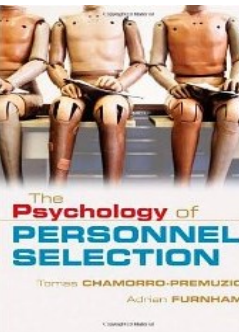
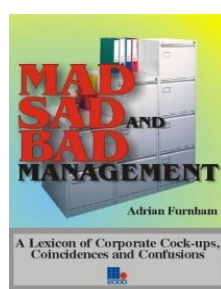
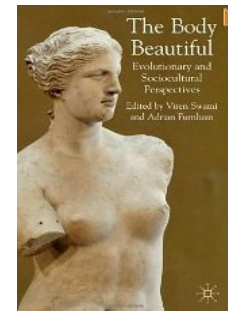
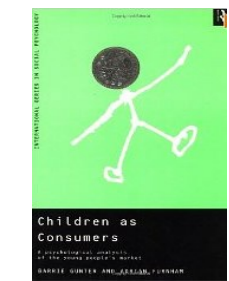
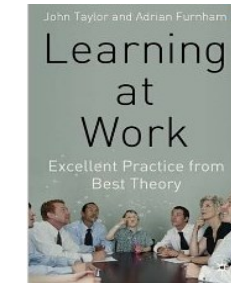
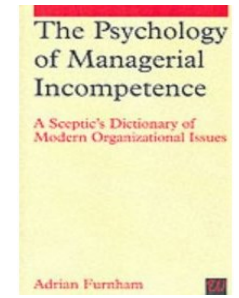
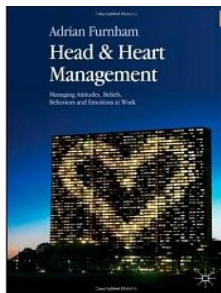
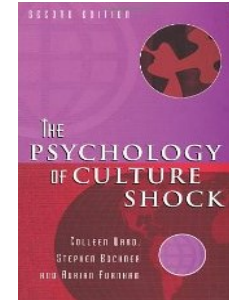
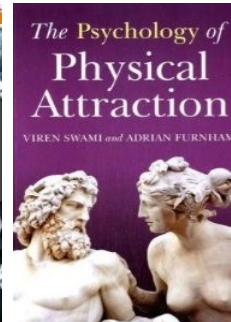
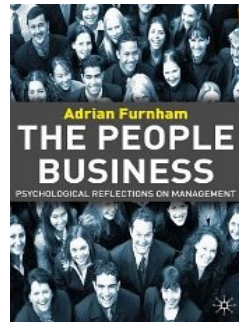
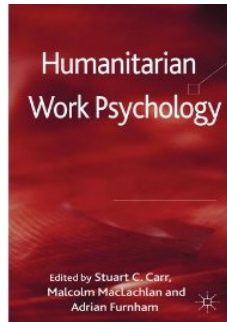
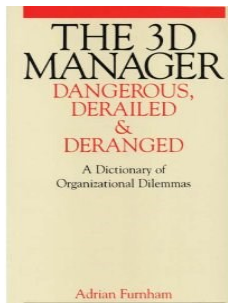
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What you can and cannot change

Adrian Furnham D.Phil (Oxon) D.Sc (London) D.Litt (Natal)
Professor of Psychology
University College London

*Thanks to Prof Brent Roberts and Dr Sophie von Stumm for help
and advice*









Associated
British Foods
plc

Goldman
Sachs



The
Economist

 Lloyds TSB

BRITISH
AIRWAYS



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Emirates

Emirate Of Abu Dhabi
Executive Council
General Secretariat



 British Quality
FOUNDATION




ARMY
BE THE BEST
REGULAR & TERRITORIAL


MINISTRY OF FOREIGN AFFAIRS
SINGAPORE







Optimist or Pessimist

***How many psychologists do you need to change a light-bulb?
Just the one will do.....but the light-bulb needs to want to be changed***

- **CYNICAL PESSIMIST:** What you see (in early adulthood) is what you get. People change very little over time. Accept it, live with it. That is the reality. Depressive realism?
- **DITHERER:** With the right *help* (coaching, therapy, training) and sufficient *motivation* people can be taught new skills and behaviours. But it takes effort, resources and often pain.
- **NAÏVE OPTIMIST:** Personality, even abilities, can change if you adopt the right mindset and behaviour pattern. It is comparatively easy. Deluded optimism...but good for you. The nun's story...optimism and longevity.



- ❑ James (1890/ 1960) hypotheses' on personality change:
 - *Plasticity Hypothesis* : Personality is changeable, like plastic
 - *Plaster Hypothesis* : Personality is enduring, like plaster

- ❑ Costa & McCrae (1994; 1997): first large, longitudinal studies find *no meaningful changes* in personality after the age of 30 years

- ❑ Plaster hypothesis widely accepted, but more recently the pendulum has moved to plasticity



Fatalism: Lawrence of Arabia

PRINCE FEISAL: GASIM'S TIME HAS COME, LAWRENCE. IT IS WRITTEN.

T.E. LAWRENCE: NOTHING IS WRITTEN.

SHERIF ALI: YOU WILL NOT BE AT AQABA, ENGLISH! GO BACK, BLASPHEMER...
BUT YOU WILL NOT BE AT AQABA!

T.E. LAWRENCE: I SHALL BE AT AQABA. THAT, IS WRITTEN.

[POINTING TO FOREHEAD]

T.E. LAWRENCE: IN HERE.

SHERIF ALI: TRULY, FOR SOME MEN NOTHING IS WRITTEN
UNLESS THEY WRITE IT.



Essentialism of specific human characteristics

Discreteness

People either have this characteristic or they do not: those who have it are a distinct type of person

Biological Basis

This characteristic is based on a person's biological or genetic make-up

Immutability

It is not easy to change this characteristic: It is a fixed attribute of the person

Informativeness

This characteristic has broad ramifications: it influences people's behaviour in many situations

Consistency

People who have this characteristic will tend to display it in a consistent manner, showing it in different situations and with different people

Inherence

This characteristic is a deeply-rooted part of the personality: it lies deep within the person and underlies the person's behaviour



Phineas Gage: radical personality change

- ❑ American railroad construction foreman who had iron rod driven through his head in an accident
- ❑ Survived despite damaged frontal cortex but no longer same man. Prefrontal lobotomy
- ❑ Became aggressive, unpredictable, angry, unreliable, no longer popular as worker/ friend
- ❑ Very little evidence for Gage's personality prior to accident





London Cabbies: You can teach an old dog new tricks

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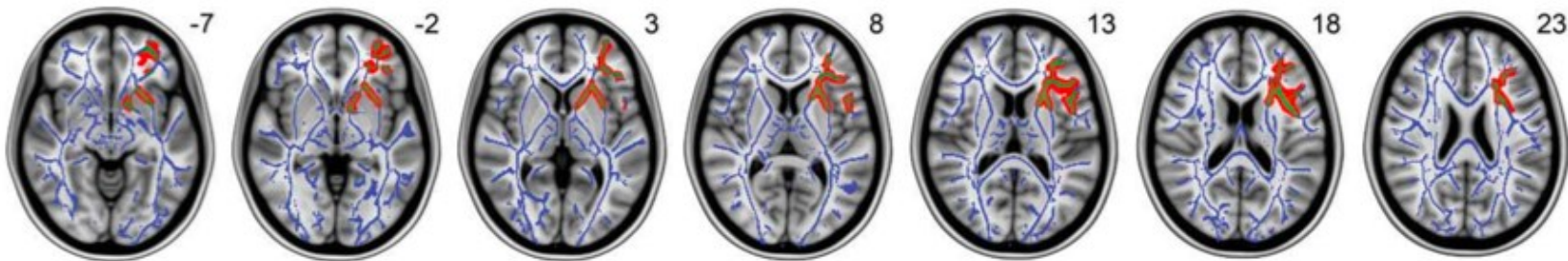
Age 44

Maguire et al., 2000



Age 61

Engvig et al., 2011





What about longitudinal studies? Surprisingly little change.

❑ The **Marshmallow test** (Walter Mischel)

40 years after a brief test of delay of gratification. Childhood to late middle age.

Self Control in early childhood predicts all sorts of adult measureable variables: Education, Health, Wealth, Relationships

❑ The **Scottish Mental Health Survey** (Ian Deary)

People measured over 70 years later on an intelligence test were remarkably consistent ($r=.66$).

Also, brighter people live longer.



All you need is effort and courage. Change/Growth Therapy

❑ Takes effort and determination

- *10,000 hour rule* to become an expert at anything
- Anyone can do it: Motivation and Effort alone.
- Positive change (skill acquisition) is possible but takes great dedication

❑ Hurts

- Involves pain, deprivation and re-interpretation of who you are.
- Change involves *life style changes*.
- It is not easy, simple or quick but it is possible.
- All diets fail: life style change is what is required.



Personality traits are very important. So...can they be changed?

- Better school success (Poropat, 2009)
- Higher educational attainment (Heckman et al., 2012)
- Higher occupational attainment (Judge et al., 1997)
- Better relationship outcomes (Roberts et al., 2007)
- Better health behaviours (Bogg & Roberts, 2004)
- Better physical health (e.g. Alzheimer's; Wilson et al., 2009)
- Higher positive/lower negative emotions (Fayard et al., 2011)
- Longevity (Hill et al., 2011)



Business Psychologists also most interested!

Organisational targets for planned change

Objectives

Set or modify specific performance targets

Purpose

Clarify or create mission and objectives

Technology

Improve equipment, facilities and work flows

Strategy

Clarify or create strategic and operational plans

Change targets

Structure

Update organisational design and coordination mechanisms

Culture

Clarify or create core beliefs and values

People

Update recruiting and selection practices; improve training and development

Tasks

Update job designs for individuals and groups



Can Leadership be trained/changed/developed? Can you turn a techie into an inspirational leader?

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Experiential

“Stretch assignments”, shadowing, outplacement, job rotation

Educational

MBA, Short course, Case Studies, Simulations

Personal

Coaching and Mentoring



Why is this so important?

- ❑ If people can be helped to change for the better (reduce unhappiness, increase well-being, be more healthy)...
- ❑ What change strategies work best and why?
- ❑ How long does that change last?
- ❑ ***Millions (\$£) rest on the answers to these very difficult questions. Huge industries...the alternative medicine, coaching, diet, therapy, trainingindustry, rests on the assumption that it works..it brings about desired, long-lasting, meaningful change.***
- ❑ More and more are asking for the evidence-base. Prove what you claim!



Do interventions work?

- ❑ Coaching, Therapy, Training
- ❑ Is there good evidence that particular interventions succeed in bringing about :
 - *Planned*
 - *Long-term*
 - *Desired*
- ❑ Change in an individual (or group and organisational) behaviour



Does Coaching Work?

Evidence of Efficacy

- Is it possible to do randomised, double-blind, placebo controlled studies to prove coaching works?
- What is the best outcome measure of success?
- Is coaching a form of “alternative medicine” in the clinical/counselling world?
- Is it lack of evidence ; or evidence of lack of efficacy



1. **Length of treatment time.** How long need it to last
2. **Selection of participants /patients.** Volunteers/Conscripts
3. **Measures of change.** Self report, observer, behaviour
4. **Generalisation & durability of change.** Over time, contexts, skills
5. **Therapist/Teacher/Trainer effects.** The “pist” or the “py”
6. **Additional therapies.** What else are they doing
7. **‘Contamination’** of treatments by other factors
8. **Independent assessment** of treatment efficacy. Disinterested, outsiders
9. **Loss of subjects.** The nature of those who drop out



The Active Ingredients in Coaching. It works because.....

- Client readiness for coaching (40%)
- Coach-Client relationship (30%)
- Client expectations of improvement (15%)
- Application of a model/theory/process (15%)

(McKenna & Davis (2009))



The Therapeutic alliance: Through therapy patients and clients get acceptance, attention, care, respect and support. It is this sense of being understood and assisted that is essential to cure.

Self-examination: The whole therapeutic process encourages greater self-monitoring and self-analyses which often in-and-of itself suggests solutions.

Morale: Clients often report being happier and more optimistic because they believe their coping mechanisms and strategies have improved and that the overcoming of their personal difficulties is possible.

Commitment to change: Agree to, and indeed attending, therapy voluntarily and paying for that therapy is a reaffirmation of commitment to change which is the best predictor of change.



What works best?

Depends on:

- ❑ ***What is to be trained:***
Knowledge, skills, attitudes/values

- ❑ ***The individual:***
Ability, personality, motivation

- ❑ ***The time frame:***
Long/short, massed distributed



Why so difficult to prove

(Lilienfeld et al, 2012)

- ❑ Many practitioners resist trying to provide evidence based truth
 - They don't want to consider other factors/explanations which may account for outcomes (ie. spontaneous remission, placebo)
 - Deep-seated misconceptions about human behaviour (nature/nurture, un-importance of early childhood)
 - Statistical ignorance and the application of group findings to individuals
 - Putting the burden of proof on the sceptics rather than those who propose the untested therapies
 - Ignorance about how to do assessments and the double blind randomised, control trial approach.



Is coaching different

- Clients are different from those in clinical and counselling sessions: brighter, better educated?
- They have more power over their lives.....more freedom to act
- Coaching is more about raising awareness and education than personality change

But the whole process needs to be evaluated for its efficacy



Seligman's Hypothesis

❑ **FACTS ABOUT WHAT YOU CAN CHANGE:**

- Panic can be easily unlearned, but cannot be cured by medication alone
- The sexual "dysfunctions" such as frigidity, impotence, premature ejaculation are easily unlearned
- Your moods, which can wreak havoc with your physical health, are readily controlled
- Depression can be cured by straightforward changes in conscious thinking or helped by medication, but it cannot be cured by insight into childhood
- Optimism is a learned skill. Once learned, it increases achievement at work and improves physical health

❑ **FACTS ABOUT WHAT DOES NOT CHANGE:**

- Dieting, in the long run, almost never works
- Kids do not become androgynous easily
- No treatment is known to improve on the natural course of recovery from alcoholism
- Homosexuality does not become heterosexuality
- Reliving childhood trauma does not undo adult personality problems



	<i>Biology</i>	<i>Evidence</i>	<i>Power</i>	<i>Total</i>	<i>Changeability</i>
Sexual identity	****	****	****	***** *	Unchangeable
Sexual orient	***	***	***	*****	Probably No
PTSD	O	****	****	*****	Little relief
Overweight	***	*	***	*****	Temporary change only
Alcoholism	**	**	***	*****	Mild relief
Anger	**	***	**	*****	Mild/moderate
Everyday anxiety	**	**	**	*****	Mild/moderate
Sexual prefs	**	**	**	*****	Moderate/mild
OCD	**	****	O	*****	Moderate/mild
Sex role- Child	*	***	***	*****	Rigid
Sex role – Adults	*	*	*	***	Flexible
Depression	*	**	***	*****	Moderate
Social phobia	*	***	**	*****	Moderate
Agoraphobia	*	***	*	*****	Moderate
Sexual probs	O	**	**	****	Almost curable
Specific phobias	**	**	O	****	Almost curable
Panic	O	**	O	**	Curable



Positive Psychology and Happiness

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- ❑ Activities that make people happy in small doses – such as shopping, good food and making money – do not lead to fulfillment in the long term, indicating that these have quickly diminishing returns.
- ❑ People who express gratitude on a regular basis have better physical health, optimism, progress toward goals, well-being, and help others more.
- ❑ Trying to maximize happiness can lead to unhappiness.
- ❑ People who witness others perform good deeds experience an emotion called ‘elevation’ and this motivates them to perform their own good deeds.
- ❑ Optimism can protect people from mental and physical illness.
- ❑ People who report more positive emotions in young adulthood live longer and healthier lives.
- ❑ Physicians experiencing positive emotions tend to make more accurate diagnoses.
- ❑ Individuals who write about traumatic events are physically healthier than control groups that do not. Writing about life goals is significantly less distressing than writing about trauma, and is associated with enhanced well-being.
- ❑ People are unable to predict how long they will be happy or sad following an important event.



Happiness Myths

- Happiness depends mainly on the quality and quantity of things that happen to you.
- People are less happy than they used to be.
- People with a serious physical disability are always less happy.
- Young people in the prime of life are happier than older people.
- People who experience great happiness also experience great unhappiness.
- More intelligent people are generally happier than less intelligent people.
- Children add significantly to the happiness of married couples.
- Acquiring lots of money makes people much happier in the long run.
- Men are overall happier than women.
- Pursuing happiness paradoxically often ensures you lose it.



Some Facts about Happiness

- ❑ Women report more happiness and fulfillment if their lives feel rushed rather than free and easy.
- ❑ Women are more likely than men both to become depressed and to express joy.
- ❑ There is very little change in life satisfaction and happiness over the life span.
- ❑ There are social class factors associated with mental health and happiness but these are confounded with income, occupation and education.
- ❑ There is a relationship between health, happiness and income but the correlation is modest and the effect disappears after the average salary level is reached.



Some Facts about Happiness (cont.)

- ❑ Better educated people – as measured by years of education – is positively associated with happiness.
- ❑ Occupational status is also linked to happiness with dramatic differences between Class I and V.
- ❑ Race differences in health and happiness in a culture are nearly always confounded with education and occupation.
- ❑ There are dramatic national differences in self-reported happiness which seems to be related to factors like national income, equality, human rights, and democratic systems.
- ❑ Physical health is a good correlate of mental health and happiness but it is thought to be both a cause and an effect of happiness.



“Happiness is a thing called Stable Extraversion”

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Study	Extra- version	Neuroticism
Argyle & Lu (1990)	.46	
Furnham & Brewin (1990)	.55	-.43
Brebner et al (1995)	.43	-.44
Francis et al (1998)	.40	-.44
Furnham & Cheng (1999)	.39	-.44
Cheng & Furnham (2002)	.45	-.43
Cheng & Furnham (2003)	.44	-.33
Furnham & Petrides (2003)	.33	-.37

Predicting happiness (OHI) and mental health (L-22) from personality (EPQ), attributional style and demographic variables

Measure	Happiness		Mental health	
	β	<i>t</i>	β	<i>t</i>
Sex	-0.08	0.87	-0.04	0.45
Age	-0.05	0.57	0.06	0.69
Extraversion	0.23	2.49*	-0.02	0.16
Neuroticism	-0.35	3.61***	0.49	4.68***
Psychoticism	-0.14	1.62	-0.15	1.29
Lie scale	0.15	1.64	-0.01	0.08
ASQ Total	-0.20	1.94*	0.48	2.96**
Variance explained	$R^2 = 0.43$ $F(7,75) = 8.06***$		$R^2 = 0.35$ $F(7,75) = 5.70***$	

Note: * $p < 0.05$; ** $p < 0.01$. Male coded as '1'; female as '2'.

EPQ = Eysenck Personality Questionnaire.

†ASQ-II = Attributional Style Questionnaire (version two – in negative situations only).

L-22 = Langner 22-item Measure.

OHI = Oxford Happiness Inventory.



Partial correlations of personality scales with happiness and mental health controlling

Measures	Country	Happiness	Mental health
Extraversion	China	0.48***	-0.09
	Japan	0.41***	-0.14
	UK	0.56***	-0.15
Neuroticism	China	-0.56***	0.72***
	Japan	-0.01	0.64***
	UK	-0.42***	0.63***
Psychoticism	China	-0.08	0.07
	Japan	-0.11	0.34**
	UK	-0.25*	0.40**
Lie Scale	China	0.19	-0.36**
	Japan	-0.11	-0.35**
	UK	0.12	-0.25*

Male coded as '1'; female as '2'.

* $p < 0.05$.

** $p < 0.01$.

*** $p > p < 0.001$.



What is the process/ mechanism?

- Optimism/ Attribution Style
- Social support
- Constructive Thinking

To what extent is happiness, like personality, hard-wired?

What help can/ should one offer the less happy (CBT)?

So you can partly coach/train for increased happiness and well-being

Does personality, and therefore happiness, change over time?

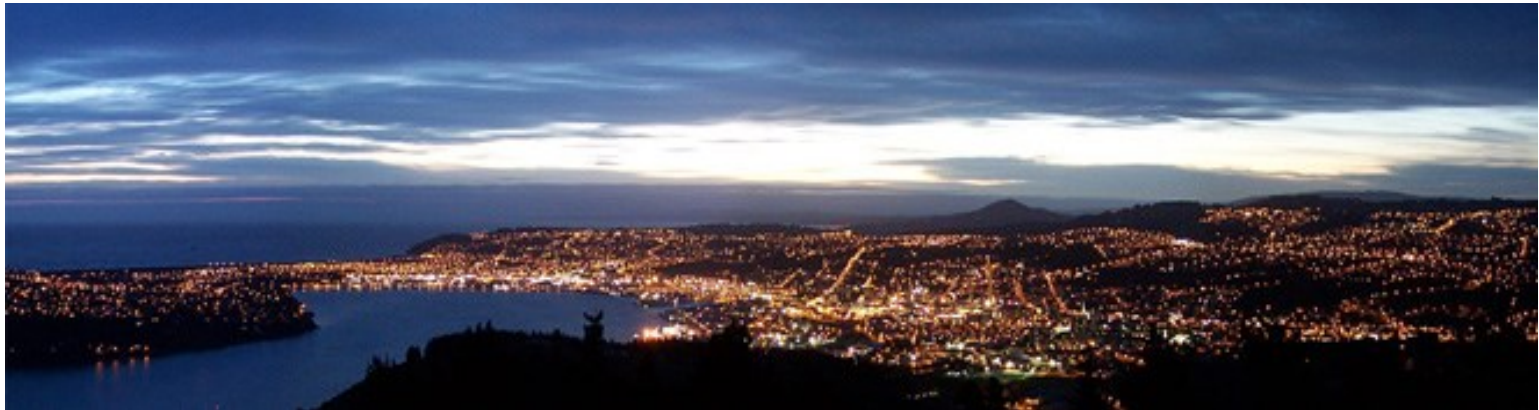
- Personality factors play a large part in determining happiness
- There is a long shadow in the effect of early experiences that determines well being
- A great deal of therapy and counselling is devoted to trying to bring about greater happiness and well-being
- So what is the data on the change of personality over time?



The Dunedin Study

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- ❑ Children born 1972/1973 in Dunedin, New Zealand
- ❑ First follow-up at age 3, N = 1037
- ❑ Reassessed at ages 5, 7, 9, 11, 13, 15, 18, and 21



<http://dunedinstudy.otago.ac.nz/>



- Age 3: 90-min test session involving cognitive and motor tasks (e.g. picture vocabulary test; fine & gross motor coordination)
- The children were tested by examiners who had no knowledge of their behavioural history
- Examiners rated children on 22 different behavioural characteristics
- Three temperament dimensions emerged: lack of control, approach (inhibition), and sluggishness



- ❑ Individual differences in temperament at young ages have long-term, pervasive influences on Individual Differences in later personality
- ❑ Also strong effects of personality-related life-outcomes, including mental health (e.g. depression), alcohol dependence, social networks, marital status, suicide attempts, criminal behaviours
- ❑ There are stable behavioural patterns of individual differences that affect lifespan development

Caspi, 2000, JPSP



- ❑ Meta-analysis of 92 longitudinal samples, using the Big Five, from adolescence (10-18 years) until old age (70+ years)
 - *Mean-level changes occur well into old age → personality continues to develop beyond age of 30 years*
 - *Mean-level changes most extreme in young adulthood, more so than in adolescence*
 - *Changes most notable in Extraversion, Conscientiousness and Neuroticism*
- Personality is dynamic and plastic rather than plaster**

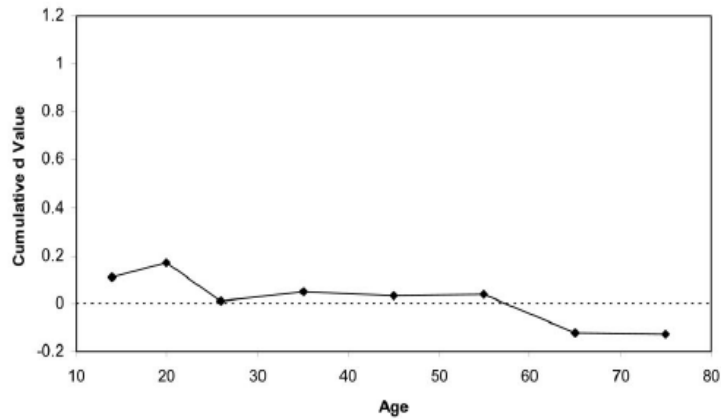
Roberts et al (2006), *Psychological Bulletin*



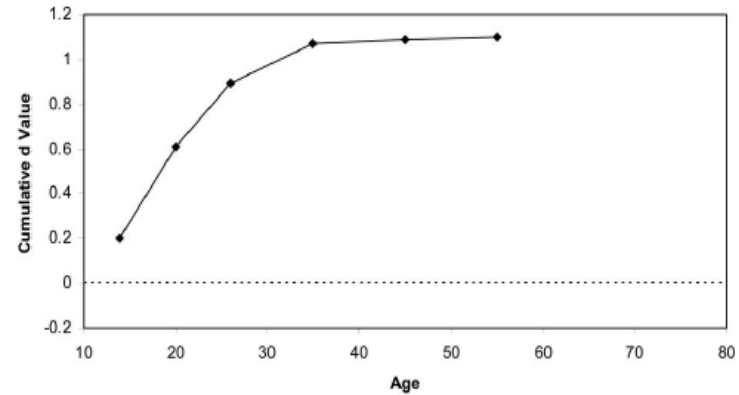
- ❑ Personality traits change with age (Roberts & Mroczek, 2008) – as much as 1 standard deviation from age 20 to age 60.
- ❑ Personality trait changes are correlated with many different types of life experiences (Donnellan, Hill & Roberts, 2012)



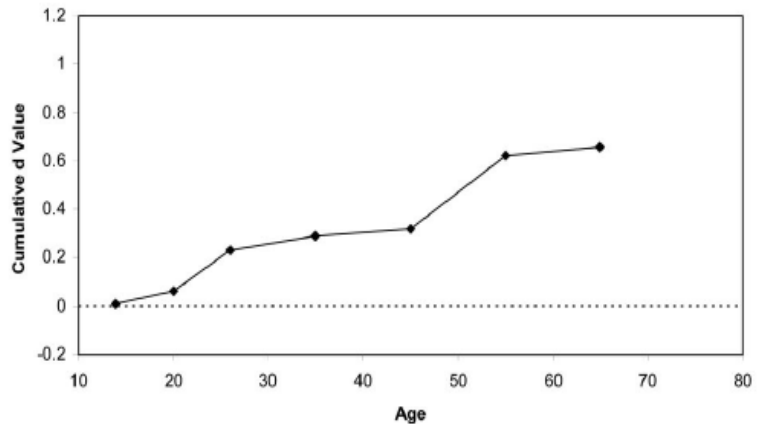
Social Vitality



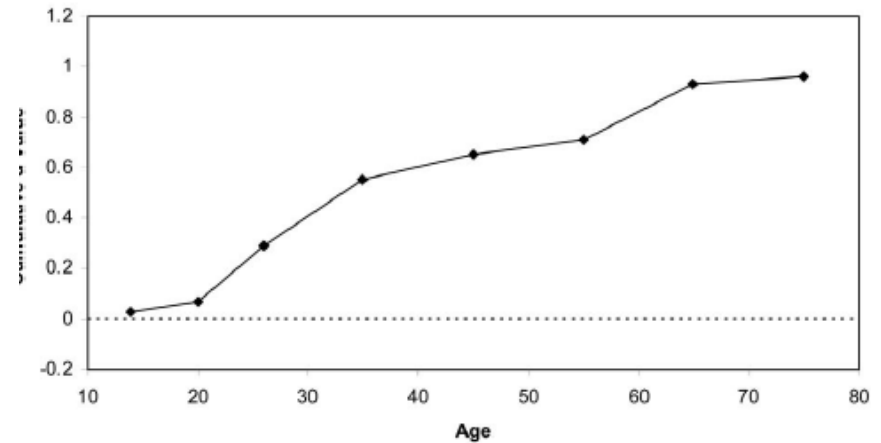
Social Dominance



Agreeableness



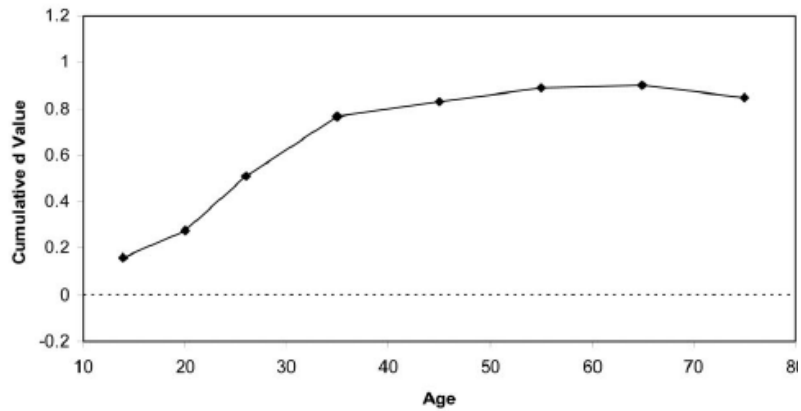
Conscientiousness



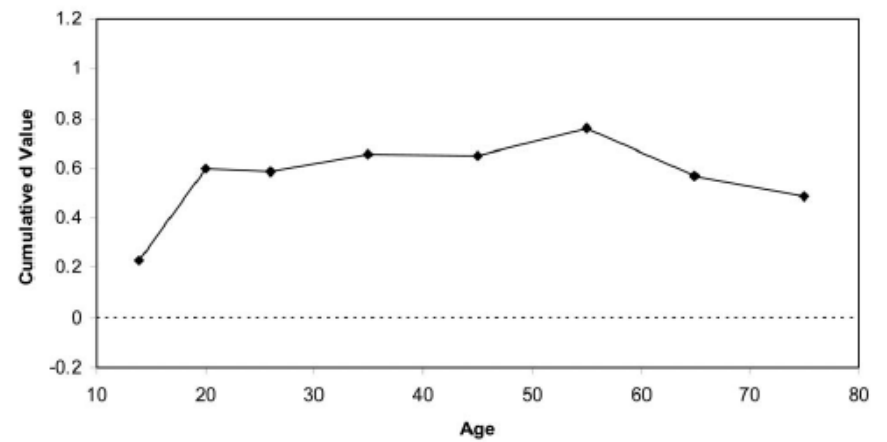
Roberts et al (2006), *Psychological Bulletin*



Emotional Stability



Openness to Experience

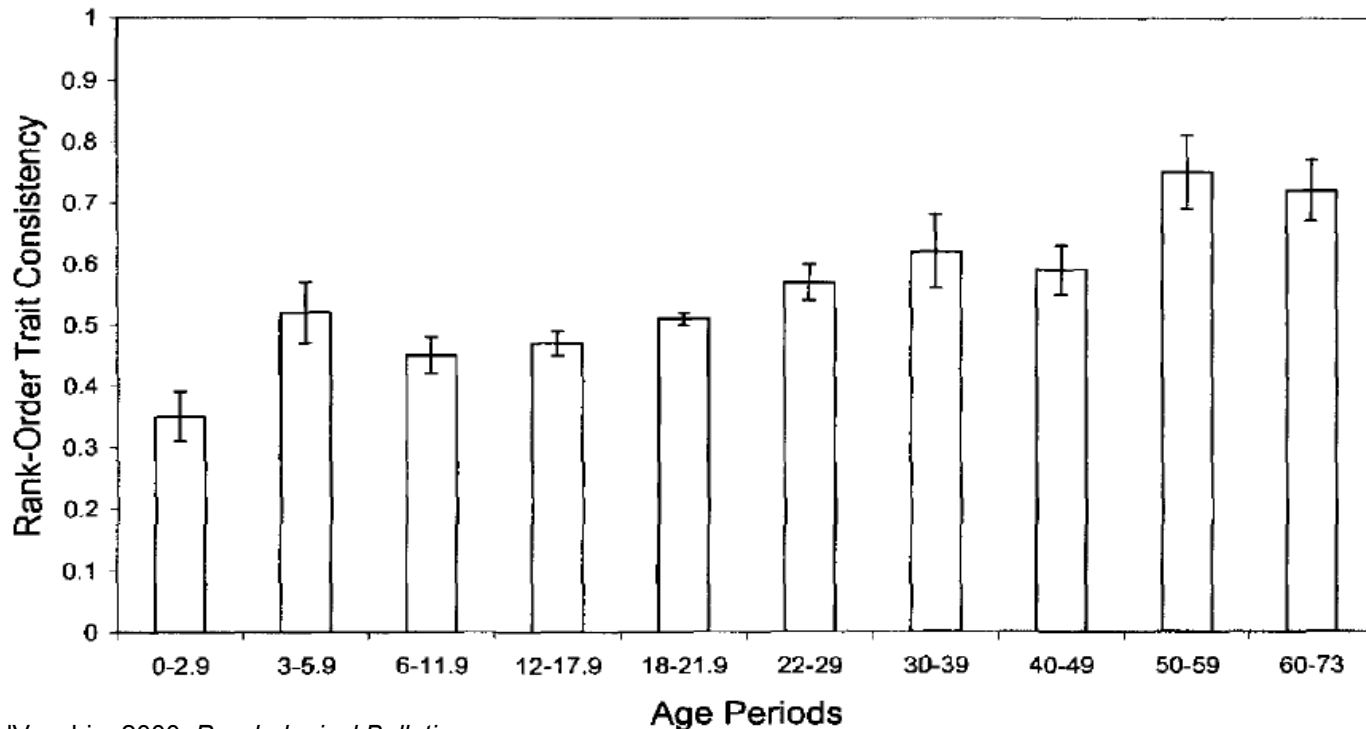


Roberts et al (2006), *Psychological Bulletin*



Rank Order Changes

- ❑ Meta-analysis of 152 studies with almost 40, 000 people on test-re-test correlations across age groups
- ❑ Studies included observer, self-report and projective measures



Roberts & DelVecchio, 2000, *Psychological Bulletin*



*Population Estimates of Trait Consistency
Across Age Categories*

Age (years)	ρ	K	CI	Q	N	ρ_t
0–2.9	.35	18	.31–.39	40.88*	2,085	.31
3–5.9	.52	12	.47–.57	67.14*	1,489	.49
6–11.9	.45	29	.42–.48	111.22*	4,053	.43
12–17.9	.47	32	.46–.48	153.85*	10,951	.43
18–21.9	.51	45	.50–.52	168.15*	11,340	.54
22–29	.57	10	.54–.60	59.91*	3,394	.60
30–39	.62	8	.56–.68	107.72*	1,055	.64
40–49	.59	11	.55–.63	55.42*	2,711	.60
50–59	.75	4	.69–.81	53.57*	948	.74
60–73	.72	6	.67–.77	78.20*	1,385	.71

Note. ρ = estimated population correlation; K = number of samples; CI = 95% confidence interval of estimated population correlation; Q = heterogeneity statistic; ρ_t = estimated population correlation controlling for time interval of longitudinal study.

* $p < .05$.

Roberts & DelVecchio, 2000, *Psychological Bulletin*



Rank Order Stability of the Big Five

Categories	ρ	K	CI	Q	N	ρ_{t2}
Adult personality trait						
Extraversion	.54	67	.53–.55	714.10*	20,711	.55
Agreeableness	.54	47	.52–.56	376.70*	8,428	.52
Conscientiousness	.51	51	.49–.53	423.59*	11,513	.49
Neuroticism	.50	68	.48–.52	711.49*	15,118	.46
Openness	.51	50	.49–.53	239.52*	7,901	.51

- ❑ Personality stability increases with age
- ❑ Personality stability never reaches unity – but continues to develop

Roberts & DelVecchio, 2000, *Psychological Bulletin*



- ❑ Classic book on clinical interventions provided the initial meta-analytic evidence for personality trait changes (Smith, Glass & Miller, 1980)

Effect of therapy on personality trait change: $d = .31$ (K=13)

.....so it works quite well

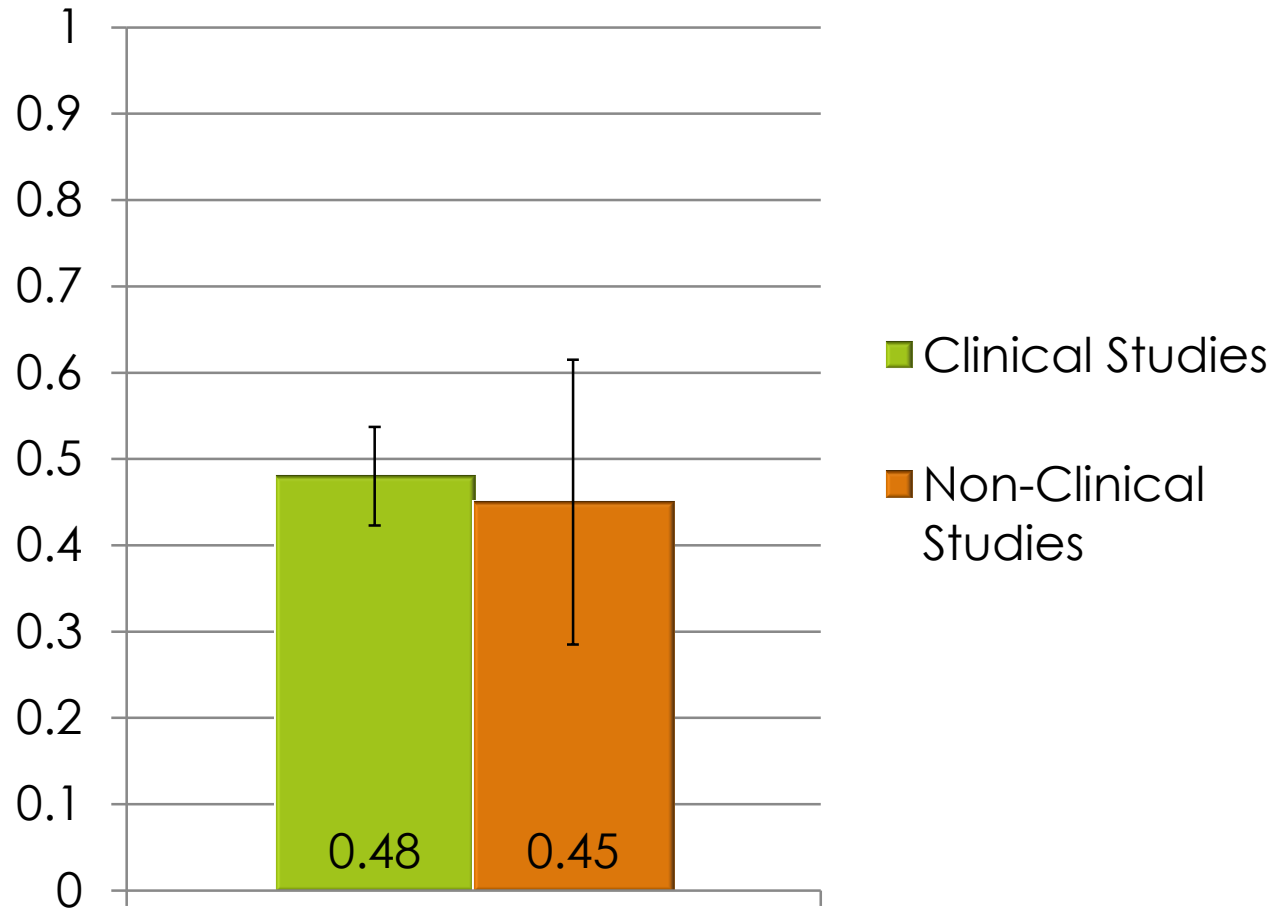


- ❑ A new meta-analysis of the effect of clinical interventions on personality trait changes:
 - Do personality traits change as a result of therapy?
 - Is the amount of change greater than you would expect compared to people not receiving treatment?
 - If personality traits change, does the change remain?



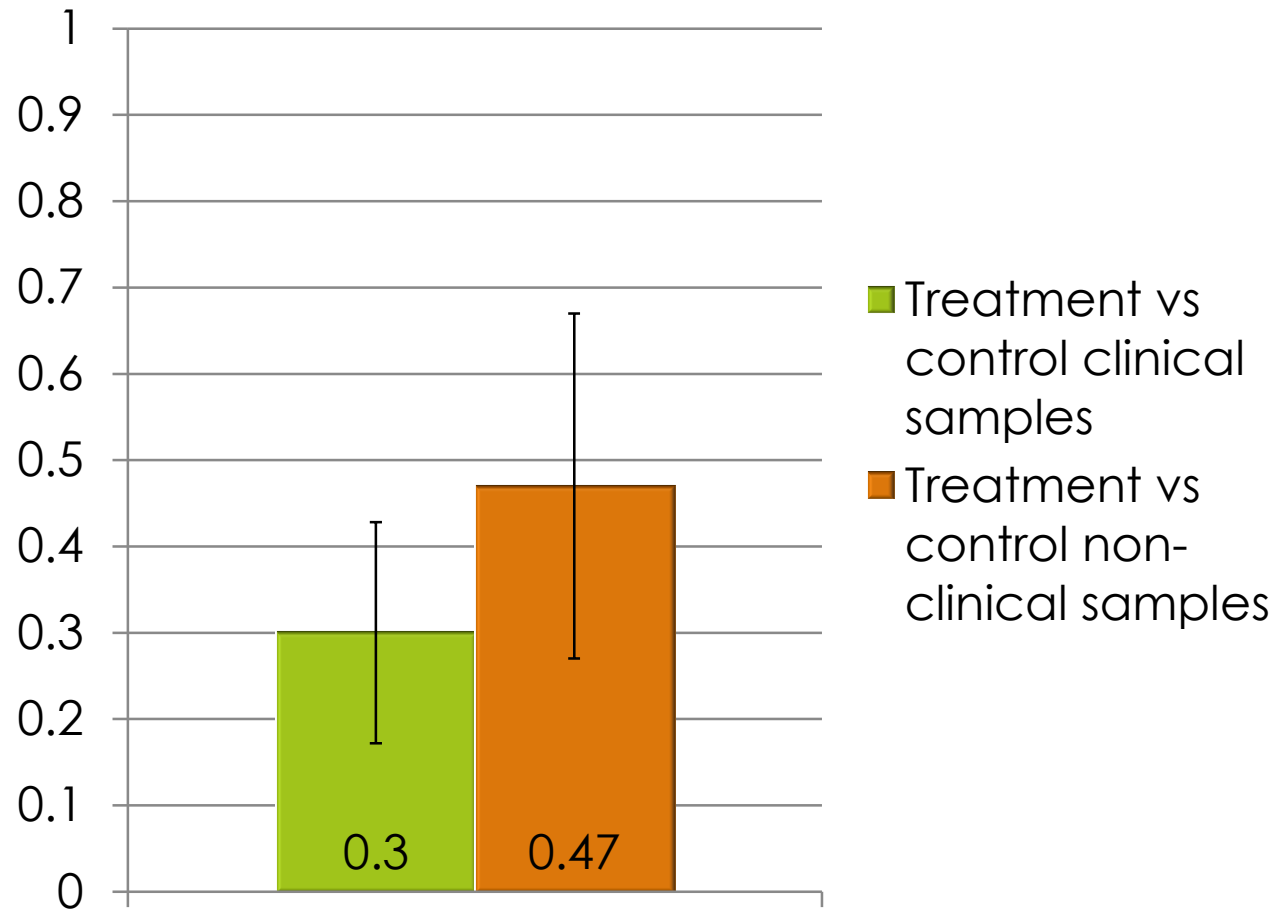
Do interventions change personality traits?

Overall effect sized
across all study
designs and measures



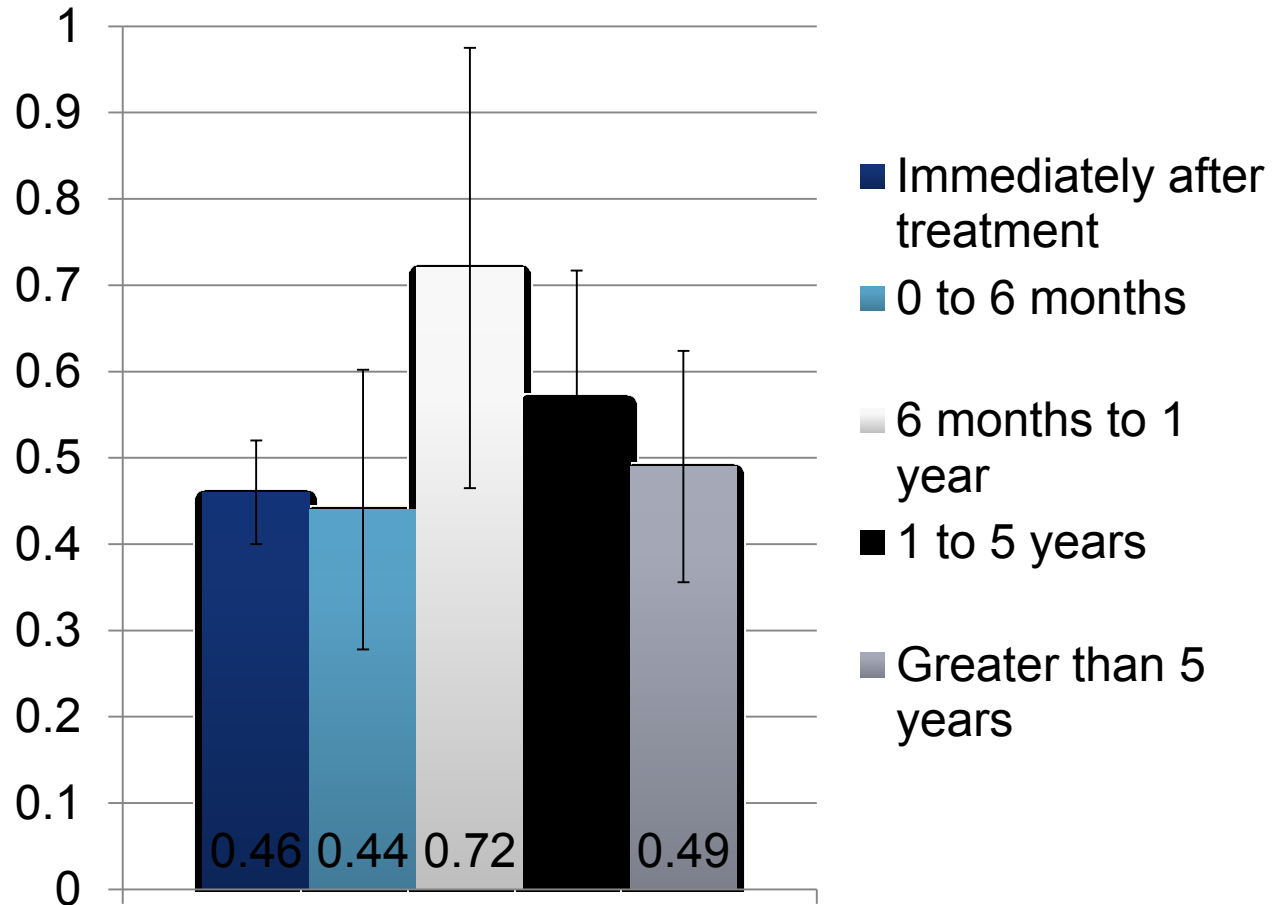


Experimental Designs





Does the effect of therapy fade?

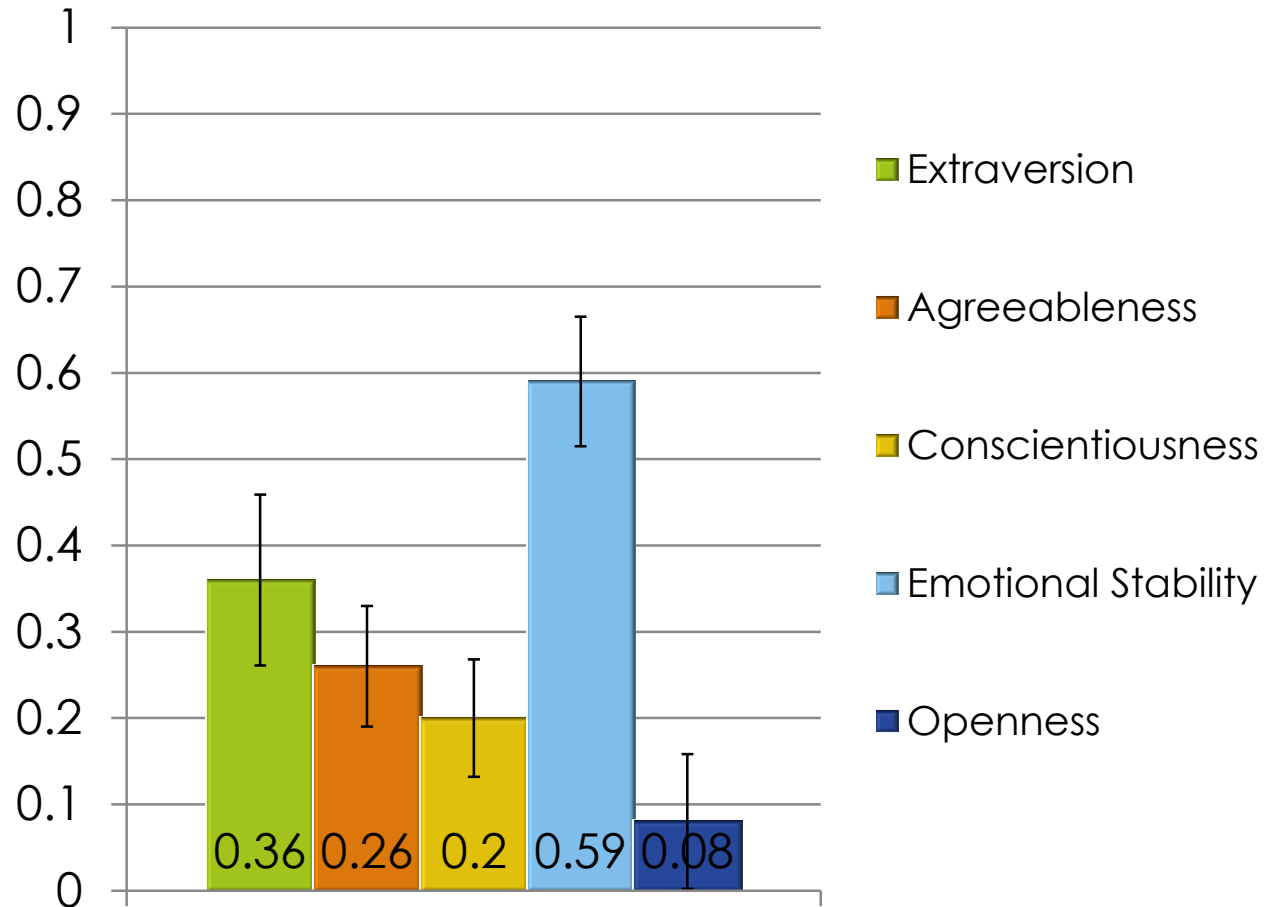




Therapy and the Big Five

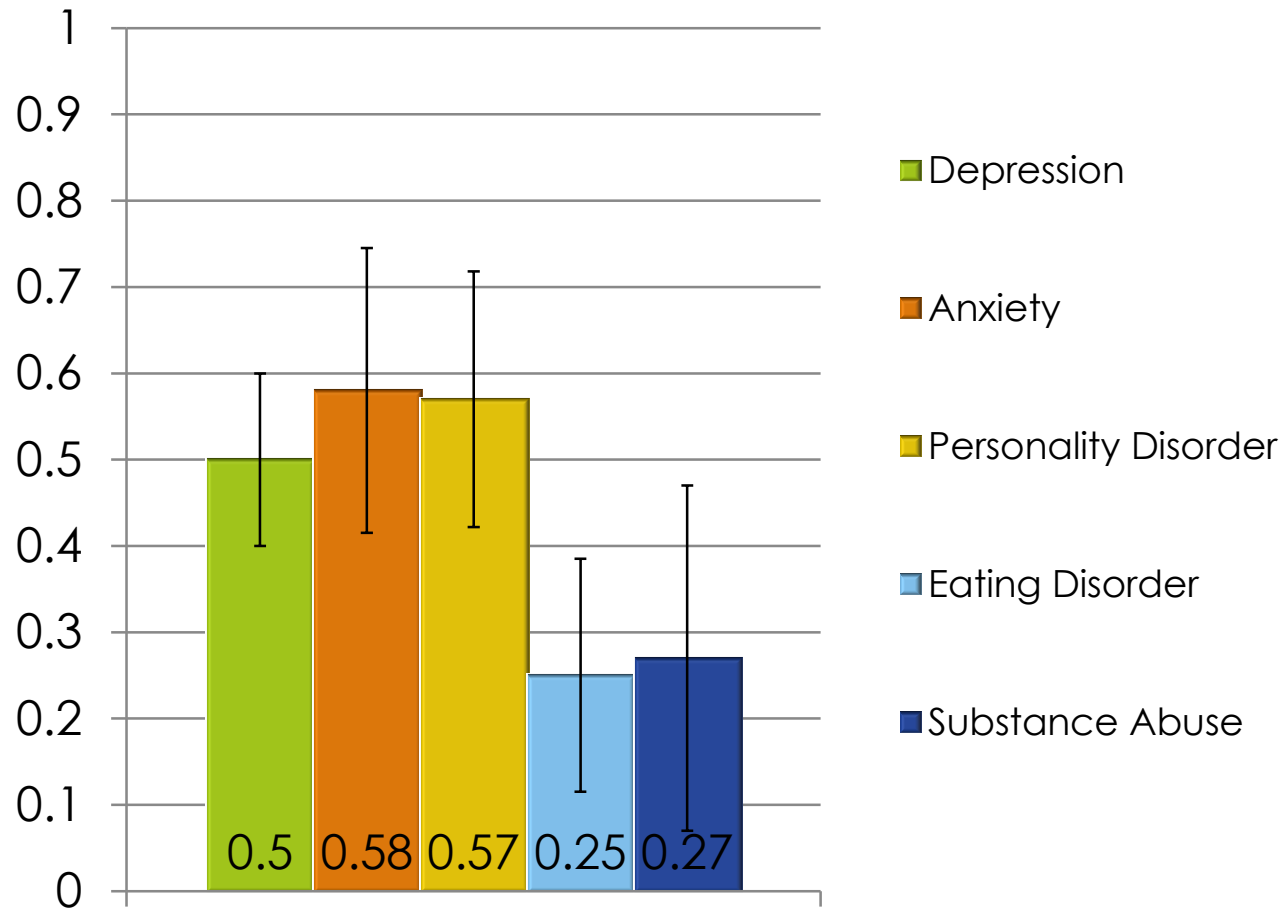
Preliminary meta-analytic examination of intervention studies.

Solely examining Pre-post change scores.





Does the presenting problem affect how much patients change?

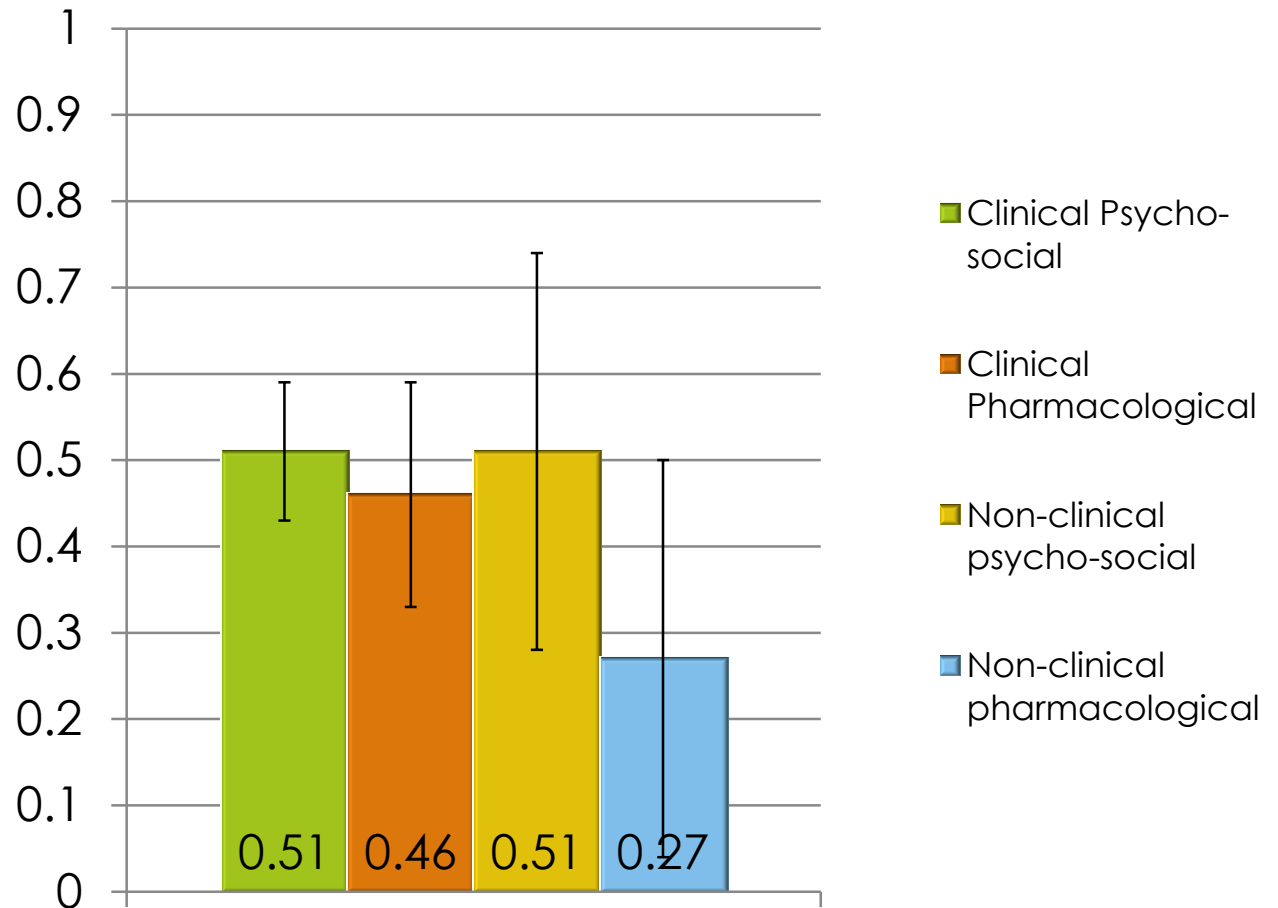




Psych-social vs. Drug Treatments

Preliminary meta-analytic examination of intervention studies.

Solely examining Pre-post change scores.





- Personality traits can and do change quickly
 - 28 weeks
 - This fact alone changes our view of personality traits and personality development.
 - We need to track personality with more dense assessments in order to appropriately understand development.



Conclusion

- ❑ People can and do change over time: their beliefs and behaviour patterns
- ❑ This is partly maturational and partly voluntaristic
- ❑ Some things are more likely to cause change: trauma, therapy, education.
- ❑ Change takes time and dedication...and often hurts
- ❑ Both the supporters of plastic and plaster have some data to support their position.
- ❑ It is very difficult providing good data to support or disprove any position...but that does not mean that we should not try.
- ❑ ***There is a lot at stake in this issue.***



References

1. Ardel, M. (2000). Still stable after all these years? **Social Psychology Quarterly**, 63, 392-405.
2. Boyce, C., Wood, A. & Powdthavee, N. (2013). Is personality fixed? **Social Indicators Research**, 111, 287-305.
3. Cheng, H., & Furnham, A. (2012) Childhood cognitive ability, education, and personality predict attainment in adult occupational prestige over 17 years. **Journal of Vocational Psychology**, 81, 218-226.
4. Conley, J. (1985). Longitudinal stability of personality traits. **Journal of Personality and Social Psychology**, 49, 1266-1282.
5. Cramer, P. (2003) Personality change in later adulthood is predicted by defense mechanism use in early adulthood. **Journal of Research in Personality**, 37, 76-104.
6. Deary, I., Whalley, L., Lemmon, H., Starr, J., & Crawford, J. (2000) The stability of individual differences in mental ability from childhood to old age. **Intelligence**, 28, 49-58.
7. Haan, N., Millsap, R., & Hartka, E. (1986). As time goes by: change and stability in personality over fifty years. **Psychology and Aging**, 1, 220-232.
8. Helson, R., Jones, & Kwan, V. (2002). Personality change over 40 years of adulthood. **Journal of Personality and Social Psychology**, 83, 752-766.
9. Huesmann, L., Eron, L., Lefkowitz, M., & Walder, L. (1984). Stability of aggression over time and generations. **Developmental Psychology**, 20, 1120-1134.
10. Loehlin, & Martin, N. (2001). Age changes in personality and their heritabilities during the adult years. **Personality and Individual Differences**, 30, 1147-1160.
11. Lucas, R., & Donnellan, M. (2011). Personality development across the life span. **Journal of Personality and Social Psychology**, 101, 847-861.
12. Martin, P., Long, M., & Poon, L. (2002). Age changes and differences in personality traits and states of the old and very old. **Journal of Gerontology**, 57, 144-152.
13. McCrae, R., & Costa, P. (1994). The stability of personality. **Current Directions in Psychological Science**, 3, 173-175.
14. McManus, I., Keeling, A., & Paice. (2004). Stress, burnout and doctors' attitudes to work are determined by personality and learning style. **BMC Medicine**, 2, 1-12.
15. Roberts, B., Caspi, A., & Moffitt, T. (2001). The kids are alright. **Journal of Personality and Social Psychology**, 81, 670-683.
16. Roberts, B., Walton, K., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course. **Psychological Bulletin**, 132, 3-25
17. Srivastava, S., John, O., Gosling, S., & Potter, J. (2003). Development of personality in early and middle adulthood. **Journal of Personality and Social Psychology**, 84, 1041-1053.