# *Engineers of Jihad*
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International Workshop on
*Countering Violent Extremism and the Insider Threat in in the Nuclear Sector*
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# Big questions

What *conditions* drive people to extremism?

Are some *types* more susceptible than others?

Does *ideology* sort which type joins which group?

# Method

"Why are there **so many engineers** among violent Islamists?"

A 'puzzle' constrains questions, narrows tests

**Education** level and type

behavioural, observable, comparable across-countries, type is near-free choice

# Data – 12 samples

**Violent Islamists, bio-data, education, role in group**

- born in **Muslim countries,** active from late 1970s (N=497)
- born or raised in **Western countries**, active after 2000 (N= 346)
- **non-violent** Islamists in the Muslim world (N=592)
- Islamists **defectors** (N=81)

**Violent Right- and Left-wing  extremists' education**:

- Pre WWII: Nazi (N=219), Fascists, Spartakusbund (N=15)
- Post WWII: Neo-Nazi in Germany & Austria (N=287); White supremacists in US (N=71) & Russia (N=110); Rote Armee Fraktion (N=89), Brigate Rosse (N=120), Anarchists (N=834)

# The education of Islamist extremists

# Muslim countries sample

Graduates are **47** % (N=497)

- **5 times** what we would expect

Engineers are **45%** of graduates (N=207)

- **17 times** relative to male population

- **6 times** relative to other graduates

Engineering+medicine+science+economics = **65%**

**Would-be élites are the core of the early [Islamist movement](#)**

Why so many graduates,
Why so many engineers?

# Selection?

**Proximity?** One engineer moves first followed by network effects?

No, overrepresentation [obtains](#) everywhere

**Technical Skills** in bomb making or communications?

No, engineers [no more likely](#) than other degrees to have those roles

# Relative Deprivation?

High expectations induced by modernising autocrats

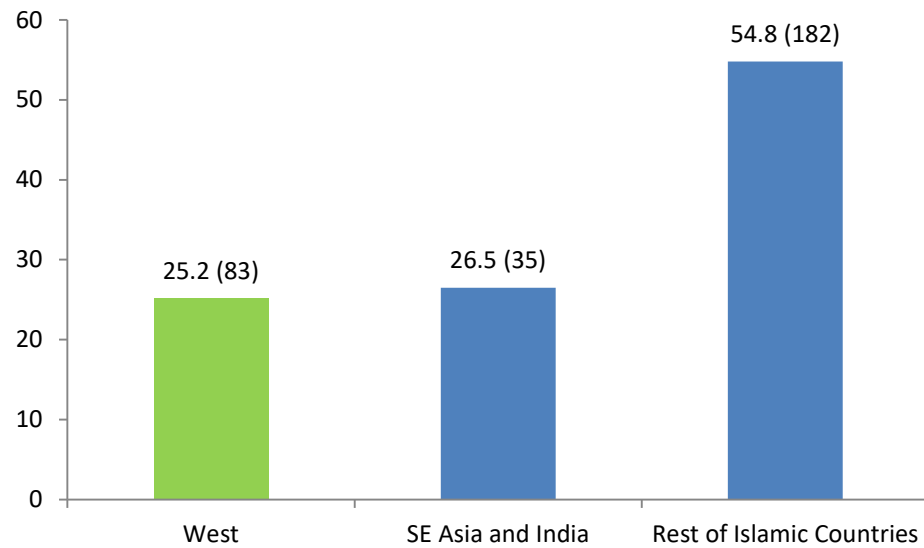High family investment in truly meritocratic degrees

In MENA countries [growth stopped](#) in late-1970s when Islamist militancy emerged (Esposito & Haddad 1991; Hunter 1988; Roy 1994)

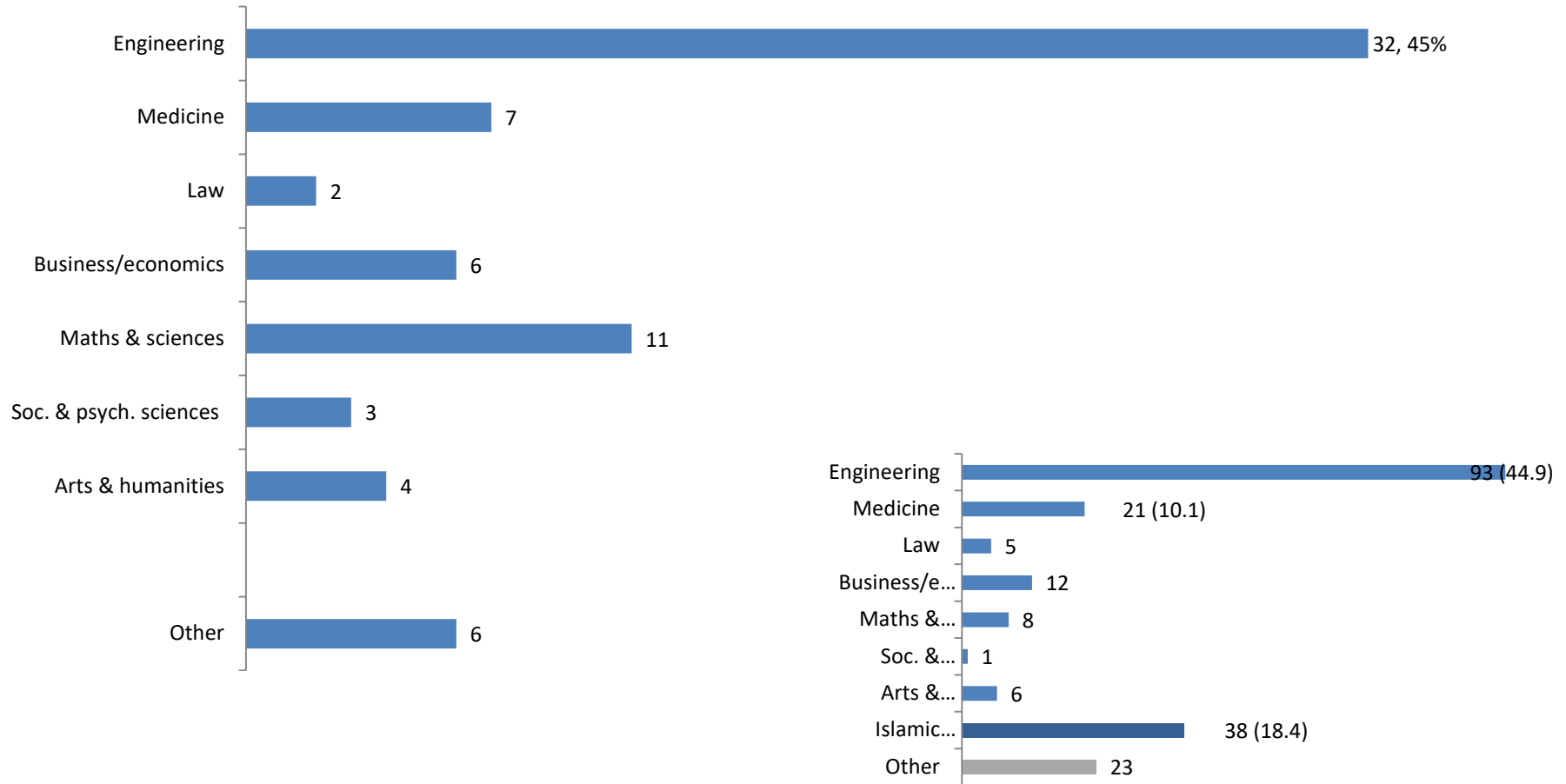The "discrepancy between expectations and possibilities" hit engineers the hardest (Longuenesse 2007)

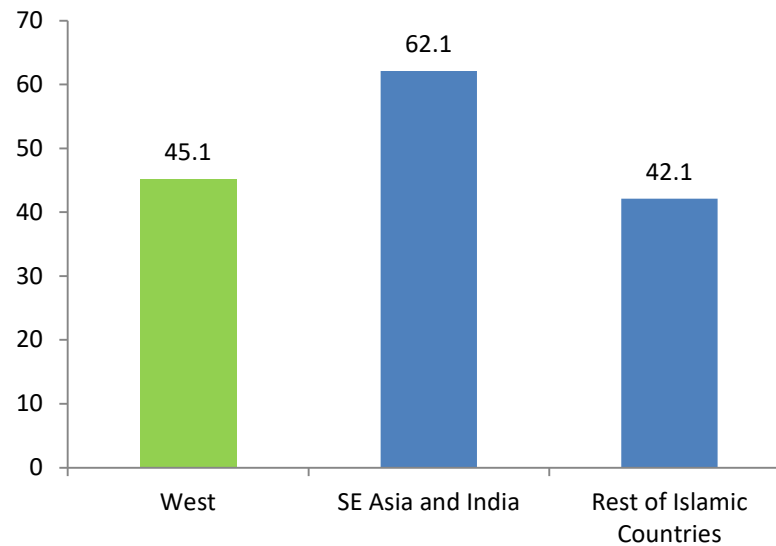# Probing relative deprivation
# The Western countries sample

# Percentage of graduates by area

# Disciplines of degrees

# Percentage of engineers by area

# Relative deprivation cannot predict **type** of opposition

Engineers' opposition choices

- **<u>Violent</u>** vs peaceful?

- **<u>Religious</u>** vs secular?

- **<u>Resilient</u>** vs short-lived?

# Engineers and other extremists

Far-right shares 14 [ideological tenets](#) with Islamists, only 5 with far-left

Engineers join Islamists **and far right** but avoid far left

Islamism "right-wing ideology in religious garb"?

Graduates in humanities and social sciences join far left but avoid far right and Islamist groups

# Engineer, a proxy for *types*

Three personality traits

- proneness to disgust

- a desire to draw rigid insider-outsider boundaries

- intolerance of ambiguity/need for cognitive closure

*stronger* among right-wingers/islamists *and* among engineers

*weaker* among left-wingers *and* humanities & social sciences

Right-wing ideologies and Radical Islamism cater for same traits

"**different ideologies meet the cognitive and emotional need of different people**" (Jost et al).
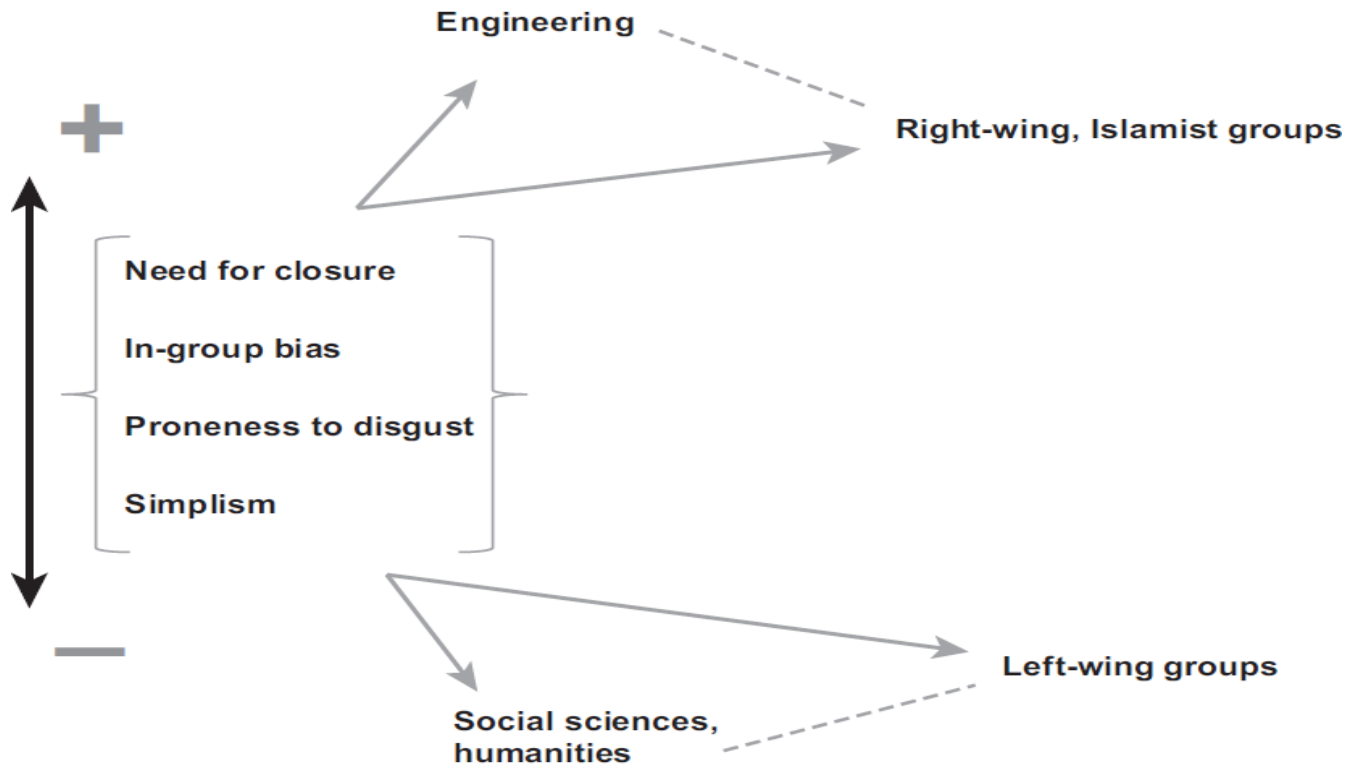
# Engineer, a proxy for types

Two more traits:

**simplism**: the "unambiguous ascription of single causes and remedies for multifactored phenomena" (Lipset and raab 1971: 7).

 **readiness to avenge** wrongs at extreme personal cost

e.g. Kamal El-Said Habib vs Ayman Al-Zawahiri,

Engineering

Right-wing, Islamist groups

+

Need for closure

In-group bias

Proneness to disgust

Simplism

−

Social sciences,
humanities

Left-wing groups

# Insider threat?

**Screening**: identify employees likely to share those traits (not necessarily engineers)
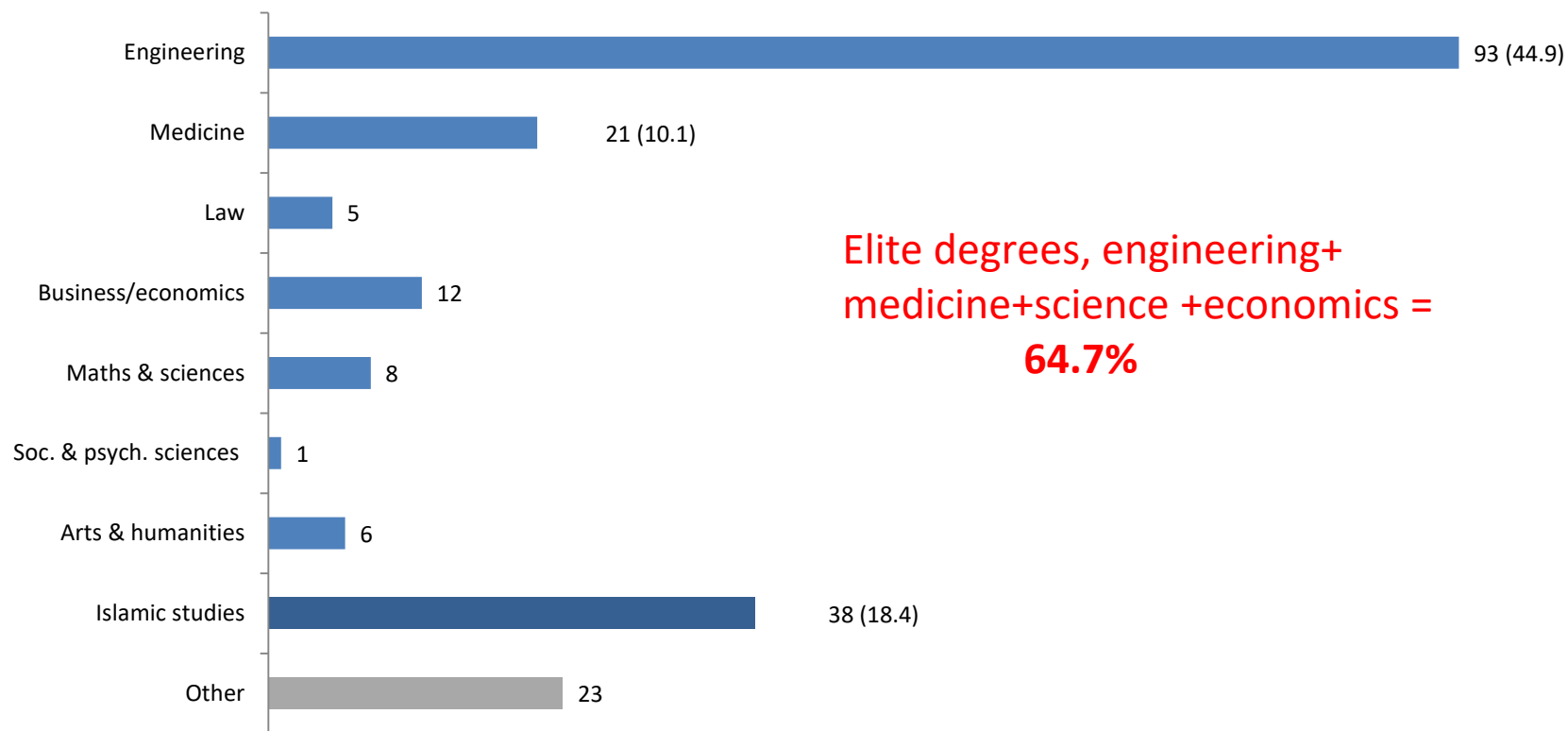
**Prevention:**

- classes on tackling ambiguity intolerance, simplism, rage management

- pay special attention to internal fairness in treatment (cf. *The Secret Agent* by J.Konrad)
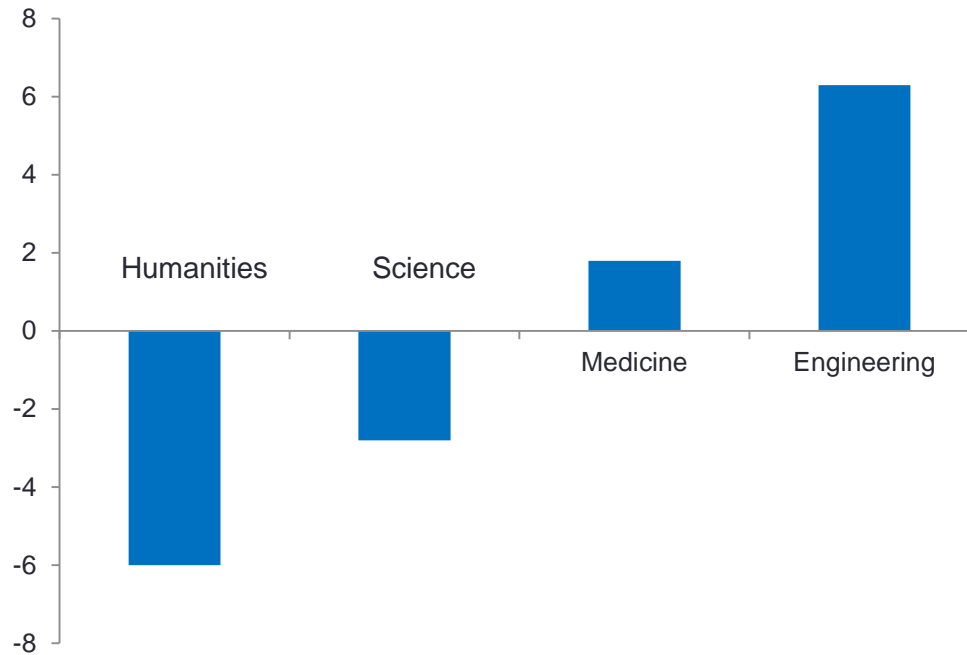
# Back to the general questions

- What *conditions* drive people to extremism?

- Are some *types* more susceptible than others?

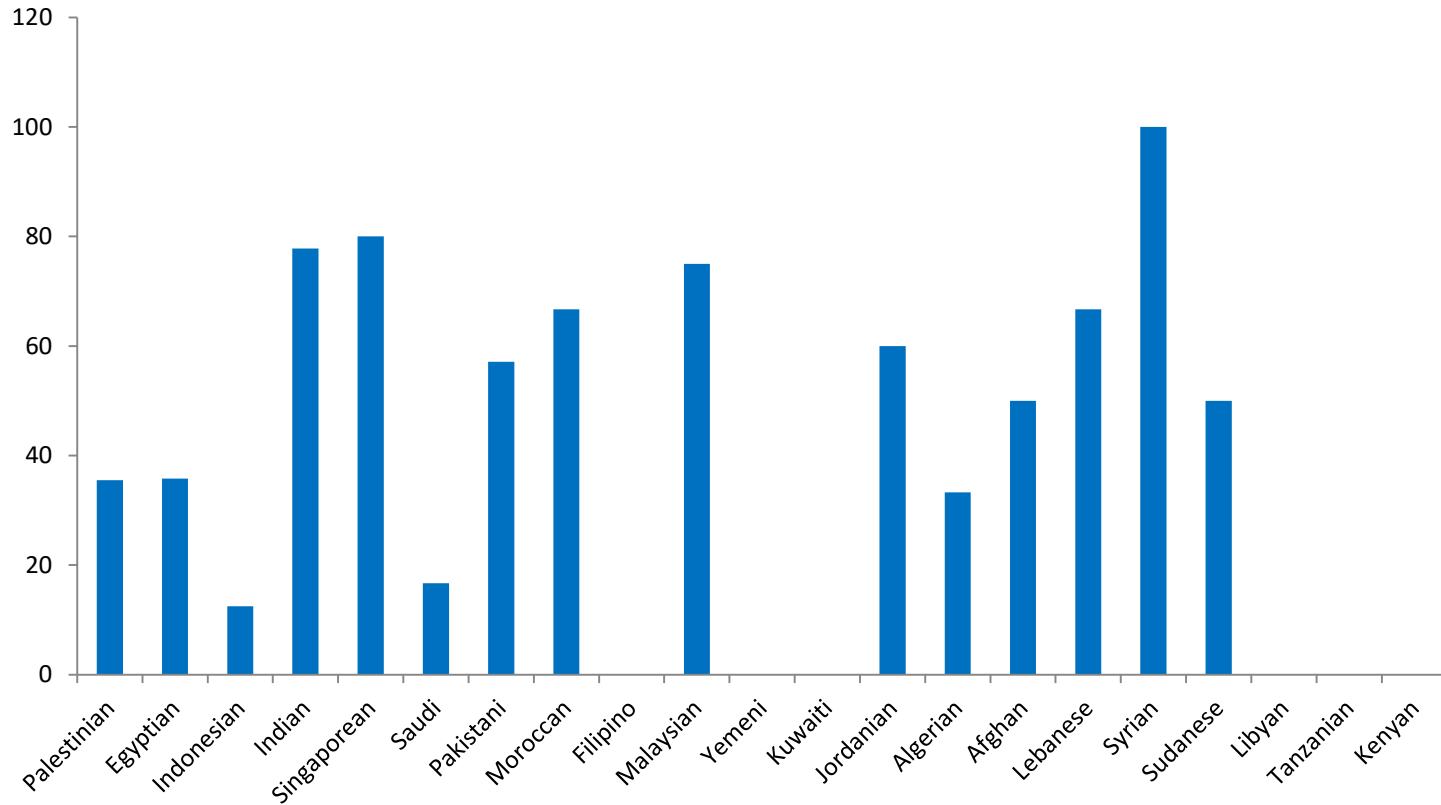- Does *ideology* sort which type joins which group?

The end

# Disciplines of degree (N= 207)



| Discipline | Count |
|---|---|
| Engineering | 93 (44.9) |
| Medicine | 21 (10.1) |
| Law | 5 |
| Business/economics | 12 |
| Maths & sciences | 8 |
| Soc. & psych. sciences | 1 |
| Arts & humanities | 6 |
| Islamic studies | 38 (18.4) |
| Other | 23 |

Elite degrees, engineering+ medicine+science +economics = **64.7%**
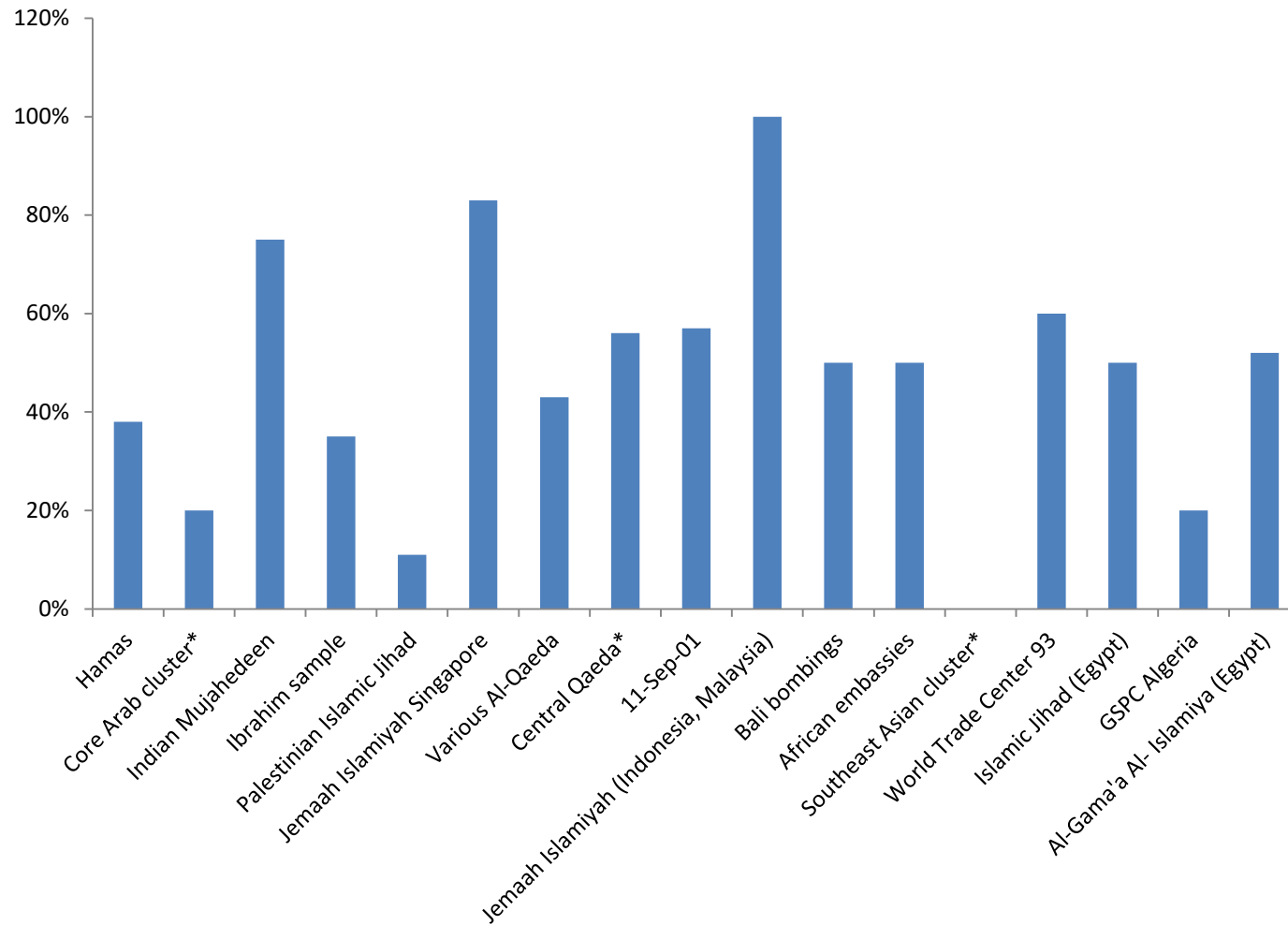
# Representation: odd [ratios](ratios)
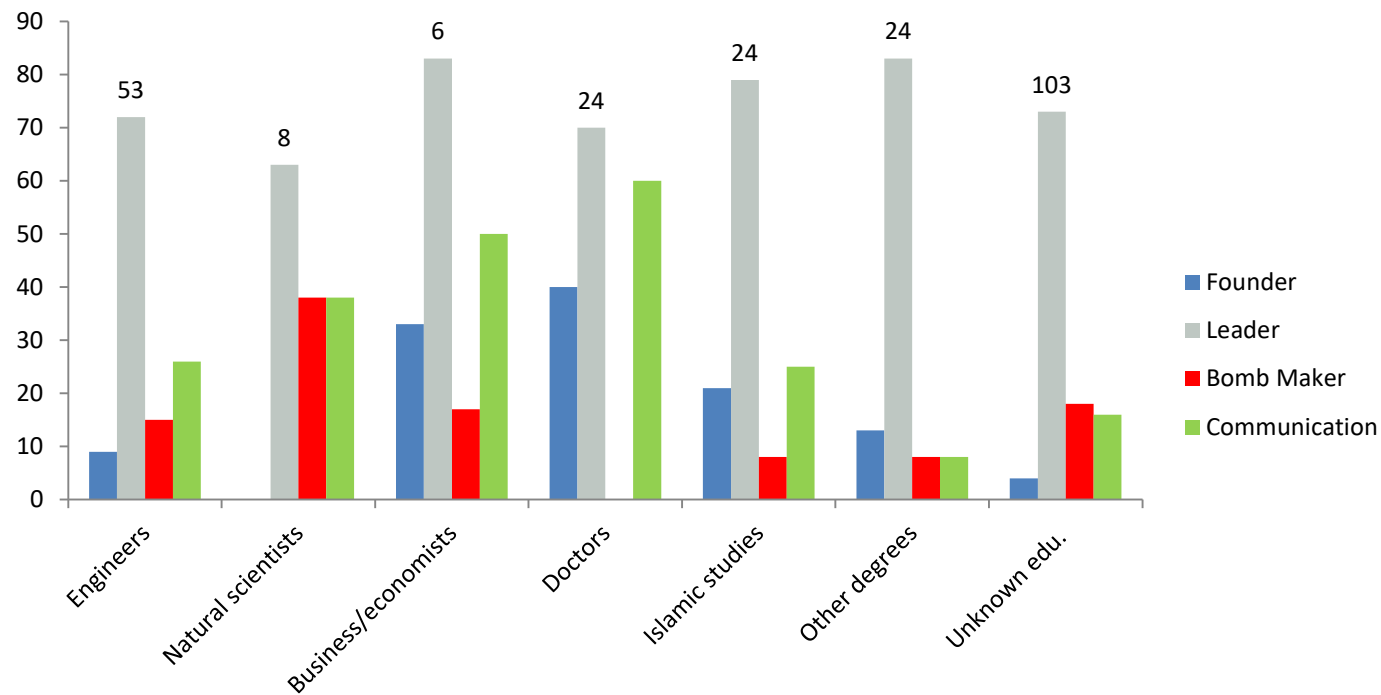
# Engineers by country (N=93)

# Engineers by group (N=93)

# Selection by [skills](skills)?
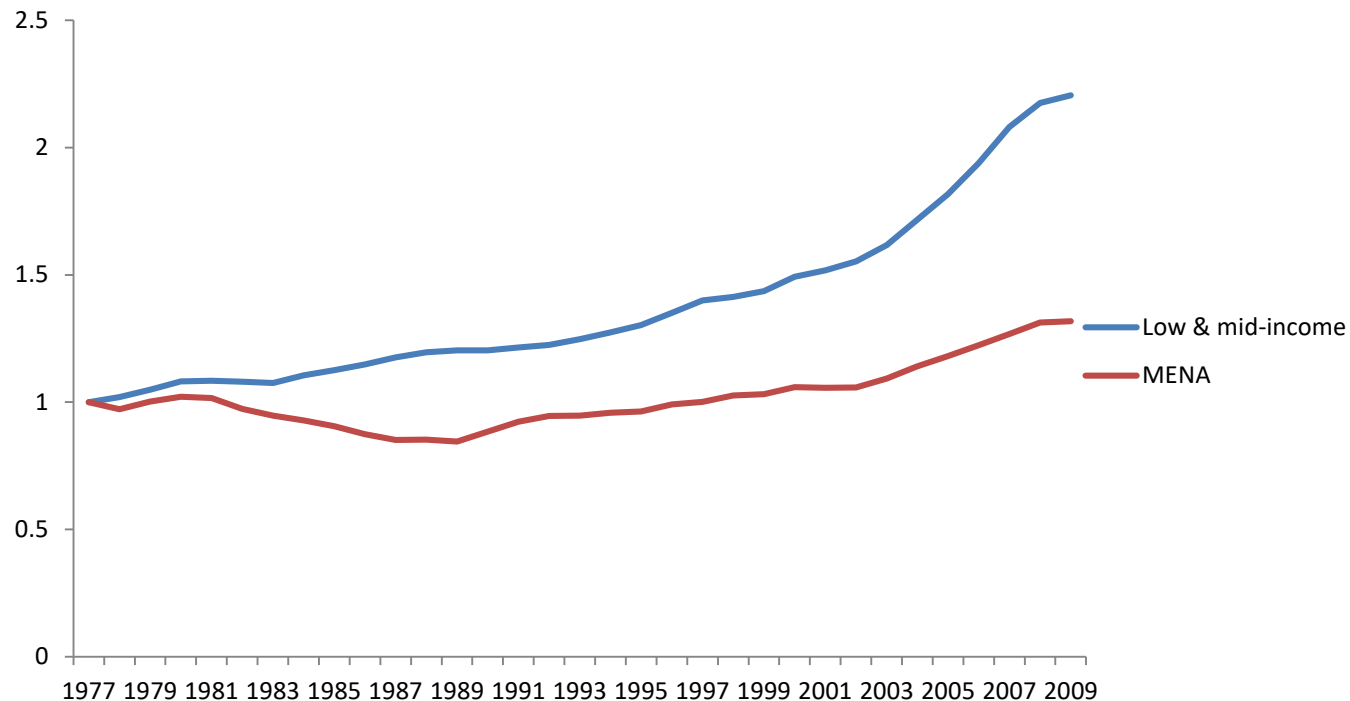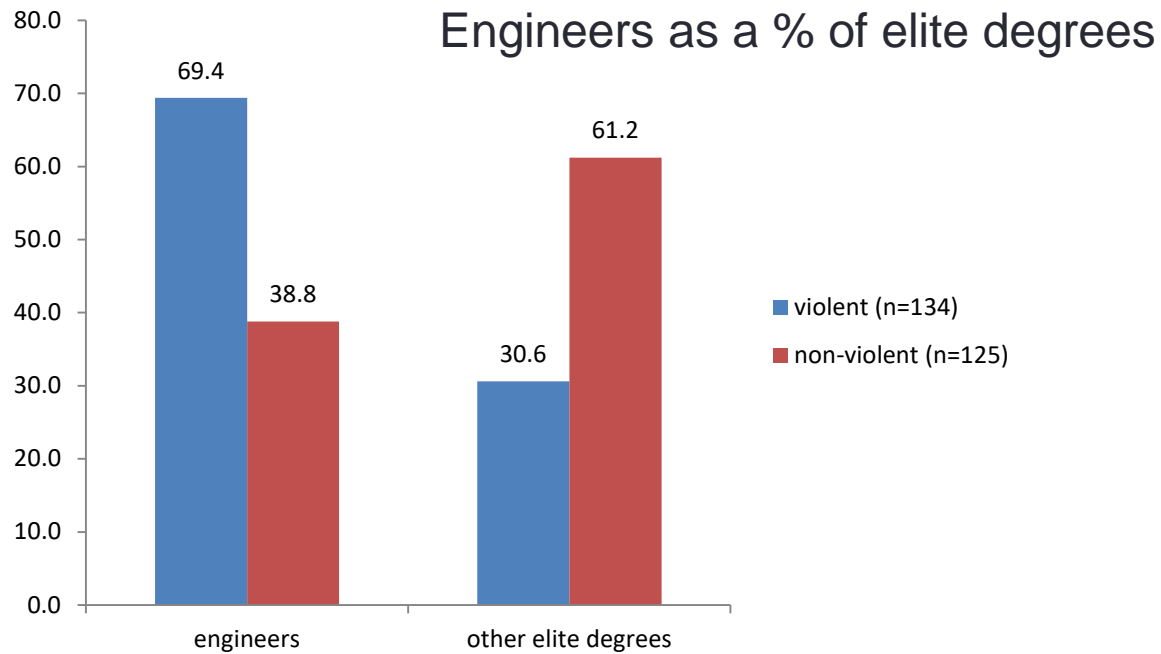
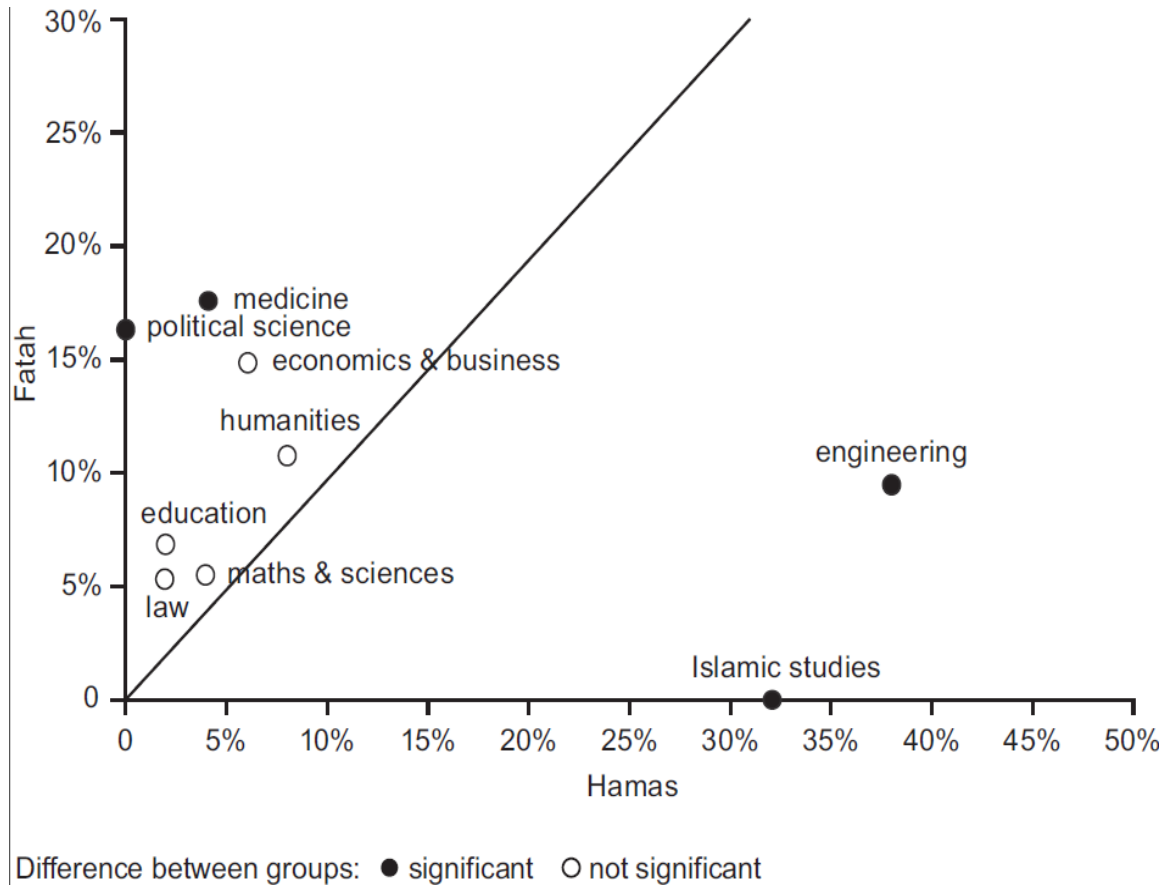(N=228 roles)

# Relative Deprivation

**GDP per capita, Middle Eastern and North African countries vs. low and mid-income countries <u>in general</u> (constant values, normalized at 1 for both in 1977)**

# Engineers: violent vs [peaceful](peaceful)?
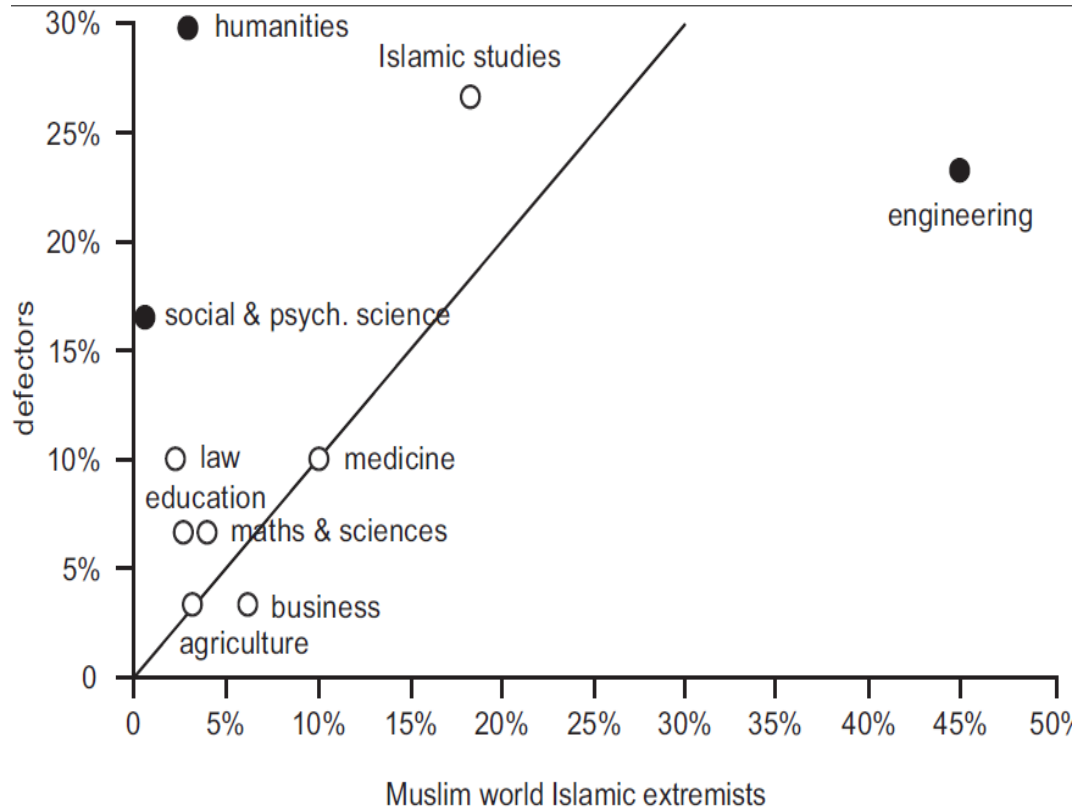
# Engineers: religious vs [secular](secular)?



Difference between groups: ● significant   ○ not significant

# Engineers: defectors vs [stalwarts](url)? (N=81)
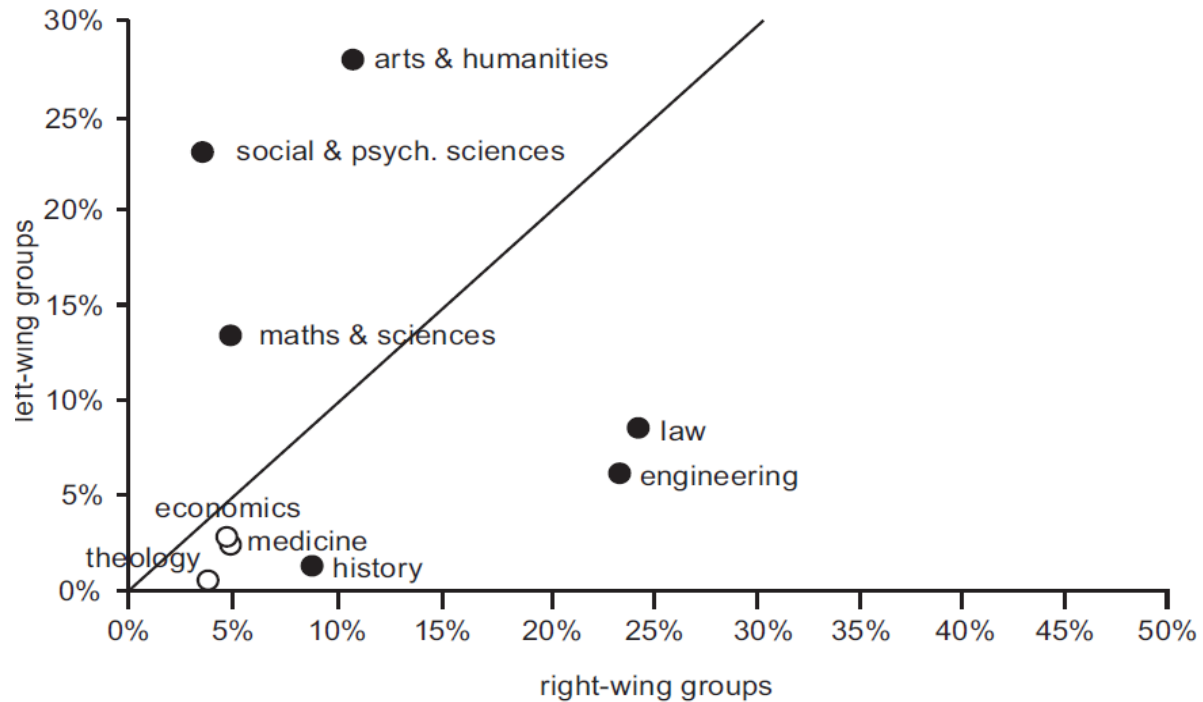


Difference between groups: ● significant ○ not significant

# Islamist ideology [compared](#)

Features of Islamist ideology compared with right-wing and left-wing extremist ideology

| | Right | Left |
|---|---|---|
| Traditionalism (including women's subordination) | ✓ | ✕ |
| Corporatist/organic view of society | ✓ | ✕ |
| Hierarchical view of social order | ✓ | ✕ |
| Acceptance of social inequality | ✓ | ✕ |
| Authoritarian vision of order, rejection of popular sovereignty | ✓ | ✕ |
| Anti-Semitism | ✓ | ✕ |
| Restoration of a lost order, nostalgia of a mythical past | ✓ | ✕ |
| View of society as polluted and corrupt, in need of purification | ✓ | ✕ |
| Membership of militants in rigidly defined in-group | ✓ | ✕ |
| Rejection of pluralism and political competition | ✓ | ✓ |
| Monocausal view of origin and solution of social problems | ✓ | ✓ |
| Rigid division of the world into opposing camps | ✓ | ✓ |
| Violence as a legitimate means of political action | ✓ | ✓ |
| Rejection of Western cultural "imperialism" | (✓) | ✓ |
| A lifestyle highly regulated by routines (especially among salafis) | (✓) | ✕ |

*Sources*: Based on Hegghammer 2009a, 2009b; ICG 2005; Shepard 1987; Wagemakers 2008; Wiktorowicz 2005, 2006; personal exchanges with experts on radical Islam.
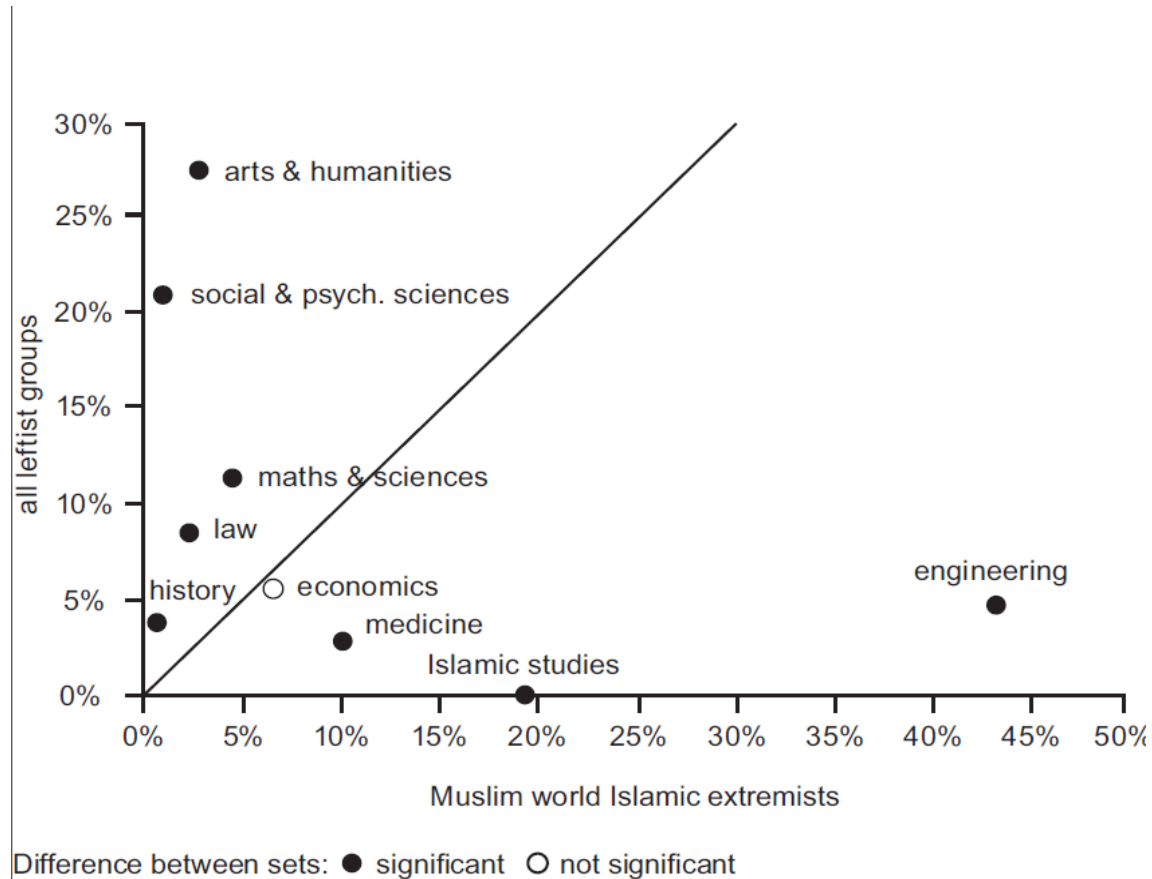
# Leftists vs Rightists

# Leftists vs Islamists

# Kamal El-Said Habib

Kamal el-Said Habib, a leading figure in the group that assassinated Egyptian President Anwar Sadat in 1981, graduate in political science:

*We were naive, arrogant and immature, fired up by the spirit of youth…We had big dreams but few resources, and there was a pronounced gap between the means at our disposal and our ambitions. …We were no match for [the state] powers... we had little awareness of the challenges that needed to be overcome.* ***We were terribly naive and didn't appreciate the complexity of society and the requirements of social and political change*** *(Gerges 2006: 54-56).*

# Ayman Al [Zawahiri](Zawahiri)

Currently Al Qaida's chief, degree in medicine, surgeon

"*Dirty Egyptian jails…where we suffered the severest inhuman treatment. There they kicked us, they beat us, they whipped us with electric cables, they shocked us with electricity! They shocked us with electricity! And they used the wild dogs! And they hung us over the edges of the doors with our hands tied at the back! They arrested the wives, the mothers, the fathers, the sisters, and the sons! (…)*" **Egypt's prisons became a factory for producing militants whose need for retribution—they called it "justice"— was all-consuming** (Wright 2002).

# *The Secret Agent,* by Joseph Conrad (1907)

The professor, lives by selling explosives to the anarchists and his goal in life is to invent the perfect detonator:

*His parentage was obscure, and he was generally known only by his nickname of Professor. His title to that designation consisted in his having been once <u>assistant demonstrator in chemistry</u> at some technical institute. He quarrelled with the authorities upon a question of unfair treatment. Afterwards he obtained a post in the laboratory of a manufactory of dyes. There, too, he had been treated with revolting injustice. His struggles, his privations, his hard work to raise himself in the social scale, had filled him with such an exalted conviction of his merits that it was extremely difficult for the world to treat him with justice--the standard of that notion depending so much upon the patience of the individual.* **The Professor had genius, but lacked the great social virtue of resignation.**