

Medical School Selection Goals

Admission of students who, on the basis of materials presented during the application process, have demonstrated that they possess:

- The ability to successfully complete the academically rigorous course
- The personal characteristics desired in future physicians
- The potential to fulfill the institution's goals



How 'intelligent' does an individual need to be able to study medicine?

The Academic Hurdle

- School Leaving Exams
- University Degree (1st or 2:1)
- Intelligence Tests
- Tests of Problem Solving Skills
- Tests assessing particular intellectual skills

Cognitive Abilities

Quality	Test	Interview	Form/Ref	Prior Exams
Problem solving	+	+	±	+
Critical Thinking	+	+	±	±
Memory skills	+	±	X	++
Observational skills	+	±	X	±
Seeing connections	+	+	X	X
Comprehension	+	+	±	+
Expressive Power	+	+	+	+
Numeracy	+	X	+	+

Cognitive Ability Tests What are we looking for?

- Required properties of cognitive ability test
 - Discriminating within a group of very bright individuals
 - No effect of gender
 - No effect of race
 - No effect of school type
 - Nature more important than nurture

Admissions Project

- In Autumn 2001 and 2002, the Scottish applicants to Scottish medical schools sat a series of psychometric tests
- The study was supported by all the Scottish Universities with Medical Schools and UCAS
- 1010 of 1230 school leaving applicants took part
- The results were not used as part of the admissions process

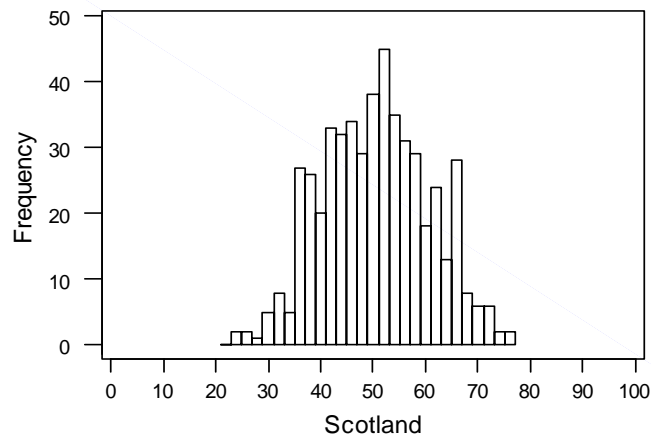
The Assessments

- **LRPS** - problem solving
- **MOJAC** - libertarianism/communitarianism
- **NACE** - narcissism, aloofness, confidence, empathy
- **SPSQ***
- **EPQ***
- **HC***
- **IPIP***
- * not reported here

Characteristics of the Sample 2001

- Mean age 17.4 years (s.d. 2.0 years)
- 310 women; 197 men
- Asian 43; Black 6; Caucasian 432
- Depcat

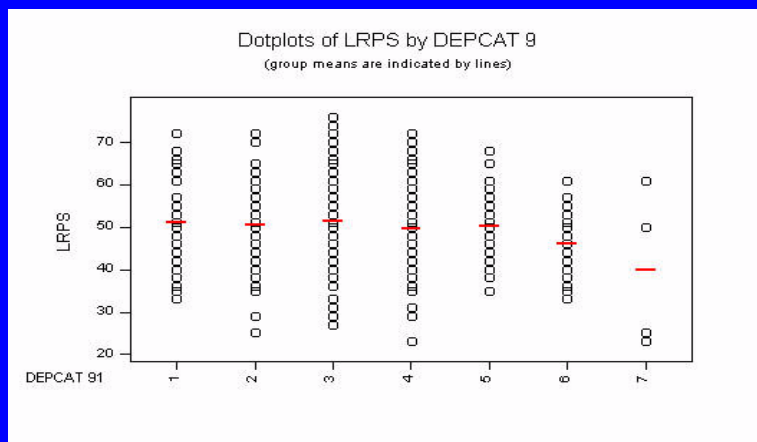
Distribution of cognitive ability



Cognitive Ability

- Discriminating within a group of very bright individuals
- Males perform equally as well as females
- No evidence of ethnic variation
- Some effect of deprivation category

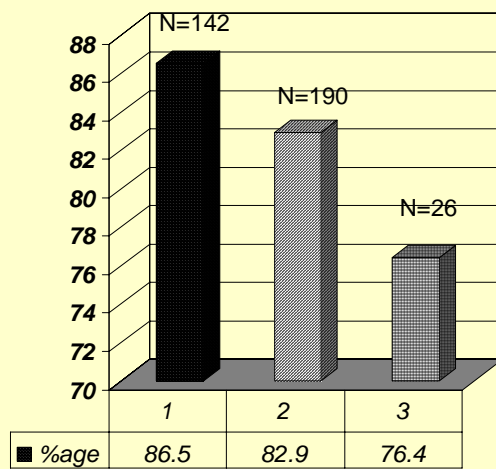
Cognitive Ability and Deprivation Category



Implications of Cognitive Ability Test as a function of Depcat

- Applicants from Depcats 6 and 7 may be disadvantaged if performance in tests of cognitive ability is a criterion for entrance to medicine
- Issue of establishing reasons for relatively poor performance, and whether it is remediable

Entry to Medical School as a function of DEPCAT





This won't hurt: Sir Lancelot Spratt, played by James Robertson Justice, became the archetype of the arrogant doctor. Photograph: Kibod

TELLTALE SIGNS

PEOPLE with extreme personalities are those with characteristics that lead towards mental or psychological disorders such as schizophrenia, manic depression or neuritis, and who may need to be hospitalised.

An example might be someone with mood swings who is on a high one minute and a low the next. Another is someone who never stops for a minute or who is solitary and tends to withdraw from the world.

Obsessive behaviour, where people feel they need to do certain

things in order to progress, is an extreme.

Alex MacLean, a Glasgow-based psychologist, said extreme personalities can cover a wide spectrum from someone who is unfeeling and has extreme self-regulation to someone who demonstrates arrogance and narcissism.

MacLean said: "A good doctor

just need technical skills but high emotional intelligence."

In very extreme cases, such as Harold Shipman, MB, a lack of empathy can be an indicator of psychopathy, according to

MacLean.

He added: "A more mundane example would be doctors whose patients feel they don't listen to them, are irritable or just impatient with them, and are sarcastic or uninterested."



Oxbridge sets new exam to select the best

Colleges overwhelmed by candidates with perfect A levels



Doctor on the couch to weed out menaces in white coats

Psychological tests to identify 'dangerous' student medics

Medical schools in secret tests to sift A-level pupils

Killer doctors and top medics 'share traits'

Researchers claim many talented students have 'extreme personalities'

Qualitative Variables

Compelling Personal Characteristics

- What?
- How to measure?
- Influence of nature, nurture, maturation?
- What are the costs of measuring?
- How to avoid fraud?

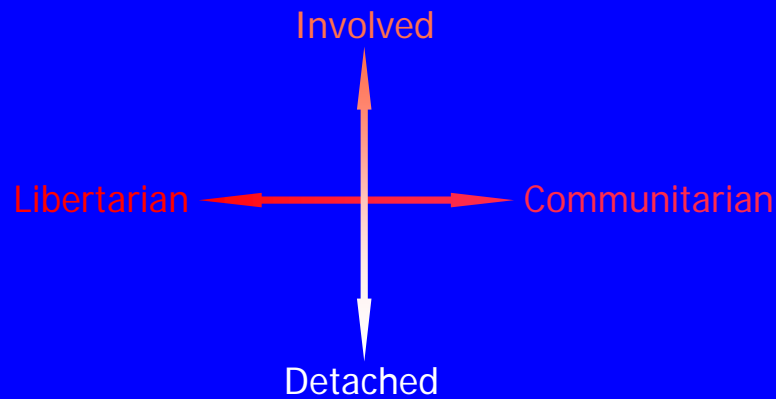
Albanese et al
Acad Med 2003; 78:313-21

Affective/Behavioural

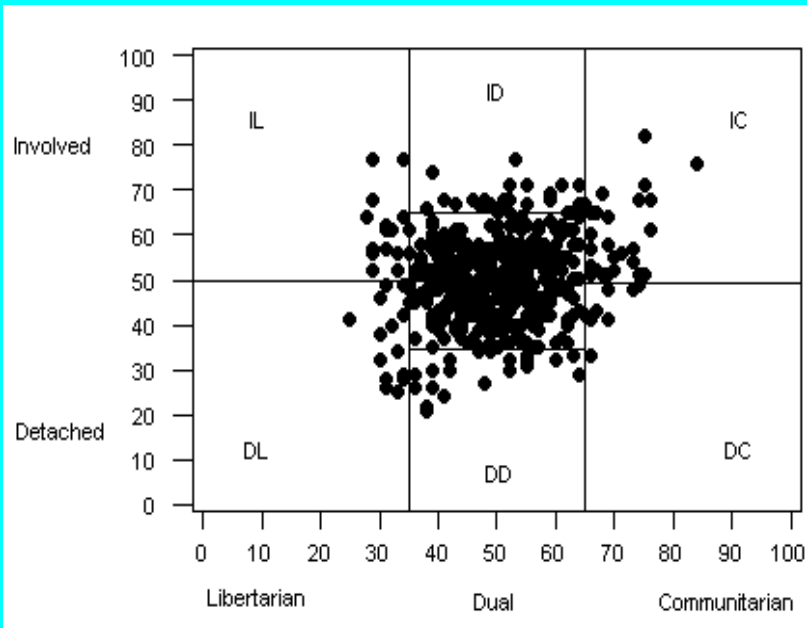
Quality	Test	Interview	Application Form/Ref
Integrity/Honesty	X	±	± (Ref)
Empathy	+	+	± (Ref)
Communication	±	+	+
Conscientiousness	±	+*	+* (work experience)
Team Skills	±	+	+
Decisiveness	+	+ (scenario)	±
Reflectiveness	+	+ (scenario)	+
Lifelong learning	X	X	+*

Mojac & NACE

- Mojac continuum is orthogonal to NACE



6 extreme types



Results

Categorisation as “Types”

Combining the NACE and MOJAC scores

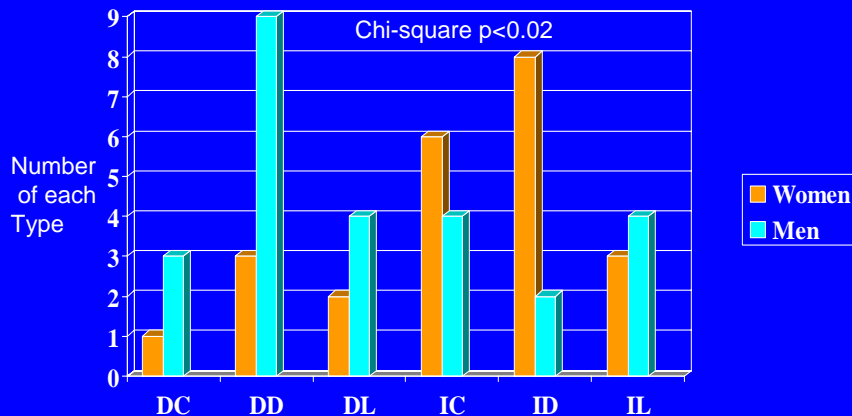
‘Extreme types’ most likely to be rejected

- Detached Dualist - aloof, detached, unempathic, introverted
- Involved Libertarian - values individual freedom, lively out-going, anti-authority, non-conforming, permissive, impulsive

'Extreme types' most likely to be accepted

- Involved communitarian - values duty to laws and norms, conscientious, caring but will not 'bend rules' in any circumstances
- Involved dualist - values individual freedom, overly empathic, reliant and trusting; wants 'good outcome' for all - distressed when this does not occur

A closer look at 'more extreme types'



Other Criteria/Considerations

- Racial
 - Aboriginal
 - Other minorities
- Socio-economic disadvantages
- Disabled
- Students with particular career preferences and suitability
 - Rural / remote practice
 - Primary care practice
 - Research / academic career

Is the admission process to
Medical School fair?

ETON COLLEGE



GRANGE HILL



Medical School Selection Goals

- Ability
 - How able?
 - How is ability best assessed?
- Personality
 - What are the desired characteristics?
 - How are they best assessed
- Fairness
 - Is it possible to have an admissions system that is fair?